Terminal Evaluation Report

Integrated Land and Ecosystem Management to Combat Land Degradation and Deforestation in Madhya Pradesh

(Atlas ID: 57324; UNDP PMIS ID: 3512; GEF ID: 3472)

GEF/UNDP/Government of India

Executing Agency/Implementing Partner:

Government of Madhya Pradesh

Other partner:

Madhya Pradesh Forest Department (MPFD)

Prepared by

Andrew Laurie and Pradeep Kumar Mathur

12th February, 2016

Executive Summary

Project Summary Table

Table 1. Basic project data

Project Title: SLEM/CPP: Integrated Land and Ecosystem Management to Combat Land Degradation and Deforestation in Madhya Pradesh				
GEF Project ID:	3472	Financing	Endorsement US$ million	Completion US$ million
UNDP PMIS:	3512	GEF	5.763	5.763
Country:	India	IA own	0	0
Region:		Government	95,524	114.614
Focal Areas:	Land Degradation, Biodiversity, Climate Change	Other	0	0
Strategic Objectives (SO) and Strategic Programs (SP)	Land degradation: SO1, SP1, SP2 Biodiversity: SP 4 Climate Change: SO8	Total co-finance	95.524	114.614
Implementing Agency:	UNDP	Total cost	101.287	120.377
Prodoc signature/ Start Date	23.01.2010			
Closing Date	Original: 22.01.2015	Revised: 31.12.2015 (One-year extension)		
Executing Agency/ Implementing Partner	Government of Madhya Pradesh			
Other Partner	Madhya Pradesh Forest Department			
Terminal Evaluation	December, 2015 to February, 2016			
Terminal Evaluation Team Members:	Andrew Laurie, International Consultant, Team Leader and Pradeep Kumar Mathur, National Consultant			

Acknowledgements

The Terminal Evaluation team would like to thank all those at the UNDP Country Office in Delhi, the UNDP Regional Office in Bangkok, the Project Management Office in Bhopal and those implementing the project in the field who assisted us beyond the call of duty with our mission and are too numerous to list individually here (but see Annex 2). Lianchawii Chhakchhuak, MC Jajoo, and

Anushree Bhattacharjee at UNDP CO, and Somit Krishna Dev Burman (NPC) and MahendraYadavendu (NPD) all helped ably with logistics, and Jaco Cilliers, Marina Walter, Payal Suri, Preeti Soni all of UNDP CO variously provided information and contributed to our thinking at meetings in both Bhopal and Delhi. We are also grateful to those outside the project who gave of their time to answer our questions and engage in discussions about the results of the project and their sustainability. These include senior officers of the Madhya Pradesh Forest Department such as Narendra Kumar (PCCF and HoFF), Jitendera Kumar (PCCF (Res.& Extn.), J.Hasan (PCCF (WP)), Ramesh Srivastava, (Secretary Forests GoMP), and Atul K Srivastava (APPCF (Protection) and a former NPD of the project). From other agencies we are grateful to, among others, Anupam Joshi of the World Bank, Srinivasan Iyer of the The Ford Foundation, R.B. Sinha of the National Bamboo Mission, B.B. Singh of the Madhya Pradesh State Bamboo Mission, Rekha Singhal and Amitabh Pandey of the Indian Institute of Forest Management in Bhopal, and Saibal Dasgupta, T.P. Singh and Lalit K. Sharma of the Indian Council of Forestry Research and Education in Dehra Dun, Belinda Wright and Nitin Desai of the Wildlife Protection Society of India, Prabhjot Sodhi of the Centre for Environmental Education and the GEF Small Grants Programme, and Eugenia Katsigris of Parnon Consultants who was team leader of the project's Midterm Review.

Project Description

In order to reverse the process of land degradation, ensure ecosystem integrity, and develop sustainable livelihoods, the Madhya Pradesh State Government executed a five-year project adopting appropriate approaches towards sustainable land and ecosystem management (SLEM). The Madhya Pradesh Forest Department (MPFD) took the lead and the project was implemented in 10 Forest Divisions (FDs) of five districts in close collaboration with local communities and Joint Forest Management Committees (JFMCs). The project was one of six state level projects that fell under the umbrella of the national level "Sustainable Land and Ecosystem Management Country Partnership Program" (SLEM CPP) which was designed to pilot and demonstrate integrated approaches to the management of production systems in the country. Madhya Pradesh, situated in the central highlands of India, has high forest cover and constitutes parts of the upper catchments of five of India's principal river systems. It is rich in biodiversity and in protected areas. Deforestation and overgrazing have led to land degradation and soil erosion with both local and downstream consequences. The livelihoods being practised in many villages involve rain-fed agriculture on former forest land, collection and cutting of firewood and some construction timber, grazing of livestock in the forest, and exploitation of non-timber forest products (NTFPs). As human population levels and consumption patterns have risen, the sustainability of such livelihoods is threatened and the benefits that humans realise from intact ecological processes are inexorably lost.

The project aimed to support and promote sustainable rural livelihoods that balance socio-economic needs with environmental benefits at the community level, and at the same time take into account the potential effects of climate change. The project is aligned with GEF policies and priorities and it adopted an integrated approach in addressing three of the GEF4 focal areas: (i) Land Degradation, (ii) Biodiversity, and (iii) Climate Change. The global environmental benefits include contributions towards mainstreaming of land degradation concerns into national level policies through the SLEM CPP, soil carbon sequestration, and contributions to the conservation of globally significant wild species of plants and animals.

The project strategy is to demonstrate through field interventions how to combine the maintenance of ecosystem services and livelihood needs in four pilot micro-catchments of watersheds, to make policy interventions at state level to ensure that institutional barriers to establishing sustainable livelihoods in the wider landscape are removed, and to disseminate project experiences at the national level through the SLEM CPP. Improved cross-sectoral coordination was identified as a key requirement for effective SLEM. There are three different outcomes: 1) Changes in state policy, and capacity development, 2) Field demonstrations of the integration of seven different livelihood interventions to achieve SLEM, and 3) Community based monitoring of the results of the SLEM demonstrations, and

documentation of lessons learned to help with replication elsewhere. The main emphasis in Outcome 2 was on demonstration (over *ca* 15,000 ha) of a model of bamboo management that assigned harvest rights to individual villagers who were initially paid under the project for restoring the commercial potential of 20ha bamboo plots.

The five-year project was signed by UNDP and MPFD on 23rd January 2010, the Midterm Review (MTR) was held from December 2013 to January 2014 (MTR report dated April 2014), and the project was later extended for one year to 31 December 2015. Some project activities are continuing over a closing down phase which will extend until 31 March 2016.

Evaluation Rating Table

Table 2 below gives ratings for project performance according to the standard scoring system in Annex 6.

Table 2 Ratings for project performance
(See comments in breakdowns of outcomes against a) outputs (Table 8) and b) indicators (Table 9)

Monitoring and Evaluation (Highly Satisfactory (HS), Satisfactory (S), Moderately Satisfactory (MS), Moderately Unsatisfactory (MU), Unsatisfactory (U), Highly Unsatisfactory (HU))		
Overall quality of M&E	MU	No real impact monitoring apart from on bamboo culms. Systematic objective data on wider impacts were not available. MTR was extremely full and detailed but recommendations were not followed up adequately.
M&E Design and Project Start-up	MS	Indicators drafted and provision made in Outcome 3 for community based impact monitoring (environmental and socio-economic)
M&E Plan Implementation	MU	Baselines were never determined and impact assessment taking place without baseline data. No TPRs or equivalent
Implementing and Executing Agency Performance (Highly Satisfactory (HS), Satisfactory (S), Moderately Satisfactory (MS), Moderately Unsatisfactory (MU), Unsatisfactory (U), Highly Unsatisfactory (HU))		
Overall quality of Project Implementation/Execution	MS	Main thrust was on bamboo model and this was well done. It was at the expense, however, of an integrated approach to the other livelihood interventions, and work at the policy level and on dissemination and replication. Too frequent changes in NPD and field level project operatives.
Implementing Agency Performance	MS	Did not ensure technical quality of outputs. Staff keen and committed but for some reason UNDP felt unable to exert influence with regard to technical direction. This appeared to be an institutional culture, as opposed to a staff performance, issue.
Executing Agency Performance	MS	Good project implementation on the main aspects of the field interventions. However, site selection and strategic planning for livelihood activities led to loss of the integrated, small area focus that was key feature of the design.
Outcomes (Highly Satisfactory (HS), Satisfactory (S), Moderately Satisfactory (MS), Moderately Unsatisfactory (MU), Unsatisfactory (U), Highly Unsatisfactory (HU))		
Overall Quality of Outcomes *Outcome 1: MS* *Outcome 2: S* *Outcome 3: MU*	MS	Variable. Outcome 2 was well executed overall, with the main output (RBDF model) rated as HS. Outcomes 1 and 3 were relatively neglected, but this was apparently a deliberate decision and so could be regarded as adaptive management.
Relevant (R) or Not relevant (NR)	R	Extremely relevant. Urgent requirement in Madhya Pradesh for the type of project results expected
Effectiveness	MS	Variable. At field level under the Forest Department with guidance from the PMU the work progressed well. When it came to employing consultant groups

			and setting up monitoring systems to track indicators the project was ineffective.
Efficiency		S	At field level the efficiency was good. It was less good when it came to contracting, and to applying project inputs at the state level.
Sustainability (Likely (L), Moderately Likely (ML), Moderately Unlikely (MU), Unlikely (U))			
Overall likelihood of Sustainability[1]		ML	Normal risks of increasing population pressure and consumption patterns
Likelihood of Sustainability according to various aspects:			
	Financial Resources	ML	In order to replicate the bamboo model considerable capital outlay is required by government. The model has been demonstrated when an outside organization puts the 4 years of monthly payments up front, and the mathematics support this model as profitable for government uptake, but there are still questions about whether it will be adopted.
	Socio-economic	ML	The socio-economic benefits to local people are relatively clear. Even though harvest incomes in the one district in which they have been distributed, ranged from only Rs. 3,500 to Rs. 17,000 per 20 ha holding, the beneficiaries are keen to add another 20 ha each even without the initial monthly payments.
	Institutional Framework and Governance	ML	There are risks that the biodiversity and ecosystem services benefits will not be properly valued in government assessments about economic viability
	Environmental	ML	Proper environmental assessment of the whole range of livelihood initiatives under the project needs to be done before replication
Impact ((Significant (S), Minimal (M), Negligible (N))			
Environmental Status Improvement		M	Local improvement but sustainability not shown
Environmental Stress Reduction		M	Local improvement but sustainability not shown
Progress towards stress/status change		M	Local progress but sustainability not shown
Overall project results ((Highly Satisfactory (HS), Satisfactory (S), Moderately Satisfactory (MS), Moderately Unsatisfactory (MU), Unsatisfactory (U), Highly Unsatisfactory (HU))		MS	This is an average of the above and therefore a blunt measure of overall success

Summary of Conclusions, Recommendations and Lessons

The project was well designed, bringing together ecological and socio-economic benefits in a multipronged and integrated community-based model for improving land and ecosystem quality. There was keen and active participation by the Madhya Pradesh Forest Department, and one of the major achievements of the project has been the strong relationships formed between the Forest Department and the village Joint Forest Management Committees, and mobilisation of poor villagers. The objective of the project, which is to *promote* community driven SLEM at the landscape level, was achieved in that there is widespread approval of and interest in the bamboo model in particular. The project's logical framework includes many indicators but reflects insufficient thought about feasibility of measurement, and baselines.

The Project Steering Committee included representatives from a wide range of state government departments, but there was little policy development to further SLEM in Madhya Pradesh. The main focus of the project has been on demonstration of the individual rights model for bamboo harvest. This bamboo pilot (RBDF) has been successful right through to harvest and the distribution of income

[1] The 2012 Guidance for conducting terminal evaluations of UNDP-supported, GEF-financed projects states in the Rating Project Performance table on page 30: Overall likelihood of risks to sustainability. This is misleading as it is the likelihood of sustainability which is supposed to be assessed, not the likelihood of the risk occurring

in one district, and has been instrumental in identifying snags in others where the harvest and the distribution of income have been held up pending clarification of state-level policy. It is unfortunate that after six years the necessary policy level clarification had not been achieved.

The other six livelihood interventions at the field level were very well received and achieved considerable success in promoting the ideas of sustainable livelihoods. However, they were implemented in a rather piecemeal fashion and were not sufficiently coordinated spatially or conceptually with each other and with the RBDF pilots. The design called for integration of all components in discrete watersheds, and for systematic tracking of impact indicators over the life of the project, but neither of these were delivered.

Although adequate provision was made in the project design for technical assistance, the project was late to engage technical advice, and terms of reference were inappropriately formulated to achieve expected project results. There was a full and detailed MTR but the project did not follow up on some of its recommendations, notably for greater involvement at state government level, for better use of technical assistance in documentation of lessons learned and for the preparation of a replication plan. TE observations and recommendations echo many of those of the MTR.

Table 3 Summary of Main Recommendations and Lessons Learned (for full version see Section 4)

Recommendations	Lessons Learned
• State government should issue an appropriate notification to clarify the legality of the bamboo harvest rights model. • Clarification is also required regarding the legality of cutting trees in energy plantations established in reserved forest. • Policy on how to deal with beneficiaries in RBDF model when next Bamboo Flowering event takes place • The Forest Department should consider additional 20 ha of bamboo plots for beneficiaries in Chhindwara as a test. • A closing workshop should be held to summarise and publicise the achievements of the project and to identify and obtain commitments for future actions. • The bamboo harvest rights model should be incorporated into other forest department programs on bamboo plantations and degraded land. • Discussions should take place immediately with the State Bamboo Mission and the National Bamboo Mission in order to widen the potential impact of project results • Feed project results and experience into the current GEF/World Bank Biodiversity Conservation and Rural Livelihoods Improvement Project under implementation in the Satpura Landscape, and the forthcoming World Bank funded Ecosystem Services Improvement Project.	• Rigorous site planning and environmental and social impact assessment are required to coordinate pilot livelihood interventions to ensure maximum benefits in terms of scale, sustainability, and replicability. • Clarity of language is important in project documents. For example, under this project “degraded' and 'degradation' have been used ambiguously with regard to bamboo on the one hand and land in general on the other; and micro-watershed was never defined clearly. • Policy level and dissemination work should start early in projects such as this. • Technical assistance should be strategically planned and acted upon early in projects and consultants’ terms of reference should be subjected to careful scrutiny and follow-up. • Project decision making procedures should be tailored to achieving objectives and should not get bogged down in committees.

Acronyms, abbreviations and glossary

APCCF	Additional Principal Chief Conservator of Forests; Within State Forest Department’s hierarchy, APCCF is a high level position just below the level of PCCF&HoFF
ASCI	Administrative Staff College of India – taken on as a consultant very recently for review of state policy with reference to SLEM
AWP	Annual Work Plan
Beneficiary	In the Project, the beneficiary is an individual or a family who is rehabilitating bamboo forest and protecting forest in return for monthly payments for four years and right to future bamboo harvests and profits or avail advantage of any of the Project activities. See Hitgrahi
Bamboo overlapping	A type of silvicultural practice /of forest working i.e. working and harvest of bamboos incorporated in the Forest Working Plan prepared by MPFD and other Indian States wherein bamboos are worked on a rotation of 4-years along with other timber felling series
Bamboo rehabilitation	Project specifically focussed on improving degraded bamboo areas in Reserved and Protected Forests by cutting and removal of crooked and congested culms and by undertaking appropriate earth work in and around clump by improving soil and water retention
BCRLIP	Biodiversity Conservation and Rural Livelihoods Improvement Project

BPL	Below poverty line; In India, it relates to economic level of families and they are being provided food supplies on discounted/subsidized rates
CAMPA	Compensatory Afforestation Fund Management and Planning Authority
CBO	Community Based Organization
CD	Country Director
CDR	Combined Delivery Report: UNDP financial reports that include official project expenditures.
CEO	Chief Executive Officer (refers to GEF CEO)
CF	Conservator of Forests
CCF	Chief Conservator of Forests
CMS	Catalyst Management Services – consultant engaged at end of project to assess impact and problems
C-R SLEM	Climate Resilient Sustainable Land and Ecosystem Management
CO	Country Office
DFO	Division Forest Officer: Within India's state forest hierarchy, responsible for overseeing forest activities in a division. Reports to circle CCF
ESIA	Environmental and Social Impact Assessment
ESIP	Ecosystem Services Improvement Project
FACE	Funding Authorization and Certificate of Expenditures
FD	Forest Division
FRA	Forest Rights Act: Key piece of legislation passed in India in 2006 concerning the rights of forest dwelling communities to land and other resources previously denied to them
Gram Sabha	Village Council
GEF	Global Environment Facility
GEF OFP	GEF Operational Focal Point - government official designated by country receiving GEF funding to be responsible for operational aspects of GEF activities, such as endorsing project proposals to affirm they are consistent with national plans and priorities and facilitating GEF coordination and consultation at country level.
GIS	Geographic Information System
GoMP	Government of Madhya Pradesh
GoI	Government of India
Hitgrahi	In project context this means beneficiary family
I/C	In charge
ICFRE	Indian Council of Forestry Research and Education, Dehra Dun; ICFRE implemented the SLEM TFO Project in India
IHC	India Habitat Centre
IIFM	Indian Institute of Forest Management, Bhopal – IIFM was assigned TNA contract under the project
IP	Implementing Partner
IUCN SSC	World Conservation Union – Species Survival Commission
JFM	Joint Forest Management
JFMC	Joint Forest Management Committee – the governing body at the village level for community use rights and duties. All interested adults in a village can join.
JSDF	Japan Social Development Fund. MP SLEM project's TNA and SME work were designed based on work done under a JSDF project in MP forest areas.
M&E	Monitoring and Evaluation
MoEFCC	Ministry of Environment, Forests and Climate Change
MoU	Memorandum of Understanding
MPFD	Madhya Pradesh Forest Department
MP SLEM	Madhya Pradesh Sustainable Land and Ecosystem Management Project
MTR	Midterm Review
MPVS	Madhya Pradesh Vigyan Sabha – an NGO retained to carry out SME work in three forest divisions and prepare business plans
NGO	Non-Governmental Organization
NIM	National Implementing Modality – Financial and technical oversight arrangements under which UNDP delegates project management to government
NPC	National Project Coordinator – responsible for coordination of day to day activities of project
NPD	National Project Director – overall head of the project. Part time position held by APCCF level officer of MPFD
NREGA or NREGS	National Rural Employment Guarantee Act or Scheme – refers to policy and work program in India whereby rural adults willing to work guaranteed at least 100 days work per year
NTFP	Non Timber Forest Product
PA(s)	Protected Area(s)
PCCF	Principal Chief Conservator of Forests
PCCF and HoFF	Principal Chief Conservator of Forests and Head of Forest Force – head of the forest department at state level

PDF-B	Project Development Funds. A grant for project preparation (B refers to size – over US$ 25,000)
PIF	Project Identification Form
PIR	Project Implementation Review – annual project reporting mechanism for UNDP-GEF projects, includes project ratings and comments for both implementation and progress towards objectives, given by UNDP Country Office, NPC, UNDP Regional Technical Advisor, and Implementing Partner.
PMU	Project Management Unit
PPG	Project Preparation Grant
ProDoc	Project Document
PSC	Project Steering Committee – high level project committee having members drawn from relevant government departments and PSC responsible for overseeing/steering the project
RDBF	Rehabilitation of Degraded Bamboo Forest
RF	Reserved Forest
RFO or RO	Range Forest Officer or Range Officer
Rs.	Rupees, Indian Currency
RTA	Regional Technical Advisor (UNDP – Global Environment Facility)
SDO	Sub-Divisional Forest Officer in India responsible for overseeing activities in forest sub-division. Reports to DFO
SHG	Self Help Group
SLEM	Sustainable Land and Ecosystem Management - Refers to initiatives that cut across the areas of land degradation, biodiversity, and climate change. In India, the GEF SLEM Program consisted of six field projects and one overarching mother project that provided technical facilitation (see TFO) and documentation services
SLEM CPP	SLEM Country Program Partnership
SME	Small and medium sized enterprise
TE	Terminal Evaluation
TFO	Technical Facilitation Organization – in present project, ICFRE was TFO
TNA	Training Need Analysis
ToR	Terms of Reference
TOT	Training of Trainers
TPR	Tri Partite Review
UN	United Nations
UNDP	United Nations Development Programme
UNEG	United Nations Evaluation Group
US$	United States Dollar
VFC	Village Forest Committee
WPSI	Wildlife Protection Society of India
WWF	World-wide Fund for Nature

1. Introduction

1.1 Purpose of the evaluation

Terminal evaluation is an integral part of the UNDP/GEF project cycle. It provides a comprehensive and systematic account of the performance of completed projects through assessment of the project's design, its implementation, its immediate results and its likely long term impacts. It is intended to:

- promote accountability and transparency,
- make recommendations on how to build on project results to facilitate sustainability and replication, and
- identify "lessons learned" that can be applied to improve the design and implementation of future GEF projects.

1.2 Scope and Methodology

This Terminal Evaluation (TE) has been carried out as far as possible in compliance with GEF Monitoring and Evaluation Policy and the *Guidance for Conducting Terminal Evaluations of UNDP-Supported, GEF-Financed Projects* (UNDP Evaluation Office, 2012)[2]. Terminal evaluation is an evidence-based assessment of the project design, its implementation and its results. The overall scope of this TE is given in the ToR (see Annex 1). Special attention has been given to assessment of the Project's response to the recommendations and observations of the Midterm Review (MTR). The consultants signed and submitted to UNDP (on 11 January 2016) the Evaluation Consultant Code of Conduct Agreement Form (Annex 5), thereby agreeing to abide by the UNEG Code of Conduct in the UN System (2008).

The evaluation was carried out between 24th November 2015 and 12th February 2016. The evaluation mission took place from 10 January 2016 to 2 February 2016. Meetings were held in New Delhi, Bhopal, and in the three of the five districts in which the project operated. The Inception Report (19th December 2015) provides details of proposed methodology and the range of meetings and list of additional documents requested. Details of the actual mission itinerary, including field visits, and people interviewed, are provided in Annex 2.

The methodology consisted of:

- desk review of project documents and relevant related literature (Annex 3);
- interviews with major stakeholders, including implementing partners, government agencies and administrations, and non-governmental organisations (Annex 2);
- field visits to all three of the five project districts (and to two of the 10 project divisions within those districts) (Annex 2)

Indicative questions for the interviews are given in Annex 4. Project Management were asked to complete assessments of progress towards expected results, a) against the original objective, outcomes and outputs, and b) against the indicators in the log frame. These assessments are given in Tables 8 and 9 respectively, with corresponding TE observations and comments.

The evaluation was undertaken in as participatory a manner as possible in order to build consensus on strengths and shortcomings of the design and implementation phases, the project's achievements, lessons learned, and the outlook for the sustainability of project outcomes. Interviews were conducted informally, with the help of interpretation as necessary. Evidence was cross-checked between as many different sources as possible to confirm its reliability. Opportunities were taken to engage interviewees in open, objective discussions about our observations before summarizing our findings. We presented our findings and recommendations at a meeting in the State Forest Department in Bhopal on 25th January 2016 and again at UNDP CO in New Delhi on 27th January and at the Ministry of Environment, Forests, and Climate Change (MoEFCC) on 28th January.

2 http://web.undp.org/evaluation/documents/guidance/GEF/UNDP-GEF-TE-Guide.pdf

In addition to a descriptive assessment, the project's results, the sustainability of its results, its execution and implementation, its monitoring and evaluation system and its impacts were rated against standard criteria using the established scoring system (Annex 6).

UNDP CO was provided with a draft report on 12 February 2016 and comments were received by the evaluators on XXX February. The report was finalised and submitted on XXX XXX.

1.3 Structure of the evaluation report

The structure of the report follows UNDP guidance for terminal evaluation of GEF-Financed Projects (included in TOR; see Annex 1). This first introductory chapter describes the purpose of the evaluation and the methods used. We refer to the Inception Report where appropriate to avoid unnecessary repetition. Chapter 2 describes the project and its objectives, within the development context of Madhya Pradesh. Findings from the evaluation are presented in Chapter 3, focusing in turn on Formulation, Implementation and Results. Aspects of each of these three stages of the project cycle are assessed using the rating systems given in Annex 6. Conclusions are drawn in Chapter 4, highlighting the strengths and weaknesses of the project; recommendations are made for practical and feasible actions that would build on the project results. Also in Chapter 4 is a summary of lessons that can be learned from this project's design and implementation, that can be of service for future projects in India and elsewhere.

2. Project description and development context

2.1 Project start and duration

The project was a long time in development, and over five years elapsed between the approval of project preparatory funds under PDF B (see MTR page 10) and project signature. The Project Identification Form (PIF) was submitted in June 2008 (Table 4), CEO Endorsement was 18 months later, and a full and well-attended Inception Workshop was held in August 2010 in Bhopal, followed by local Inception Workshops in each of the five[3] project Districts. The Midterm Review (MTR) was held from December 2013 to January 2014 and the MTR report was submitted in April 2014. The MTR recommended a one-year no-cost extension and this was approved, taking the closing date to 31 December 2015. Some project activities (consultancy tasks on impact assessment and policy interventions, and development of some of the SMEs) are still being implemented during the first quarter of 2016 and the TE was told that all activities would be closed down by 31 March 2016.

Table 4. Project Timeline

PDF B Approval (GEF3)	2005
Project Identification Form (GEF4)	June 2008
CEO Endorsement	November 2009
Signature of Prodoc	January 2010
Initial Closing Date	December 2014
Inception Workshop	August 2010
Midterm Review Report	April 2014
Project Extension	One year to December 2015
Terminal Evaluation Report	February 2016
Closing Down Period	Jan to March 2016

[3] Four districts were specified in the Project Document, and one of these (Sidhi), was later split administratively into two (Sidhi and Singrauli) See Section 3.2 below

2.2 Problems that the project sought to address

India, like many other parts of the world, has been subjected to widespread degradation of land, overexploitation of wild species, and the disruption of natural ecological processes associated with high and increasing human and livestock populations and rapidly growing economies. This has led to the loss of biodiversity at the ecosystem, species and sub-specific levels. Ecosystem services have been affected, changing the relationship between man and nature, and anthropogenic climate and local weather changes add to the problems faced by people already finding that their traditional livelihoods are becoming unsustainable. Madhya Pradesh (MP) is of great ecological significance for the country, as it is still heavily forested (ca 25% by area) and includes significant parts of the upper catchments of five of the major Indian river systems – Yamuna, Ganga, Mahanadi, Godavari, and Narmada. A high proportion of Madhya Pradesh is occupied by poor rural people, many of them from scheduled tribes, whose livelihoods were traditionally based on the forest and forest products. In many places traditional forest-based livelihoods have been abandoned or become unsustainable because of growing levels of exploitation and the spread of ecologically damaging practices. There have been growing impacts on forests through excessive felling, grazing of livestock and unmanaged fire, and increasing areas have been lost to extensive, rain-fed agriculture and for infrastructure development such as road building and reservoir construction. Apart from in areas where there are employment opportunities, in thermal power stations or mining for example, local men have often undertaken migrations to seek for work, especially outside the growing seasons.

The project was designed to address the following "barriers" to achieving SLEM:

- Institutional relationships that lead to overlapping, uncoordinated, and sometimes conflicting, management programs under different government departments.
- Often unrepresentative management arrangements in JFMCs that limit the regard in which they are held in by local residents
- The tendency for people to exploit natural resources unsustainably when there are no incentives to limit harvests, or when there are even perverse incentives to increase harvests
- Low levels of technological knowledge that limit innovation at the village level.

2.3 Immediate and development objectives of the project

The goal, or development objective of the project is "*to promote sustainable land management and use of biodiversity while maintaining the capacity of ecosystems to deliver goods and services, and taking account of climate change*." The project was to contribute to this goal together with the other five projects under the SLEM Country Partnership Program (SLEM CPP). The project objective is more specific but still focuses on *promotion* of SLEM. This puts the nature of the project clearly in the context of demonstration, and public involvement and awareness of sustainable approaches to modern rural livelihoods. In full, the project objective is "*to promote community-driven sustainable land and ecosystem management at the landscape level through integration of watershed management, joint forest management, and sustainable livelihoods development so as to balance ecological and livelihood needs"*. This objective was to be achieved through several parallel approaches:

- changes in state policy;
- capacity development to integrate C-R SLEM into policy, decision making and action across government sectors and at community level;
- field demonstrations of sustainable livelihood and water resource management interventions;
- community-based monitoring of the results of those demonstrations; and
- documentation of lessons learned and incorporation into plans replication elsewhere.

The bulk of the budget was allocated to the field demonstrations (Outcome 2), and within that component it was envisaged that the individual bamboo harvest rights model would be the major focus of the project. MP ranks second among Indian states for bamboo resources. Roughly half of

MP's natural bamboo forests are classified as "degraded"[4]. Demand exceeds supply, for industrial and commercial bamboos, by 90% so there is plenty of potential for developing bamboo resources as a basis for sustainable livelihoods. Bamboo left unmanaged does not produce marketable culms: the bamboo clumps require regular tending in order to be profitable at harvest. The project built on experience in an earlier project (see Section 3.1.3) that tried to develop and establish an individual bamboo harvest rights model for the main bamboo species, *Dendrocalamus strictus*, or the "Male Bamboo". A key part of the objective was that demonstration of the bamboo harvest rights model would be a constituent part of pilot demonstration of a wider, integrated, approach to watershed-based management of the land and the ecosystems by local communities.

2.4 Baseline Indicators established

Indicators were developed for the objectives (six), and the three outcomes (three, 27 and three respectively). These are shown in full in Table 9 with assessments of progress against them by project management, and observations and comments by the TE team. Annex 4b shows the indicators together with a range of questions for selected interviewees during the TE. Considerable thought has obviously gone into the indicator formulation, but as a set they fall short of being good impact measurers. The MTR also noted (p xi) the poor attention to impact indicators and urged more attention to ecological indicators. For Outcome 2 there were too many indicators for an efficient M&E protocol – fewer of high quality is better when it comes to putting them into use.

Although many of the indicators were intended to measure "impact" too many lacked baselines for comparison before and after; and others were formulated to measure "process" (e.g. numbers of people trained (in O1.2), rather than "impact" (e.g. what difference the training made). Changes in some of the indicators would perhaps have been insufficiently attributable to project activities; i.e. they could have been the result of other factors. In some cases, no clear units of measurement were given (e.g. "extent of pressure imposed by farmers" in O2.26). This is further discussed in Section 3.1. See also Annex 9.

2.5 Main stakeholders

The main stakeholders were the villagers in the areas selected for project implementation in five districts and 10 forest divisions of the state. During the project development stage (PPG) the project sites were selected and a detailed assessment was conducted of the human population in the project districts (further details in Section 3.1.4).

Other stakeholders include the JFMCs, local NGOs and other local associations, and a wide range of state government representatives from a number of different departments including Agriculture, Animal Husbandry, Tribal Affairs and Minor Forest Products (see Section 3.1.4)

2.6 Expected Results

2.6.1. Policy and Capacity Building

It was expected that the project would lead to a range of policy changes at state level reflecting experience on SLEM and biodiversity conservation both within and out with the project[5].

Capacity building activities under the project were aimed at staff of government line departments at

[4] The word "degraded" in the context of this project often refers to bamboo stands that are either overexploited, with clumps sometimes hacked indiscriminately, or that have not been harvested for some time and have become a mass of tightly entwined or "congested" culms. However, the same word is used in the sense of ecological degradation when discussing land degradation in general. This ambiguity can lead to confused thinking about the aims of the project.

[5] "At least 5 sectoral polices (agriculture, animal husbandry, forest, watershed, and tribal welfare) incorporate SLEM guidelines and biodiversity conservation priorities" (Prodoc Table 10; p 37)

state and local levels, (forest, water resources, agriculture, veterinary/animal husbandry, tribal), JFMC representatives[6], and representatives of other elected bodies of local administration (village, block and district levels). Capacity building efforts were designed to sensitize and improve the capacity of participants on issues related to relevant government policies that provide the framework for undertaking activities geared to sustainable use of forest and land resources, win-win options for sustainable land and ecosystem management that can be applied in and around the target villages, project planning and management, community mobilization, conflict resolution, understanding local variations in weather patterns and related vulnerability to climate change, and such. A training-of-trainers approach was expected to result in the development of a village-level pool of human resource that has the skills and ability to impart further community-based training sessions.

2.6.2 Livelihoods

Demonstration of community-driven approaches of SLEM: The project predominant focus was to address land degradation in four selected micro watersheds/ micro-catchments in order to ensure continued ecosystem functions, reduce risks to globally significant environmental assets and help sustain rural livelihoods. This was planned to be achieved through the promotion of sustainable land management technology packages and practices that have local and global benefits. The project aimed to demonstrate a multi-sectoral approach to sustainable management and use of natural resources. In order to address all aspects of the local livelihood system, this component included forest and pasture management along with soil and water conservation as an integral system. Further, the project aimed to enhance adaptive management capacity in view of wider vulnerability and various uncertainties. Demonstration activities thus, aimed at promoting land stabilization, resource rehabilitation, and sustainable resource use at the watershed level.

Under the Joint Forest Management Resolution of the Government of India, local communities are entitled to share of usufructs in a manner specified by the concerned State Forest Department, and Village Forest Committees (VFC), among other committees, have been established for joint management of forest areas, within a radius of 5 km from the periphery of forests. The project aimed to contribute towards developing the capacity of these existing committees to take action on priority community-based initiatives for sustainable use of local natural resources, and demonstrate the associated potential of income-generation and improved livelihoods. The project ultimately aimed to enable these forest committees to emerge as village-level community-based organizations (CBOs) which prioritize initiatives and provide oversight for benefit sharing mechanisms between the State Forest Department and under-privileged stakeholders. It is expected that such ownership and benefit-sharing, in turn, will help reduce over-exploitation of common property natural resources, and provide stronger incentives for communities to manage their forest, pastoral and agricultural resources in a sustainable manner. The project also aimed for adequate representation of women in decision-making positions within the targeted JFMCs.

It was expected that the project would show that in discrete micro-catchments/watersheds (never adequately defined) the following seven livelihood interventions would be demonstrated in an integrated whole that would lead to ecosystem and socio-economic benefits that were sustainable.

- *Rehabilitation of Degraded Bamboo Forests (RDBFs)* - rehabilitation and sustainable management of degraded bamboo areas in forest lands in collaboration with the local community to produce the various environmental and socio-economic benefits
- *Energy/Fuelwood plantations* - established on degraded community and forest lands to improve the provisioning of ecosystem services to meet local fuelwood needs.
- *Fodder plantations* - established on degraded community and forest lands to improve the provisioning of ecosystem services to meet local fodder needs.
- *Development of Small and Medium Enterprises (SMEs)* – these were promoted based on

[6] "At least 2,000 JFMC members trained in climate-resilient SLEM" (Prodoc Table 10; p 37)

sustainable harvest of other NTFPs and other non-forest based activities.

- *Development of Home gardens* - promoted among landless farmers to meet subsistence needs
- *Improved watershed management* – improved watershed management with particular emphasis on community mobilization in support of soil and water conservation structures and approaches that are adapted to climate change were planned
- *Improved agricultural practices* -planned to strengthen cost-effective, climate-resilient technologies adapted to local conditions that can improve returns over the long term

2.6.3 Monitoring and replication

The project design included provision for ongoing monitoring of impact of the project activities on both the socio-economic condition of the local people and the state of the local environment through monitoring systems operated by the local community. It was also envisaged that there would be an annual ecological performance audit, in addition to the normal midterm and terminal evaluations. Through the overarching SLEM CPP it was expected that reports of project results in SLEM would be disseminated as case studies and lessons learned for use in replication of successful models in other parts of the country.

3. Findings

3.1 Project Formulation

There was a lengthy and thorough process of problem identification and analysis in consultation with stakeholders, as well as assessments of institutional weakness, policy and regulatory gaps, and community-based forest management practices involving a range of community organizations such as JFMCs. The purpose was to ensure that the management of natural resources in target villages is led by representative community bodies in accordance with sustainable land and ecosystem management principles that reduce degradation pressures. The project aimed to demonstrate the feasibility and associated benefits of adopting such an approach in different clusters of villages as the project also envisaged to motivate further uptake and replication. A need to demonstrate win-win options that both improve livelihoods and ecosystem health such as, reducing dependence on the forest for firewood, sustaining agriculture-dependent livelihoods by improving soil and water conservation within catchment areas, and imaginatively moving in the direction of non-agricultural livelihoods was visualized. In terms of the latter, Madhya Pradesh presented unique possibilities of developing forest-based livelihoods, especially for exploring value-addition avenues and establishing firm market linkages. The project design specifically considered that communities can be more actively engaged in maintaining ecosystem health and resilience through enhanced benefit-sharing with them.

The project document is on the whole sound and well prepared: the various components have been developed to stimulate changes in how people's livelihoods affect the environment and then to formalize them in state policy and work towards successful examples of such changes being put into practice elsewhere in the state and the country. The seven livelihood "outputs" under Outcome 2 were to be linked under an overall plan for each of four micro-watersheds. Outcome 1 covers capacity building for SLEM and the need for policy changes to establish consideration of SLEM in a range of government departments, including forestry, agriculture and tribal welfare. Outcome 3 covers community based monitoring of the impacts of SLEM, and a plan for replication of the project's pilot achievements elsewhere. Overall the design is ambitious given the baseline conditions in the rural areas targeted, and the inherent difficulties in achieving policy changes within 5 years.

There are a few areas in which clarity could have been improved:

- The wording of the objective and some of the outcomes is rather long and ambiguous in places.
- In both the project goal and the project objective the key word is "promote", and this makes results assessment difficult as there are different interpretations of what constitutes successful "promotion".

- The word "degraded" is used in two different senses, which is confusing to naïve readers of the document. On the one hand degraded is used in its normal sense of ecological degradation of land; and on the other hand it is used to refer to stands of previously harvested bamboo that have been left so long untended that they are degraded in the sense that they are no longer commercially exploitable without considerable rehabilitation work on the culms. The word "pro-poor" also seems to be ambiguous and the TE team could not get a clear answer from project management about what it means.
- Climate-resilient is used loosely, almost gratuitously in two outcomes and elsewhere in the Prodoc text without explanation, and this should have been better defined.
- The terminology on watersheds and catchments should have been made clear – especially as micro-catchment/watershed was proposed as the basis for planning the field interventions. The problems pointed out by the MTR in terms of spatial overlap of interventions might have been avoided with more aggressive explanation of the intention in the design. There are no definitions in the Prodoc, but in the MTR Report (p 141 footnote) is "In India watershed may be classified depending on size as follows: macro watershed (>50,000 ha), sub-watershed (10,000 to 50,000 ha), milli-watershed (1,000 to 10,000 ha), micro-watershed (100 to 1,000 ha), and mini-watershed (1-100 ha) ". However, in international use a micro-watershed is often classified as "up to 10ha in area" [7]
- The GEF biodiversity tracking tool should probably have been prepared for the project and then completed at MTR and TE

The overall design of the project is coherent, seeking to address the underlying causes of land degradation. There is, however some pre-determination of the project strategy by describing the barriers (Prodoc Section 1.6) in terms of "lack of the solution" and thus creating a circular argument. For example, the problem is a lack of coordination, or a lack of capacity, or a lack of incentives, or lack of knowledge so the project "solution" becomes the provision of these aspects (see Annex 8).

The logical framework is long and detailed, but shorter would have been more powerful. The community-based monitoring and annual ecological performance audits to be established under Outcome 3 may have rescued the log frame but those components were never implemented (see below Section 3.2.5).

3.1.1 Analysis of Logical Framework

The overall objective of the project (see above - Section 2.3), is:
"To promote community-driven sustainable land and ecosystem management at the landscape level through:

integration of watershed management
joint forest management, and
sustainable livelihoods development

so as to balance ecological and livelihood needs."

The wording needs some dissection for full understanding, and could have been made clearer: it is left to the reader to think about what constitutes success in "promotion" (see 3.1 above).
The formal breakdown of this objective into "outcomes" is as follows:

Outcome 1: Creation of an enabling environment for climate-resilient, sustainable land and ecosystem management
Outcome 2: Community-driven, climate-resilient approaches for sustainable land and ecosystem management are demonstrated in 4 micro-catchments
Outcome 3: Capacities for adaptive management, learning and replication of project lessons are developed

[7] http://www.agriinfo.in/?page=topic&superid=8&topicid=76

The objective and the three outcomes have been assigned indicators intended to track in a quantitative and objective way through standard verification protocols the impact of the project and progress from clearly defined baseline values to clearly defined target values. Some are "process" indicators and others are well formulated to measure impact, although in some cases the feasibility and likelihood of getting good baseline measurements was not assessed well, and in others the language is vague and there is no clear statement of what should be measured (see Annex 9 and Section 2.4 above). There are more indicators than necessary (e.g. 27 for Outcome 2 alone) and it would have been better to have had three or four really sound impact indicators per outcome, with clear sources of verification for baselines and targets. It is all too easy to say "baseline to be determined in year 1" and much better to have the baseline determined during the PPG stage. Annex 4b gives a number of questions that indicate potential problems with this set of indicators.

3.1.2 Assumptions and risks

Four main risks are described in the Prodoc (Table 11, p38):

A. Intended beneficiary groups do not participate fully for fear that the project will limit their access to natural resources (Outcome 2)
B. Climate change has adverse effects that override project benefits (Outcome 2)
C. Cross-sectoral collaboration in government is low due to institutional priorities (Outcome 1)
D. Co-finance commitments are not honoured (all Outcomes)

The mitigation strategies in each case are fairly stated and valid, although the ratings of the risks are perhaps underestimated, particularly for the policy component (C). Climate change is referred to throughout the Prodoc, including under Risks and Mitigation, but it is never dealt with in sufficient detail to make it a prominent part of project implementation. Another risk that might have been foreseen at project design stage is that the specified arrangements for management and technical oversight would prove inadequate to maintain focus on the overall project vision of an integrated approach to SLEM demonstrated, monitored regularly for socio-economic and ecological impact, reflected in state policy, and prepared for replication.

3.1.3. Lessons from other relevant projects incorporated into project design

The project document described the baseline for management of forests and watersheds referring mainly to government programs. The Japan Social Development Fund Grant for Capacity Building for Community Forest Management (JSDF project) concentrated on forest based SMEs and informed the SME part of the project design, which stressed the importance of having these SMEs very firmly based on forest products.

The basis of the main bamboo harvest rights model to be piloted by the GEF project came from the "Sustained Employment through RBDF" programme, which was carried out by the MPFD between 2000 and 2001. The plan under that project was for the MPFD to hand over management of the programme to village JFMCs after two years. The programme differed in many ways from the GEF model, not least in that payments were more closely linked to actual hours of work. This program failed, possibly because of discontinuation of funding (see MTR Report: p xii and Annex 4).

The focus on micro-watersheds as the preferred unit for project type interventions under the State Department for Rural Development was highlighted, and was incorporated into the project design although the term was not defined in the project document (see Section 3.1.1)

3.1.4 Planned Stakeholder Participation

During the PPG stage there was first a complex process of selection of project districts and divisions according to criteria that included bamboo abundance, and then a detailed study of a random sample

of one third of over 600 villages within those districts against criteria such as proximity to "degraded forest", access to NTFP, and scope for significant impact in water resources management at watershed scale. Attention was also paid to proportion of the population that was poor and from scheduled tribes. The main beneficiaries of the project and therefore the major stakeholders are the people living in the rural areas of those districts selected for project implementation. It was envisaged that there would be extensive participation of the stakeholders throughout the project: indeed, without their participation there would be no project.

Other planned stakeholder participation included collaboration and dialogue with local NGOs and local associations at the site level, and with a wide range of government departments, and NGOs at the state level. The project document includes a stakeholder engagement plan showing the roles of each major stakeholder in the project. State-level government agencies (including the departments of Agriculture, Horticulture, Animal Husbandry, Rural Development, and Tribal Welfare, and the Minor Forest Produce Cooperative Federation) were expected to play a full role in the Project Steering Committee (see below), to ensure delivery of agreed co-financing, to take the initiative on incorporation of SLEM guidelines into departmental policies and programmes, and to facilitate the participation of their district level staff in project activities. Technical guidance was expected to be provided by the NGO Samaaj Pragati Sahayog, and by the Central Arid Zone Research Institute, both of which were also expected to be members of the Project Steering Committee. So, membership of the Project Steering Committee was wide, including representatives from many different government departments and this emphasis on multi sectoral involvement was excellent. However, only being present at PSC meetings is never sufficient, and it is not clear how much real involvement these representatives had beyond that. None of them accepted invitations to attend a presentation of findings by the TE at the end of January.

3.1.5 Replication approach

For pilot projects, such as this one, replication is vital for sustainable results. The project document (in Outcome 3) provided for documentation of results and for dissemination of these and for the promotion of replication of the pilot it proved successful (see Section 3.1.1). As one of six sister projects under the national level CPP SLEM[8] the Madhya Pradesh project was expected to feed results and lessons learned into the overarching programme during implementation. The TFO was to assist with development of case study documentation and a replication plan, to be agreed on by the project PSC, identifying other micro-catchments and villages, and entire regions, for application of project lessons and instruments and replication of the successful demonstrations.

3.1.6 UNDP comparative advantage

The Project Identification Form (PIF) stated the comparative advantage of UNDP India as the Project Implementing Agency; namely its several years of experience addressing biodiversity, land degradation and climate change within the context of its governance and poverty reduction programs. One of the main strengths of UNDP posited in the PIF is its ability to mainstream environmental considerations into development and planning processes at national level, and to build capacity of stakeholders across government sectors. UNDP was responsible for three of the six sister projects under the national level SLEM program and this link with other projects with similar aims and barriers to success was viewed as a strong aspect of the design, with the expectation of sound technical guidance as well as administrative services.

3.1.7 Linkages between the project and other interventions within the sector

At the time of design, the other five sister projects under national level SLEM program were also under planning, and the links with the TFO were considered in project design. There had been a series of other projects implemented in Madhya Pradesh on SMEs making use of forest-based resources, and, in 2000-2001, the "Sustained Employment through RBDF" programme implemented a

[8] World Bank/GEF funded project: Policy and Institutional Reform for Mainstreaming and Upscaling SLEM in India

bamboo management model similar to the one piloted under this project (see Section 3.1.3). The only project referred to in the project document is the JSDF (see Section 3.1.3).

3.1.8 Management arrangements

UNDP is responsible to the GEF Secretariat for the implementation of the project under the UNDP National Implementation Modality (NIM). This is the UNDP format for a program-based approach that follows the Paris Declaration (2005) on donor harmonization and government ownership. It means that Government exercises full ownership and that the partnership includes all stakeholders in a common effort.

The organizational structure of the project as proposed in the Project Document consists of a small Project Management Unit (PMU) in Bhopal, a Project Steering Committee (PSC) with membership from a wide range of government departments, and local committees for each of four macro catchment/watersheds, consisting of district level representatives of government departments and representatives from the Joint Forest Management Committees (JF MC). The Executing Agency/Implementing Partner is the Madhya Pradesh Government, with the Madhya Pradesh Forest Department (MPFD) as the main Partner. MPFD appointed a series of part-time National Project Directors (NPD) with other duties at APPCF level within the forest department. Together with UNDP CO, MPFD selected a full-time Project Coordinator and two Administrative and Financial Assistants based in the PMU, and additional staff based in field offices. It was envisaged under the project design that there would be short-term national (848 person weeks) and international (86 person weeks) technical experts employed for specific project assignments, and ToR were provided in the Project Document.

3.2 Project Implementation

The project has been implemented by the Madhya Pradesh Forest Department under a series of nine part-time National Project Directors who oversaw operations from Bhopal with occasional field visits to project sites, and a single Project Coordinator who was in the post throughout the project and before that took part in project development as a member of the PPG team. The Project Coordinator was based at the Project Management Unit (PMU) in Bhopal with frequent travel throughout the five project districts. Note that there were four project districts at the time of project design but that one district (Sidhi) was subsequently split into two districts (Sidhi and Singrauli) in 2008 (see Section 2.1).

Table 5 (below) shows the employees funded by the GEF grant: there were financial and administration assistants in 9 of the 10 divisions in which the project operated, and very recently (from May 2015, half way through the 12month extension) three Project Managers were appointed at District Level (in Betul, Chhindwara and Sidhi). The Forest Department provided personnel for project activities throughout its hierarchy. Chief Conservators of Forests (CCF), Divisional Forest Officers (DFO), Sub-divisional Officers (SDO), Range Officers (RO) and others were heavily involved throughout the project.

The TE team noted that there has been enthusiastic participation of Forest Department personnel. The team were concerned, however, about the frequency of changes in FD officials with responsibilities in the project. There were nine different NPDs over the six years of the project and there were also frequent changes in CCFs and DFOs. Such changes hamper implementation. The MTR noted their concerns about this two years ago. MPFD state that such transfers are part of the system and unavoidable, but the TE team consider that the transfers were excessively frequent, particularly in the case of the NPD position. Overall it would have been preferable if at least the National Project Director could have been confirmed in post for the duration of the project, even if he had to carry his responsibility for the project with him to different government posts within the MPFD. Transfers did expose more officers to the project's model and perhaps assisted in publicity for the model, but this

did not make up for the disruption in continuity of oversight of what is a complex and challenging project both in the field and at state level.

Table 5 List of Project Staff

Government Funded: National Project Director – Part-time (Bhopal) District level CCFs, Division level DFOs and SDOs and Range level ROs **GEF Project Funded:** Project Coordinator (Bhopal) Two Administrative and Financial Assistants (Bhopal) Three Project Managers at District Level (Betul, Chhindwara and Sidhi) – engaged only in extension phase (mid 2015) Administrative and Financial Assistants at Division Level (originally nine (all but Buffer Zone Division, Bandhavgarh), and currently three because the project is closing down soon)

3.2.1 Adaptive management

There were several departures from the project document during implementation, some with beneficial results and others with more questionable benefit to the project.

Changes were made to the project design in that project interventions were not focused on four discrete micro watersheds as envisaged in the project document. In each of the selected project districts the project was implemented in up to three widely separated forest divisions. Sidhi District had been split into two districts (Sidhi and Singrauli) (see Sections 2.1 and 3.2) by the time the project started and both districts were given equal weight in project implementation, thus further dispersing and diluting project inputs geographically and financially. The selection of micro-watersheds as the focus for the full range of livelihood activities was a key feature of the project design. As pointed out by the MTR in 2014, there was limited spatial overlap of the RBDF model and other livelihood activities - the fuel and fodder plantations, water resources management, home-gardens, agricultural and forest-based SME components. The project was designed to demonstrate not only the RBDF model but also a multipronged and integrated community-based model for improving land and ecosystem quality. It was unfortunate that the various livelihood activities could not be planned within the overall context of a watershed/landscape intervention plan for each area/micro-watershed. This limited overlap, also noted by the MTR, was probably a contributory factor in the rather piecemeal implementation of the livelihood outputs of the project that ran alongside the main RBDF output. It may have been that it was difficult to find single discrete micro-watersheds in each of four districts (it was unnecessary to double the investment in Sidhi after its split) that would provide the planned 14,500 ha of pilot bamboo plots, and in that case the design should have gone further and identified precise areas for project implementation.

A major piece of adaptive management, if one can call it that, undertaken by the project management was to focus attention, and expenditure, on the RBDF model. As is often the case in projects such as this one, the design is adapted to meet local conditions that have not always been taken into account sufficiently by the design team. In this case a concentration of resources and effort on one single output out of 11 in the project design led to significant success in demonstrating a bamboo harvest rights model but this was at the expense of expected results in (a) getting SLEM considerations into policies of a number of different sectors, (b) demonstrating the integration of the RBDF model with a number of other livelihood initiatives in discrete watersheds through a landscape planning approach, and (c) measuring and monitoring impacts, documenting lessons learned and preparing a replication plan. This required shifting funds across budget lines (in effect even if not formally through budget revisions – see Section 3.2.4) and there were benefits from this as well as drawbacks, in that the RBDF model, at least, was more widely demonstrated than it would have been.

The small and medium-sized enterprises component (SME) was originally formulated (in the project document) to be based on non-timber forest products (NTFP). A decision during implementation led to expanding the SME component to bio-resources based enterprises. This went against the general principle of trying to find ways for people to value the forest and to have a stake in its protection. There is no absolute correct choice on this, but the way that the SMEs were selected has not been in the spirit of the original concept of the project, and some of the SMEs being developed are unsuitable choices for the local circumstances. In particular, the broiler chicken huts under construction in North Betul are unlikely to be any more successful than the first attempt two years ago, that ended in the deaths of all the chickens. With regard to planning SMEs the project document provided for a long-term (two years) as SME Development Specialist to work slowly and steadily with villagers in the RBDF areas to develop appropriate initiatives. Project Management did not recruit such a specialist and opted instead to engage, very late in the project (2012 and 2013) three different organisations to develop SME business plans. The terms of reference were inappropriate and the resulting SME business plans were (a) to numerous and (b) not assessed properly for feasibility, marketability and environmental and social impact. In the end the DFO's were asked to take charge of the SMEs and through this, more helpful, bit of adaptive management, some locally significant results were achieved.

There was nothing in the project document about training needs analysis and project management was wise to consider implementing such an analysis before embarking on extensive training. However, the ToR did not address important questions and did not cover training of government officials adequately. Training of government staff was an integral part of project design (Outcome 1) at the state level. The usefulness of the TNA was limited as a result of the work being split up between institutions, implemented late in the project (contracted in 2012) and with ToR that do not capture the overall purpose of the analyses. The resulting reports are unnecessarily long and detailed, contain unrealistic recommendations, and have contributed little to project results.

The main RBDF model was implemented in full up to harvest and distribution of the proceeds of sale in one district (Chhindwara) but in the other districts decisions were made either not to harvest, or to harvest but not to distribute the proceeds of sale. This variation in implementation between districts was a result of decisions made by the responsible MPFD officials at district level. Project management is anxious for the harvest and the distribution of the proceeds of sale to go ahead and this has involved lobbying at state level for some kind of government order or notification to be issued. Such lobbying started years ago (mentioned in PIRs), and was called for again by the MTR, and it is disappointing that no such clarification was issued before the bamboo harvest and distribution of income became due in 2015.

The project document made much of the individual rights aspect of the bamboo model. In practice, project management found that in some districts there was little appetite for such an approach, and that the chosen beneficiaries preferred to pool their individual plots and work together as a cooperative on both the rehabilitation work and the harvesting, dividing the income from the sales of bamboo between them equally (and adjusting where necessary for absences of individual beneficiaries from organised working parties). Project management accepted this new arrangement and found that it worked well. This was a useful piece of adaptive management and of great significance if the project is to be replicated elsewhere in the future. In other districts (see Section 3.3.1) the individual management and harvest of plots was preferred.

3.2.2 Partnership arrangements

The fundamental strength of the project's implementation depended on its relationship with local communities and with the JFMCs. In this aspect the project has excelled. The change in relationship between FD and JFMCs over the project period was commented upon in some detail by the MTR, and the TE confirm that in areas where the bamboo harvest has been done and the proceeds of the sale have been distributed to the beneficiaries, the relationships are very good. In other areas there is

dissatisfaction, and it is important that harvest and income distribution is expedited in order to restore trust.

As one of the six sister projects under the National SLEM program the project had strong links with relevant technical experts, national level government officials, World Bank, FAO and UNDP staff, and with NGOs. The Technical Facilitation Organisation (TFO) under CPP-SLEM, was based at the ICFRE in Dehra Dun and provided assistance if and when requested and visited project sites. The TFO prepared a portfolio of case studies in SLEM arising from implementation of the six field projects. Three of these were written up with the assistance of the MP SLEM project staff: incense stick (*agarbatti*) manufacture (an SME based on bamboo), lac production (another SME) and the RBDF bamboo rights model. The RBDF model has since been adopted as one of 20 best practices to be implemented under the upcoming World Bank ESIP (see below, Section 4.2). There were periodic national level SLEM Program Steering Committee meetings held in Delhi or in the state capitals where the six projects operated and these were usually attended by both PMU and UNDP CO.

The GEF/World Bank/GoI Biodiversity Conservation and Rural Livelihoods Improvement Project (BCRLIP) is operating in the Satpura Landscape of Madhya Pradesh, and their project sites overlap with two of this project's divisions – and have four villages in common. The project partnered with various technical, educational and research institutions, and NGOs, mainly on a contractual basis, to carry out assignments such as

- Training needs assessments (TNA),
- SME business planning,
- Project impact assessment, and
- Review of state policy relevant to SLEM.

These consultancies were initiated too late. This was pointed out by the MTR for the TNA and SME assignments. Two consultancies on impact assessment and policy review were begun only in the last month or so despite the review of state policy having been under discussion with the consultants (ASCI) as long ago as mid 2014 (see 2014 PIR).

3.2.3 Feedback from M & E activities used for adaptive management

The monitoring and evaluation framework and its implementation are described below in Section 3.2.5. The MTR provided an extremely full account of project implementation and was a valuable source of detailed information for the TE team. The MTR noted that there had been disproportionate investment in funds and activities under the local livelihoods component (Outcome 2) and made many recommendations for actions to be taken in order to put the project back on track to achieve all its three outcomes.

The MTR made many other important recommendations. For example, there was a recommendation to hire individual consultants – an in-house documentation expert and an SME expert for the project's post- MTR period, thus correcting an omission early in the project. The MTR also recommended more attention to Monitoring and Evaluation, widening this from counting bamboo clumps and culms to measuring ecological impacts. It also recommended, as far as feasible in the remaining time, greater geographical overlap of the various livelihood intervention sites in the spirit of the original design.

In response to the (April 2014) MTR report, which included numerous recommendations worth considering in detail, UNDP CO prepared a management response (in August 2014) which responded rather weakly to only four of those recommendations and gave deadlines for action that were really too late. The TE noted that the UNDP staff who oversee and have overseen the project appear dedicated, energetic and able, but there seems to have been a problem in getting their ideas reflected in improved implementation and technical performance of the project (see Section 3.2.6).

The TE saw few significant adjustments in project implementation in response to the MTR and in particular to the UNDP Management Response to the MTR. There was no action on taking on extra staff to work on documentation for dissemination of project results. Far too late, an assignment is now under way to assess the impacts of the project against indicators and even to establish baselines (two separate contracts to CMS to undertake assessments of socio-economic and ecological impacts of project activities). And vital policy clarification on distribution of income from the harvest of bamboo to the beneficiaries had not been achieved by the end of the project.

The three recent graduates from IIFM recently engaged as Project Managers are excellent additions to the project team at the district level and may or may not have been engaged as some kind of response to the MTR. However, this has taken place again far too late in the project – indeed the three Project Managers were engaged half way through the one-year extension period.

The TE team gained the impression that there is so much going on in so many activities of the project at field level, that it has been simply too hard for project management to call a pause and to rethink. There has been a tendency to simply take on consultancy firms to undertake process-oriented tasks when some straight thinking and discussion might have led the project to different and more cost-effective and successful courses of action.

3.2.4 Project Finance

The project budget consisted of US$5.67 million from GEF with US$95.5 million of co-finance from Government of India. Table 6 shows expenditure by year and by outcome. By December 2015 there had been almost full utilization of GEF funds after a one-year no-cost extension. There are two consultancies outstanding, apart from the TE itself.

There has been considerable over-expenditure on RDBFs and livelihoods (Outcome 2) and under-expenditure on policy/capacity building (Outcome 1) and lessons learned/dissemination (Outcome 3). At the time of the MTR (December 2014) expenditure on Outcome 2 was 107% of the total budget allowed for the whole project period, and the MTR advised that measures be taken during the remaining period of the project to move beyond the field level work to national and state level work and to prepare a budget revision to allocate funds sensibly. The imbalance in expenditure continued, however, and expenditure on Outcome 2 was ca 130% by project closure, with expenditure on Outcome 1 ca 22% and on Outcome 3 ca 42% (see Table 6). It is not clear how this was dealt with by budget revisions. The TE team requested details of budget revisions but were unable to see any.

Expenditure by year was offset by almost a year because of a slow start in 2010, but otherwise was more or less on track, with some under expenditure allowing for a one-year extension during which there was less expenditure because the monthly payments under the RBDF model had ceased.

Annual audits have taken place and in each case the audit reports have included lists of concerns about financial procedures. Some of these concerns appear to be serious, and they recur regularly throughout the project life. The UNDP Finance Officer assured us that these concerns arise because of inherent delays in the project's system of financial reporting to fulfil FACE requirements (Funding Authorization and Certificate of Expenditures) in a project that entails expenditures in Bhopal and in the widely dispersed field sites in which the project operated. The MTR reported and discussed the considerable differences between the financial data provided by the PMU and the data provided by the UNDP CO. The TE did not examine this in detail but understand that the differences between PMU and UNDP CO records arise in part because of fluctuations in the US$: Indian Rupee exchange rate. The TE observed that the closing down period is causing unusual financial and administrative problems, particularly as the PMU is now operating without GEF funds being available to them in the normal way.

At the field level we looked at the relative expenditure on the different livelihood activities. Here the major thrust was on the RBDF model and, as expected, this is where most of the expenditure has been incurred. The proportions varied quite considerably between the divisions that we have data for. Overall, at the MTR just over 51% of the expenditure reported by PMU had been incurred on the RBDF model. By the end of 2015 the proportion of funds spent at field level[9] on RBDF (almost entirely payments to beneficiaries) in S Betul and W Betul was 70.4% and 54.8% respectively, and the other divisions for which the TE team have data were within this range. The variation reflects the different extent (ha) of RBDF undertaken in each forest division.

Table 6. Summary of project expenditure by Year and Outcome (in US $)

Outcomes	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**Outcome Totals**	Planned (Prodoc)
1 State level policy, and capacity development		5,008	61,199	47,910	55,213	19,713	**189,043 (22% of Planned)**	850,000
2 Field level livelihoods	283,033	980,379	1,324,388	958,241	519,105	233,579	**4,298,725 (130% of Planned)**	3,300,000
3 M&E and replication	14,117	44,325	2,276	99,434	236,310	67,452	**463,914 (43% of Planned)**	1,088,000
Project Management	19,845	290,853	(27,171)	75,987	59,458	56,721	**475,693**	525,000
Unrealized Gain/Loss	(1,533)	37,173	160,065	(14,375)	17,765	8,854	**207,949**	--
Annual totals	**315,462 (16% of Planned)**	**1,357,738 (97% of Planned)**	**1,520,757 (150% of Planned)**	**1,167,197 (174% of Planned)**	**887,851 (132% of Planned)**	**386,319**	**5,635,324 (98% of Planned)**	**5,763,000**
Planned (Prodoc)	**2,015,000**	**1,395,000**	**1,010,000**	**670,000**	**673,000**	**0**	**--**	**--**

Table 7. Co-finance at project start and finish

Co-finance (Type/ Sources)	**IA own Finance (mill US$)**	**Government (mill US$)**		**Other Sources* (mill US$)**		**Total Financing (mill US$)**		**Total Disbursement (mill US$)**	
		Proposed	Actual	Proposed	Actual	Proposed	Actual	Proposed	Actual
Grant	0	93.97	113.06	5.76	5.76	99.74	118.83	99.74	118.83
In-kind	0	1.55	1.55			1.55	1.55	1.55	1.55
Total	**0**	**95.52**	**114.61**	**5.76**	**5.76**	**101.29**	**120.38**	**101.29**	**120.38**

Table 7 above shows the level of co-finance both at project signature and as reported by PMU at termination. Co-finance was reported from a wide range of government departments – wider than listed in the Prodoc, and the amounts were very high. A ratio of 1:24 for GEF Funds: Co-finance is

[9] Total funds include all activities under Outcome 2 plus local capacity development which was budgeted originally under Outcome 1

impressive. It is not clear exactly how these funds or in kind assistance has been applied. However, both the TE and the MTR observed that there has been extensive involvement of FD personnel over its whole hierarchy, from state to all field levels.

3.2.5 Monitoring and evaluation: design and implementation

Project design (see section 3.1) included a major focus (Output 3.1) on community-based system for monitoring and assessment of impacts on the ecosystem and on people's livelihoods. M & E groups were to be formed under the institutional umbrella of the JFMCs, in documenting and mapping natural resources and collecting data on impacts of project interventions. Tracking of impact indicators in the log frame were to be undertaken through subcontracts to qualified institutions.

Data are readily available on the bamboo plots included in the project – clump density, numbers of culms, numbers of culms harvested or ready for harvest, income from the sales of bamboo in the four districts that have sold bamboo already, and the amount distributed to beneficiaries and JFMCs in the one district (Chhindwara) where distribution has taken place. These data have been collected by the forest department with the assistance of bamboo beneficiaries. However, for tracking impacts of the overall project according to objective and outcomes the planned community-based M & E groups have not been formed.

The annual PIR's were completed in full and in considerable detail. There are assessments each year against indicators but in almost all cases baseline data are missing. The PIR responses to the indicators are lengthy where precise responses should really be being provided to well-formulated indicators. Unsatisfactory indicators and targets have been employed to monitor project impacts in annual PIRs since 2012 even though they are patently not useful. It is disturbing that no one reacted to this and tried to make some adjustments to the indicators rather than following the routine without question. Quantitative data are quoted, but it is not clear how they were collected and by whom, and what the reliability of these data are and consistency of collection protocols from year to year. The project document, in Outcome 3, included an annual ecological performance audit (see Section 2.6.3) among its activities, but this, as far as the TE is aware, was not implemented. Now, clearly too late to be useful, a consultant has been engaged to assess both ecological and socio-economic impact of project activities. The consultant (CMS) completed their first field trip just after the TE field visit. The ToR for this assignment include work on filling gaps in the baseline data and training of a monitoring team, and extend to general assessments of the causes and drivers of biodiversity loss and recommendations for future actions to reduce biodiversity loss and poverty. It is an assignment that should have been arranged during the first months of the project. It is very difficult for the consultant to measure impact in the way intended because for most indicators baselines were not defined at the start of the project (see Section 3.1 and Annex 4b).

The project held a full and impressive Inception Workshop in August 2010. It is disappointing that annual workshops to the same level of detail and discussion were not instituted, and that to date there has been no closing workshop. Annual Tripartite Reviews are specified in the Prodoc (p 48) but the TE were told that these did not take place.

3.2.6 UNDP and Implementing Partner coordination and operational issues

The coordination between UNDP and the Government of Madhya Pradesh appears to have gone smoothly at the overarching level. The TE team considered the extent to which UNDP should have been scrutinising project operations. The project is implemented under NIM operating procedures which gives authority to the implementing partner to disburse funds as long as requests for replenishment are approved against working plans by UNDP CO. The TE team is of the view that closer monitoring by UNDP of project plans and actions could have steered the project better towards it's objective and outcomes. It appears that technical review of requests under FACE is pretty perfunctory and that most scrutiny is at the AWP level. UNDP management response to the MTR report and recommendations should have been quicker and stronger. With better coordination it is

possible that technical assistance to the project could have been improved: late recruitment of consultants and inappropriate ToR have had severe impacts on the project. The strategy on technical assistance, the sites for the various RBDF/livelihood interventions, and the relative emphasis on each of the outcomes could have benefited from technical discussions early in project implementation, and the frequent changes in NPD (average length of service – eight months) should have been addressed early on in discussions with PMU and the implementing partner. The indicators in the log frame should measure impact but most of them measure progress in numerical terms – numbers of ha for example, or numbers of plans (see also MTR Report p142). Many of these indicators should have been revised at the inception phase.

The TE team observed and were told of shortcomings in communication and cooperation between UNDP CO and the PMU that have gone on for some years. Action should have been taken earlier to address these. The TE team saw keen and able people at both UNDP CO and PMU, and it was telling that dedicated and concerned UNDP CO staff said that they were in fact powerless to make significant changes in the pace and nature of what went on in the field. One of the potential strengths of having UNDP as implementing agency is its breadth of involvement in development issues in the country and worldwide. Projects such as this one advocate more cross-sectoral collaboration in government, and it would be good if UNDP CO were able to show more cross-departmental collaboration in-house, for example between Environment and Energy, and Poverty, in providing technical support.

3.3 Project Results

Results were mixed – impressive in some aspects, and outputs, and less so in others. Progress towards the goal and objective were rated as Satisfactory, i.e. it had **minor shortcomings** in the achievement of its objectives in terms of relevance, effectiveness, or efficiency (see formal rating system in Annex 6). Tables 8 and 9 present the formal ratings for goal, objective and outcomes breaking down the outcomes in two different ways. Table 8 gives ratings for the outputs under each outcome, whereas Table 9 rates the progress towards the indicators under each outcome. Many of the indicators lack baseline data and/or have not been measured systematically so in some cases no ratings have been possible, and in others, ratings are based on estimates provided by the PMU. Table 2, in the Executive Summary, gives an overall rating for project results broken down according to the achievement of the outcomes, the quality of M&E, the performance of the Implementing and Executing Agencies, the likelihood of Sustainability of the results, and the Impact of the project to date.

The TE notes that projects involving livelihoods interventions that are expected to deliver environmental benefits are notoriously difficult to implement well, in the spirit of the original aims[10]. They suffer from a range of expectations and a range of views about what constitutes success. So it is vital to have well-developed indicators with baselines, sources of verification and monitoring protocols defined from the beginning or at least early in the project.

Looking at the project as a whole, one of the major achievements was the engagement achieved with local people. This kind of engagement is vital as part of a long term strategy to maintain forest cover through engagement of local people who see value in an ecosystem approach to utilization of forest resources.

[10] See Wright *et al*., 2015 Reframing the concept of alternative livelihoods http://onlinelibrary.wiley.com/doi/10.1111/cobi.12607/full

3.3.1 Overall results - attainment of Objective and Outcomes

Objective: To promote community-driven sustainable land and ecosystem management at the landscape level through:

Integration of Watershed management
Joint forest management, and
Sustainable livelihoods development

so as to balance ecological and livelihood needs.

Community-driven sustainable land and ecosystem management at the landscape level (the first part of the Objective) was effectively promoted under the project: there was keen and active participation by Forest Department officials at all levels, and by communities and Joint Forest Management Committees in numerous villages over ten divisions in five districts. Some problems linked to distribution of income to the beneficiaries under the main RBDF model require immediate attention to maintain this keen and active participation (see below under Outcome 2). The concept of community-driven sustainable land and ecosystem management at the landscape level was also promoted among representatives of other government departments such as Agriculture, Animal Husbandry, Veterinary, Rural Development at the local level. The planned mechanism of promotion (through integration of watershed management, joint forest management, and sustainable livelihoods development so as to balance ecological and livelihood needs) was demonstrated in intention if not in practice. Many locally important and valued results were achieved under the other livelihood components, but from the point of view of the overarching project goal and objective these were not so valuable. In some cases, the TE team was told by Forest officials that the benefits of these livelihood activities were in building goodwill only. This is a common finding in projects that attempt to integrate conservation and development (see footnote 10), particularly those promoting alternative livelihoods. It is unusual for alternative livelihood projects to achieve the expected environmental impacts. Promotion of the ideas went well but there was insufficient sophistication in the approach for demonstration of long term sustainability and full integration of the various strands of the project.

Outcome 1 Enabling environment for climate-resilient sustainable land and ecosystem management (C-R SLEM)

Changes to state policies across relevant sectors

The aim of this outcome is to ensure that sectoral policies on forests, watershed management, agriculture, livestock, and tribal welfare take into account climate resilient sustainable land and ecosystem management principles as fundamental criteria, and that capacities be developed to integrate climate change scenario planning into land-use decision-making and planning. As was pointed out by the MTR the only policy issue being addressed at the time of the MTR was clarification of the legal basis for individuals and JFMC's to be given the proceeds of bamboo sales. That particular issue has still not been settled satisfactorily (see below under Outcome 2). Under the capacity building output (Output 1.2), the project concentrated on livelihood related skills for local villagers and JFMCs, and less on decision-making for C-R SLEM by officials across a range of government departments. Capacity building has been measured by the project in terms of numbers of people that attended training sessions or exposure visits: it would have been good if some measure of changes in capacity could have been devised and used.

Training of CBOs and government staff in promotion of C-R SLEM

Impressive results were achieved in terms of numbers trained, and the TE team were told that training of trainer's approach had been used. However, it was striking that most of the training, involving hundreds of people, was very short in duration (often less than one day), even for complex topics. When questioned about this, TE team was told that a lot of the training was in fact simply exposure to

a new topic or idea, and that further training would be required to build skills in certain areas. Training for bamboo rehabilitation took place partly on the job and was considered to be generally successful – it is easier to train people when they have the basic background skills already and wise to select SMEs or alternative or additional livelihoods that build on such skills. This explains in part the success of the RDBF part of the project (see below) where it was allowed to proceed to harvest and income distribution.

Outcome 2 Community-driven approaches to C-R SLEM demonstrated in four micro –catchments
Sustainable management of bamboo on forest lands
The Rehabilitation of Degraded Bamboo Forests (RDBFs) was the dominant planned activity in terms of areal extent covered, beneficiaries involved, financial resources used and resulting overall success and impact. The MTR provided a detailed account of the RDBF model with significant observations and analyses of growth, yield, social acceptability, sustainability, and compared the project model with other existing models *viz*. the 'standard model' being implemented as a part of the 'Bamboo Overlapping Felling Working Circle' as prescribed in the Forest Working Plan(s), and a modified model implemented by the MP State Bamboo Mission. The TE Team visited RDBF pilot sites in North Betul and West Chhindwara and unmanaged bamboo areas in Tala Range of Bandhavgarh TR and the TE team base its findings on those field visits, on presentations and reports from other project sites, and on conversations with interviewees. At this stage attention to effectiveness, sustainability and potential of replicability are considered vital.

MPFD adopted the pre-determined criteria for selection of beneficiaries, so they were predominantly poor tribal people with small, if any, land holdings. Selection of beneficiaries is reported to have been fair and with the consent and approval of others in the community. Each recognized beneficiary (*Hitgrahi* family) received monthly payments of Rs. 2,500 (later Rs. 3,500) per month for four years on the understanding that they would rehabilitate[11] 20ha of degraded bamboo areas (5ha per year) and then be entitled to the income from the bamboo harvest into the future, as long as they continued to tend the bamboo. By the closure of project, altogether 789 families in 10 forest divisions spread over five districts of the state were involved. Ultimately, it led to rehabilitation of 15,780 ha of bamboo forests to harvestable state.

There were considerable site variations across the ten forest divisions in terms of clumps/ha (30 to 300-400 clumps/ha). In the areas visited, the TE team saw well-tended bamboo clumps in mixed forest that appeared to be in good condition, and in each division it is reported that there have been improvements in the condition of the bamboo clumps and in the forest in general. The TE team also observed that check dams have been constructed in the RBDF areas and these are expected to contribute to water-holding capacity of the forests. Beneficiaries appear to have reduced the level of illicit tree felling and hacking of bamboo. They also protect bamboo against macaques through frequent patrols. It is also reported that *Hitgrahis* have reduced the level of livestock grazing and the frequency of fire outbreaks in the RBDF plots through their protection activities, although objective data are hard to find and much of the evidence is unsubstantiated. Reduction in head-loading (the collection of firewood for sale) has been observed and was highlighted by the MTR and in presentations by various DFOs as beneficiaries are kept busy and remunerated for their work with the bamboo plots. Beneficiaries in Betul and Chhindwara districts adopted a 'communal' approach to managing and harvesting the bamboo plots (see Section 3.2.1) while in Sidhi and Umaria districts, beneficiaries preferred to tend the bamboo only in their individually allocated plots, although they did work jointly for general protection of the RBDF areas.

The TE Team observed and learnt about three ground realities with regard to bamboo harvest and sharing of usufruct profit from harvests. Three forest divisions in Chhindwara district went ahead with the planned strategy to harvest rehabilitated bamboo areas after 4 years while involving

[11] This consisted primarily of "cleaning" of clumps, soil working and protection of forests from theft, hacking, grazing and fire

beneficiaries and other local communities and shared the net profit in proportion of 80% and 20% with beneficiaries and JFMCs, respectively. The CCF, three DFOs, frontline staff and beneficiaries were quite satisfied as successful implementation of the original approach of RDBF model. Indeed, beneficiaries and the Department were getting ready for the second year's harvest on similar lines. In the four project forest divisions in Sidhi, Singrauli, and Umaria districts bamboo was harvested but the FD has deposited money realized from sale of the bamboo in the government treasury and the beneficiaries are still awaiting payment. The local CCFs and DFOs confirmed that no payments will be made until there is clarification from the state government on the legality. Three forest divisions in Betul have so far not even approved bamboo harvests in rehabilitated areas and are awaiting approval and government directives so there have been no payments there either. Thus, the sense of ownership among the beneficiaries (*Hitgrahis)* is not uniform across all 10 divisions and there is dissatisfaction in some districts and a loss of trust in the project and its RBDF model.

Energy/ Fuelwood plantations
Altogether, ten FDs established 220 ha of fuelwood plantation, mainly in 5 ha plots. The TE team visited two such plantations in North Betul and West Chhindwara FDs and other concerned DFOs provided information about the energy plantations in their respective divisions. Plantations were generally at a spacing of 3 m to 4 m and seedlings planted included Neem (*Azadirachta indica*), Aonla (*Phyllanthus emblica)*, Sisoo (*Dalbergi sissooo)*, Karanj (*Pongamia nnata*), Bamboo (*Dendrocalamus strictus)*, Su-babool (*Leucaena leucocephala)*, Mahuva (*Madhuca indica)*, Khamer (*Gmelina arborea)*, Siras (*Albizia), Cassia, etc*. As some of the plantations are in Reserved Forest (RF) areas there is probably going to be a need for a government order or notification (as in the case of the RBDF model) to allow harvest when the time comes.

Trees are growing, although slowly, and it will be some time before they are harvestable. The plantations observed are unlikely to meet the fuelwood demand in the villages. Species selection requires attention. Except for *Leucaena,* there was hardly any species that can be used for fuel on sustained basis. Bamboo is a particularly surprising choice. Moreover, *Leucaena* is not native and being exotic could proliferate much faster and gain dimension of a weed. As is the case for fodder plantations (see below), there appears to have been no clear planning for demand, likely production and sustainability of energy plantations. In discussion with Chhindwara Circle CCF a rough requirement of 1 ha of fuelwood plantation per family was calculated (based on a yield of 1.5 tonnes per year), so a single 5 ha plot would only supply fuel sufficient for five families. Nevertheless, it was a good beginning on a small scale, with the intention to promote alternative fuelwood strategy to reduce pressure on forests and make beneficiaries aware about protection of forests.

Fodder plantations
Fodder plantations on small (5-10 ha) forest patches were established adjacent to select villages. In total, there are now 210 ha of fodder plantations. The TE team visited two sites, in North Betul and West Chhindwara. The fodder plots contain grass (mostly *Pennisetum pedicellatum* (locally known as Dinanath grass) and C*enchrus sp)*, a range of tree seedlings (including the exotic *Leucaena leucocephala)*, and bamboo plants. There was good growth of sown grasses in the plots seen. Villagers were allowed in to cut grass and it was reported by the MTR and by local DFOs that RBDF beneficiaries shared the fodder amicably with other villagers[12], and that some of the fodder had been used to stall-feed cattle where previously they had been grazing.

The TE team felt that instead of forest lands (often Reserved Forest), degraded village pastures might have been more appropriate sites for fodder plantations. Further, raising fodder grasses under forest canopy may not be advantageous in long run as subsequently dense canopy will not allow optimum grass growth. Selection of species for plantation requires careful consideration. For success of fodder plantations, it is vital that demand and potential production are estimated realistically so as to plan

[12] Agreed at a village meeting

production and harvest systematically. The TE team also observed that in some instances, grass is being collected in winter months (e.g. January) when grass is totally dried and having reduced nutritional value (lesser protein and higher crude fibre). Thus, during an interaction with the beneficiaries, the TE team suggested greater attention to hay making in post-rainy season.

Some communities started stall feeding cattle due to the initial availability of fodder from fodder plantations. However, these are smaller fodder plots and availability does not match the requirements, so there have been only small impacts on grazing intensity in forests. The fodder plots are producing good grass but the tree seedlings are way off maturity and as they are under sal and teak canopy are unlikely to produce high yields of fodder. The scale of the pilots is was such that the fodder plots are not likely to contribute significantly to reducing grazing pressure in forests.

Small and Medium enterprises based on NTFPs

The project included promotion of Small and Medium Enterprises (SMEs) to provide gainful employment, through income generation activities and to develop incentives for local people to conserve forest resources. Three consultants (Access Development Services, MPVS, and IIFM) were engaged to identify 20 suitable SMEs for each of the 10 project Forest Divisions and to prepare corresponding business plans for these. A specific decision was made by project management to go beyond NTFPs and to include businesses based on other bio-resources under this output. Suggested SMEs included: Mahua (*Madhuca indica*) flower storage, poultry farming, dairy farming, milk production-dairy unit, fisheries, rice milling, bamboo stick, sugarcane jaggery, wheat daliya (porridge) mill, wheat processing, incense stick production (hand rolling as well as machine rolling), pulse milling, aonla (*Emblica*) processing, eco-tourism (home stay initiatives), silk cocoon reeling, and soya bean processing. The TE team examined some of the business plans, and noted that environmental safeguards were not given adequate attention in some of the more ambitious proposals.

The TE team visited some of the SMEs sites dealing with incense stick (*Agarbatti*) making, *Lantana* furniture, and broiler production, in North Betul and West Chhindwara forest divisions. DFOs initiated some SMEs under the project because the consultancies were taking too much time. Enthusiasm in implementation of some of SMEs was high and involvement of communities in such SMEs is reported to have led to reductions in seasonal out-migration for work, and in economic empowerment of women. There is obviously a great demand for gainful employment opportunities. Women too are keen to contribute to family income. Old customs are giving way to the needs of the modern day. Education of children is given primacy. Near home employment is preferred to out-migration. Villagers use new found earnings to educate children, and the number of cattle is reduced to allow children go to school and not spend time grazing cattle. Some reported that they bought pumps and dug wells with their profits, and this requires attention under local planning processes: new wealth can sometimes be applied in environmentally damaging ways. The TE team were also told that there is a problem with increased consumption of alcohol as a result of higher cash income in certain places.

There is a need for ongoing planning and institutionalization if SMEs are to provide sustained gainful employment. Inputs for quality control, financial management and marketing will be needed for some time to make enterprises sustainable. Proposals for SMEs based on NTFPs should be researched carefully both to find ways to add value and also to ensure that collection methods are not damaging, and that harvests remain within sustainable limits even in years when production is low. Establishment of regular markets – regular customers - can lead to pressures to overharvest in poor years. The approach to planning and implementing this component did not take into account the considerable experience now built up on integrated conservation and development projects both within India and globally. A more sophisticated approach is expected in a project of this stature.

The 10 concrete broiler sheds built in a village of 40 families in North Betul are part of an SME that should be assessed carefully for feasibility and likelihood of success under the prevailing conditions. A previous initiative failed when all the chickens died, and in the absence of forced ventilation it is likely that this will happen again, after the project itself has been closed.

Increased and more diverse use of "home gardens"
Villagers, encouraged by improved water availability, have taken to vegetable cultivation and tree planting in the fields they own near their houses. The plots involved are more than gardens – they are *badi* (agricultural land), and some of them of up to 2 ha in size. Proximity to towns, mining areas, or thermal power stations has proved an incentive to cultivation of vegetables, as produce can be readily sold there profitably. Villagers show a preference for fruit tree seedlings such as Aonla, Mango, Guava, lime and also bamboo. However, planting and tending of medicinal plants with the exception of Aonla was not seen. There is demand for more seedlings of tree species. There was less emphasis on promotion of medicinal plants. Linking practitioners of traditional medicine with villagers to avail supplies from homesteads was not attempted as planned.

In summary, the TE team feels that in general there has been a reasonably good response and encouraging results. Communities have taken well to the idea of planting fruit trees in their "home gardens". Preference for fruit seedlings of Aonla, Mango, Guava, lime and bamboo was observed. In West Chindwara, one beneficiary planted *Eucalyptus* on nearly 2.5 ha for commercial purposes (will be sold for pulp) having been granted Rs. 60,000 by the project. This is unfortunate in a GEF biodiversity project as the chance of adding biodiversity benefits is lost, and the water consumption of many *Eucalyptus* varieties is known to be considerable and to affect surrounding land. It also raises the question of cost sharing. Generally, some kind of cost sharing is advised on livelihood interventions such as undertaken by the project, in order to maintain "ownership" and incentives to make businesses or one-off investments successful and to ensure environmental friendliness.

Improved water resources management
The project provided for soil and water conservation works in each project division. Prominent activities included rock/earthen check dams, percolation tanks, small farm ponds, and water diversions. The TE team saw watershed conservation measures undertaken in North Betul and West Chhindwara mainly consisting of small loose rock bunds, locally called check dams on *nallahs* in forests, including in the RBDF areas. At one place, a community pond was strengthened and deepened. This pond was used for pisciculture. In West Chhindwara, water was piped in plastic tubing from the Tamia gorge/stream over 1.5 km away to irrigate crops in two different villages. The drop was sufficient to power sprinklers and one of the villages had added new crops to its agricultural calendar as a result. The piping of water from a gorge/stream, thus redirecting substantial amount of water away from the natural river bed should not be undertaken without proper impact assessment. Undoubtedly, small scale and wide spread efforts made as pilots gave promising results and could mobilize communities for SWC and make them aware. However, the TE team felt that such efforts were too piecemeal and that some kind of initial strategic planning at watershed or landscape level should have taken place under the project.

*Improved agricultural practice*s
Some publicity events were undertaken, involving veterinary examinations for livestock, and new methods of composting using worms were piloted in several villages. Activities appear to have been fewer than envisaged in the project document (there is an emphasis on new varieties of seeds and livestock) and cultivation practices. There is no doubt that it is a promising area for involvement in an integrated approach to livelihoods and ecosystem conservation, but results to date are impossible to evaluate.

Outcome 3 Adaptive management, lessons learned and replication
Community-based monitoring of impacts
Good data were collected by the FD with the assistance of beneficiaries on bamboo clumps and culms, and on the harvest, where harvest took place. However, there is still little in the way of ecological data or socio-economic data that correspond with the indicators in the log frame or that could contribute to new indicators. This was noted by the MTR and a strong recommendation (MTR report p 138) was made to begin a wider and more systematic impact monitoring protocol. No

community based monitoring relevant to the established indicators has been established, and the project only recently, within the past month, took on a consultant to plan such monitoring and impact assessment, and this is clearly inadequate when considered against the original design (see Section 3.2.3).

Lessons learned, and replication plan

There was good collaboration with the TFO on preparation of case studies on the RBDF, on lac cultivation and on *agarbatti* production (see above, Section 3.2.2), and various leaflets and films have been produced. However, the project is far off a full and comprehensive documentation of its experience. The MTR recommended (MTR report p 139) that the project go beyond case studies and compile 20 page themed reports and a replication plan. It is not at all clear that the RBDF model will be replicated and much work remains in order to ensure that it is.

Table 8 Assessment of Outcomes and Outputs by PMU and observations and ratings by TE

Assessment by PMU	Observations by TE team, and Rating
GOAL (as part of SLEM Programme): To promote sustainable land management and use of biodiversity as well as maintain the capacity of ecosystems to deliver goods and services [benefitting local livelihoods] while taking account of climate change.	
Forest lands incrementally increased the capacity to address land degradation through RDBF and plantations. The productive capacity of such sites enhanced the health of the local ecosystems. Habitat improvement through the involvement of the families benefited degraded ecosystems in return assuring the livelihood opportunities created through the efforts. About 15,700 ha of RDBF areas, more than 400 ha. of plantations has resulted in habitat and biodiversity improvement measures.	Project has succeeded in promoting sustainable land management and use of biodiversity. The main focus on bamboo harvest model to provide incentives for local residents to protect ecosystems has been demonstrated and next steps identified. So links to local livelihoods have been demonstrated. However, policy level work (including final steps in the RBDF model) was relatively neglected, and there has been little emphasis on climate change issues during project implementation. **S**
Project objective: To promote community-driven sustainable land and ecosystem management at the landscape level through integration of watershed management, joint forest management, and sustainable livelihoods development so as to balance ecological and livelihood needs.	
At the landscape level, considering the watersheds as units (Mille or Micro) the forest and non-forest lands were treated. The forestry and watershed initiatives engaged families for treatment, conservation, protection, management of such areas in the project districts. The pro-community/family based participatory management of micro-ecosystems helped integration of natural resource initiatives. The community based institutions as Forest Committees, poor families and the Forest Department locally have explored and promoted ecosystem services for a pro-environment based livelihood model.	The project has succeeded in promoting community driven sustainable land and ecosystem management. The actual integration of watershed management, joint forest management, and sustainable livelihoods could have been done better. The MTR questioned the spatial distribution of the various livelihood initiatives. The watershed unit approach as described in the project document was not followed, and widely dispersed administrative units were chosen instead. "In India, watershed may be classified depending on size as follows: macro watershed (>50,000 ha), sub-watershed (10,000 to 50,000 ha), milli-watershed (1,000 to 10,000 ha), micro-watershed (100 to 1,000 ha), and mini-watershed (1-100 ha)" (From p 141 of MTR report) **S**
Outcome 1 Creation of an enabling environment for climate-resilient, sustainable land and ecosystem management	
The IA institutionally involved JFMCs as CBOs to ensure good forestry practices as a co-management arrangement of access and benefit sharing. The learnings now require a state level policy change under the JFM Resolution. The key decision makers have to align the learnings from the project towards guiding the existing policy practices for communities to participate for enrichment of the natural resources. In	The MTR pointed out that the focus of the project had been almost overwhelmingly on the bamboo harvest rights model and the TE concurs that the overarching enabling environment has been relatively neglected under the project in favour of work on the ground to demonstrate the bamboo rights model. So this outcome has not been achieved. This is reflected in the relatively low expenditure (22% of budgeted) on the outcome. The TE observed that action on the policy clarification regarding harvest and distribution of income to project beneficiaries at the time this was raised by the MTR would have avoided uncertainty continuing until the end of the project. For lack of clear authorisation from state government the bamboo harvest

Assessment by PMU	Observations by TE team, and Rating
practice, the Forest Department have the guidance through the FRA or the JFM for an intermittent arrangement to address the issues that emerges from the project implementation so far.	and/or distribution of income has not taken place in four of the five project districts.Considerable training and exposure visits have taken place and performance could have been improved in terms of impact with earlier and better directed TNA **MS**
Output 1.1 State-level policies on forest, agriculture, animal husbandry, watershed management, tribal welfare reflect climate-resilient, sustainable land and ecosystem management principles	
A study is in progress, which is capturing the existing status at the state level. The report of the sectoral policy analysis shall be used to communicate future possibilities for the state departments to act more comprehensively towards a better environment based action plans.	Apart from pursuing the authorisation for the final stages in the project's bamboo harvest model, other state-level policies have not been addressed significantly by the project. The study in progress at present should have been initiated during the first year of the project. To start such a study towards the end of a one-year project extension is simply far too late – the project is now beyond its closing date and yet the study is not complete. **MU**
Output 1.2 Community-based organizations (JFMCs) and government staff are trained in promoting community-driven, climate-resilient, sustainable land and ecosystem management	
About 40 JFMCs covering 400 members from the community oriented and sensitized on forestry, training skills etc. Also, 789 families covered under the RDBFs have been trained for bamboo harvesting, management, protection of bamboo forests. The front line staffs and beneficiaries from the project areas has played a key role in participating in the *in-situ* training programs as well as exposures under the project across the states within the country to understand future possible roles to manage local forests/ ecosystems.	The training undertaken by the project was extensive and in the case of RBDF has played an important role in ensuring the major successful result of the project. The MTR pointed out, and the TE concur, that government staff have not been trained as envisaged in the project document. Some of the training appears to have been little more than exposure to new ideas rather than solid skills development. Very short training courses – often less than one day. TNA too late and not well formulated. **MS**
Outcome 2: Community-driven, climate-resilient approaches for sustainable land and ecosystem management are demonstrated in 4 micro-catchments	
In 5 districts, one or two micro/ mille watershed were identified for further planning and operations under forestry and watershed based initiatives. About 60 JFMCs have been covered. The demonstrations under the project as policy pilots have managed to bring in learnings for the IA as well other district level line departments to some extent for incorporating results in their planning processes.	This outcome has succeeded in demonstrating approaches to sustainable land and ecosystem management. The overwhelming emphasis has been on the project's bamboo harvest rights model and this model appears set for replication. There was little emphasis on climate resiliency (whatever that means) or explanation of why this was not addressed explicitly. The TE felt that livelihood activities conducted under this outcome could have been better coordinated under some kind of strategic landscape planning approach to watershed management. As pointed out by the MTR, site selection for the various livelihood activities, should have been aimed at a demonstration of integrated community-based model for improving land and ecosystem quality in discrete areas. **S**
Output 2.1 Plans for rehabilitation and sustainable management of degraded bamboo areas in forest lands near target villages are developed and implemented.	
Against 14,500 ha more than 15,700 RDBF areas covered involving 789 families. About 80% of the families are poor tribal. Remaining are also under privileged from the scheduled caste or backward classes.	This output forms the backbone of project achievements. The Forest Department showed great commitment, there was comprehensive participation throughout its hierarchical structure, there was strong participation of JFMCs, and excellent engagement by the project with poor communities, predominantly tribal groups. Apart from benefits to local villagers in terms of income, there are also ecological and biodiversity benefits arising from increased protection of the forest by the beneficiaries. The project's bamboo harvest rights model has been successfully demonstrated, through to distribution of income, but this is in only one District. In the remaining districts explicit authorisation from State Government for harvest and/or income distribution is holding up progress. It is important that a government order notification is issued to avoid the real risks of (a) totally losing the trust of villagers, and (b) bamboo clumps reverting to unworked, congested clumps. It is surprising that the necessary decision and the necessary document was not made / issued earlier in the six years of the project, especially as this was the key output, and the MTR had already pointed out the urgency.

Assessment by PMU	Observations by TE team, and Rating
	Check dams have been constructed in the RBDF areas, with potential benefits for both the forest and for downstream agricultural areas (see below under 2.6) but such benefits have not been demonstrated (see also the MTR). **HS**
Output 2.2 Plantations are established on degraded community and forest lands to support local fuelwood needs.	
More than 200 ha has been covered under energy plantations. Along with degraded forest lands, existing forest compartments with good tree cover has been covered to improve the middle or lower story.	The TE observed in the sites visited that plantations were under good mixed forest where production was likely to be low. The MTR commented that hardly any of the tree species selected can be used for fuel on a sustained basis. They consist of mainly native species but also include some exotic species such as Subabool (*Leucaena leucocephala*) which is considered one of the 100 worst invasive species in the world by the IUCN SSC and, as pointed out also by the MTR, has a tendency to occupy sites as it regenerates vigorously. It seems that species choice has been influenced by other factors such as whether the trees bear desirable fruits. The TE observed that a substantial amount of bamboo planted for energy production, because, The TE team was told, a lot of the tree seedlings planted had died. This is a strange choice because bamboo has little or no value as a fuel. The TE also has concerns about the siting of the plantations and the lack of attention to estimates of yield and demand, and whether the plantations will actually lead to changes in firewood collection habits. (The MTR noted, and the TE were informed, that the bamboo rehabilitation work and some of the incense stick work had led to reduction in head loading for commercial purposes, although collection for self- use is unaffected. **MU**
Output 2.3 Plantations are established on degraded community and forest lands to support local fodder needs	
More than 200 ha has been covered for fodder plantations. The sites have promoted good fodder production and harvesting by the local communities. This has catered to the needs of the villagers in and around the sites for their livestock needs.	It appears that the fodder plantations have been producing grass in good quantities. The tree species used are not really fodder species, and planting of bamboo, as also pointed out by the MTR, is a strange choice because it will shade out the grass. The scale of the intervention is probably too small to meet for the needs of any one village; and the siting of the plantations is not linked closely with the RBDF areas. As also pointed out by the MTR, the main grass species are annuals and need careful timing of harvest: it appeared that opportunities to harvest after the monsoon had been missed, because there were stands of dry grass in some plots. **MS**
Output 2.4 Small and Medium Enterprises (SMEs) based on sustainable harvest of other NTFPs are promoted	
12 SMEs under operation by the DFOs in the project districts except in Singrauli and BTR- Panpatha range.	The SME work was slow to get started, made a significant shift away from NTFPs, and involved a cumbersome, poorly formulated, and costly set of consultancies that took place far too late in the project and contributed little nothing to project results. The work under the DFO's has been successful in terms of establishing little enterprises such as incense stick manufacture and *Lantana* furniture manufacture. The TE noted the conspicuous absence of environmental and social impact assessments for SMEs (and indeed for all livelihood activities) and observed that insights on feasibility, sustainability, scale, and market futures were not forthcoming. UNDP should look carefully at the broiler units being constructed, at this late stage in the project, as there is a real risk that they will lead to gruesome failure, as did an earlier experiment on a smaller scale in the same village shortly after the MTR. **MS**
Output 2.5 Home gardens are promoted among landless families to meet subsistence needs	
More than 600,000 saplings distributed to about 60,000 families in villages of the project districts. The intention is to improve their home gardens with medicinal, fruit bearing plants for family health and nutritional benefits.	The main demand from villagers under this output has been for fruit tree seedlings and, as also reported by the MTR, this has already led to an increase in the availability of fruits for household use. Some vegetables have been grown for sale. It seems that encouragement and facilitation on a small scale has worked, and that this is something that should be expanded and planned along with the other activities at the watershed level. Links should be made with decisions on water resources management that take into account the requirements of all water users in the area (see below under 2.6). One disturbing example of assistance with such plantations was the provision of Rs. 60,000 worth of plants to a landowner in North Betul to establish a *Eucalyptus* plantation. This should not have been approved, particularly under a GEF project, which should be demonstrating best practice. **MS**

Assessment by PMU	Observations by TE team, and Rating
Output 2.6 Improved management of water resources at the level of micro/ milli watersheds, with particular emphasis on community mobilization in support of soil and water conservation structures and approaches	
3000 ha of area covered in the five project districts. Forest lands have been covered more significantly under this initiative. Contour trenches, bunds, percolation tanks, ponds, check dams etc. have been built.	Under this output a wide range of structures have been repaired or built, including inside the RBDF areas (see above under 2.1). The TE noted that there has been a tendency to react immediately to requests from local villagers for such interventions and that a more considered landscape/watershed-based comprehensive planning approach would have been preferable. There is no doubt that certain villages have benefited greatly from such activities. However, diversion of large amounts of water from one stream several kilometres to a selected village, for example (as has happened under the project in West Chhindwara) should not be undertaken lightly, and it seems that environmental and socio-economic impacts should have been considered carefully in this output. With regard to scale and targeting of resources, work in the uplands is likely to extend benefits to more farmers. **MS**
Output 2.7 Rain fed agricultural practices are strengthened with people-friendly, cost-effective, climate-resilient technologies that can improve returns within the constraints of local agro ecological conditions	
Under this activity, only in Sidhi and Chhindwara bio-dynamic farming involving small and marginal farmers have been implemented. About 200 farmers through 20 groups or so learned new methods of practices to improve productivity from small land holdings. The interventions trained the farmers for organic agriculture, vermin-compost, yield improvement etc.	The TE saw some of the vermin-compost facilities installed under the project. Activities under this output appear to have been fewer than envisaged in the project document and the results attributable to this output are not yet clear in terms of increased yields. However, there is no doubt that it is a promising area for involvement in an integrated approach to livelihoods and ecosystem conservation. **MS**
OUTCOME 3: Capacities for adaptive management, learning and replication of project lessons are developed	
400 JFMC members sensitized on Direct Training Skill (DTS) methods for becoming community level master trainers. The second phase intended to deliver the modules prepared under the TNA exercise to sensitize further on forestry, NRM, livelihood, JFM and communication skill development issues. But in 2015, in the absence of the funds the trainings could not be imparted in absence of funds. 789 families along with 100 front line staff of the Forest Department trained in bamboo management, harvesting, monitoring etc. The training imparted existing methods as per the norms established by the department for harvesting.	This Outcome was to focus on establishing a community-based monitoring and evaluation system, documenting project lessons and experiences, and furthering the dialogue with key stakeholders to replicate the projects sustainable land and ecosystem management approach. The training results reported by PMU (here, opposite) belong under Outcome 1. The MTR reported little progress under this outcome and recommended special emphasis on its implementation during the remaining period of the project. **MU**
Output 3.1 Community-based system for monitoring and assessment of impacts, as well as external evaluations of the project	
	Apart from the detailed work on counting bamboo clumps and culms, monitoring of impacts of the project has been unsystematic and unconvincing, and the TE saw no evidence of community-based monitoring. There was a very carefully prepared and detailed MTR report which has been the source of much useful information and analysis to the TE team. Unfortunately, recommendations made by the MTR either not followed up at all or not in time. **MU**
Output 3.2 Documentation of lessons learned and preparation of information dissemination products which are geared to different audiences and are available in local languages.	
A film by IIFM, Bhopal on the incense/incense stick initiative in Sidhi was made documenting the success of the project based initiative. It has been promoted locally as well regionally within the state. Local print and audio-visual media promoted small stories of success in the project districts. Community radios were used as a medium to promote the	The most important aspect of the project is the bamboo harvest rights model. This was written up, even before the MTR, in 2013 under the national SLEM TFO program in a case study published by the ICFRE. It is important that this kind of publication be updated by the project, particularly with the recent experience of the costs and benefits as the 2013 version is based on estimates and the original Rs.2500 monthly payments. With reference to the assessment opposite, it is important to document experience with incense stick and other livelihood initiatives, but the real value of the project will be in reporting results irrespective of whether they were successful or unsuccessful

Assessment by PMU	Observations by TE team, and Rating
community led stories regionally in local languages.	in addressing the objective of the project. The MTR was concerned that documentation, sharing of experience, and the replication plan were falling behind schedule. Expenditure on this outcome was only 43% of the budget allocated. The MTR made a specific recommendation to appoint a full-time staff member to take care of documentation of project results and lessons learned. This did not happen. **MU**

3.3.2 Relevance

The project is extremely relevant to requirements in both Madhya Pradesh and the country as a whole. State Forest Departments have been experimenting for three decades with various participatory models of joint forest management (JFM) with local communities. Success with JFM has been mixed and where success has occurred it has often been site-specific and in small pockets. Concerns have often been voiced by traditional user groups about over-use of forest resources and vociferous sections of communities that have little interaction or dependence on forests have generally dominated decision making at the cost of those depending on forests on day to day. The MP SLEM project envisaged a pilot trial with a specific user group paid monthly over four years during which they were expected to prepare 20 ha of bamboo for harvest with the incentive of rights to the bamboo harvest income in subsequent years.

Various projects and programmes have been undertaken by government with international development agencies and non-governmental organizations to find a way to combine economic development with ecological protection to ensure the maintenance of the benefits that natural ecosystems provide. There has been limited success and the current project was formulated in order to demonstrate an integrated approach to balancing ecological needs with livelihood needs; to reverse the trend of land degradation and to encourage poor forest edge residents to make changes to their livelihoods that provide them with sufficient resources to live and educate their children into the future without depleting the natural resources of the forests. This project filled a real need.

3.3.3 Effectiveness and Efficiency

There was a big range of performance in respect of both effectiveness and efficiency. On the one hand there was the quite remarkable organization of the RBDF demonstrations over more than 15,000 ha in 5 different districts and 10 different divisions. This involved considerable work in mobilizing and overseeing the involvement of over 750 *hitgrahi* families, the issuing of identity cards, the setting up of payments to sometimes new bank accounts, and the arrangements for harvest and distribution of income from the bamboo sales in the agreed manner. Among the other outputs, organization of the *agarbatti* SMEs in almost all districts has demonstrated the potential for efficiency and effectiveness when the FD and PMU staff have been motivated strongly. On the other hand, monitoring of impacts, work on state policies and their implementation, and dissemination and replication planning, have all been neglected. There were the almost inexplicable delays in engaging consultants or technical advisers for the project too, and the wasted work once consultants had been engaged. Overall this is difficult to rate. It appears that the overall aims and scope of the project were not sufficiently clear to everyone involved, and understanding and expectations of the project, even among those implementing aspects of it, varied widely. The result was that certain aspects progressed fast and efficiently, and to great effect, whereas other aspects progressed slowly and with no great enthusiasm. As noted above (Section 3.2.6) reasons for some of the low efficiency and effectiveness lie in the difficult relationship that developed between UNDP CO and the PMU.

3.3.4 Country Ownership

There was and still is a high level of "ownership of the project and its results. This is very much focused on the RBDF model which is becoming widely talked about and appreciated at village level, district level, and in Bhopal and New Delhi. It is "owned" enthusiastically by the beneficiaries themselves in Chhindwara where there is talk of expanding to 40 ha per beneficiary and preparing for

the second year's harvest. In the other districts there are some reservations about the model and these should be resolved if and when government allows the harvest and income distribution according to the early Memorandum of Understanding.

3.3.5 Mainstreaming

The project had a considerable focus on mainstreaming of SLEM considerations into state policy across a number of government sectors. The eventual overwhelming focus on the RBDF model in project implementation took attention away from mainstreaming at the state policy level.

3.3.6 Sustainability

A pilot project becomes "sustainable" if later interventions use the experience of the pilot in their designs. So, in this case, the main requirement is that lessons learned in project implementation are applied in government policy formulation, decision making and actions, and also in the decision making and actions of local residents and community organizations such as the JFMCs.

There are strong indications that the project will have influence after it has finished, but it is vital that all aspects of its performance be taken into account when assessing lessons learned. Particularly important here is the need to undertake rigorous ESIA for all interventions in order to increase the probability of financial, social and ecological sustainability.

With regard to the main RBDF model, there is a wealth of information on estimated economic benefits to local people and to government that take into account the value of ecosystem services, and the saving of money by government through protection provided free by *hitgrahis*. However, the only data available on implementation that has gone to completion is from Chhindwara where income per beneficiary in from the first (5^{th} year) harvest came to between Rs. 3,500 and Rs. 17,000. This is low, but the forecast is for increased income from the second harvest year and *hitgrahis* interviewd by the TE team appeared sanguine about the prospects. The Chhindwara circle CCF forecast profits of between Rs50,000 and Rs 100,000 per beneficiary in future years. Income will obviously vary according to the production and quality of bamboo, and as these vary considerably between districts and division the projections of financial sustainability have to take into account local circumstances.

3.3.7 Impact

The impact of the project on the landscape as a whole has been low, but as is the nature of pilot projects, the real impacts will come once the results are disseminated, adjustments made, lessons learned, and the modified schemes are put into effect in new areas.

Table 9. Achievement of outcomes against indicators: PMU assessment and TE comments and ratings (on six-point scale given in Annex 6). Note that ratings of actual progress against the indicators has had to be independent of the baselines and targets in some cases, due to problems with the logframe discussed in the text (Sections 3.1.1., 3.2.3, 3.2.5).

Number / Indicator	Baseline	Target	PMU assessment	TE Comments	Rating
Project objective: To promote community-driven sustainable land and ecosystem management at the landscape level through integration of watershed management, joint forest management, and sustainable livelihoods development so as to balance ecological and livelihood needs.				The Project has had real success in promotion even though implementation could have been better using a landscape planning approach.	S

Number / Indicator	Baseline	Target	PMU assessment	TE Comments	Rating
OB1 Hectares of land where climate-resilient, SLEM is demonstrated for further replication in other areas	0 hectares	3,000 ha of non-forest land and 14,500 ha of degraded bamboo areas within forest lands	3000 ha for watershed development achieved. Against 14,500 ha about 15,700 ha of RDBF areas covered.	Yes, but this is a process indicator as it measures area covered by the project, rather than the impact on the area.	S
OB2 Overall decrease in trend and/or severity of land degradation as measured by % increase in NPP (Net Primary Productivity) and/ or RUE (Rain Use Efficiency) and associated loss of biodiversity and enhanced forest cover	Baseline to be measured in Y1	10% increase in NPP and land productivity over baseline at project demonstration sites	Due to protection of the forest compartments where RDBF areas were provided to the families, health of the forests has increased by at least 25%. Yearlong protection and restrictions on grazing etc. assisted natural regeneration.	Not sure on what basis can put a figure (25%) on this. It does not appear to be based on objective, verifiable measurements. No baseline	MU
OB3 Reduced threats to forest habitats enhancing survival probabilities of threatened species	Baseline to be measured in Y1	Reduction in threats over baseline	In the project forest areas, threats were reduced due to the involvement of families. Adequate protection resulted into reduced illicit felling. The habitat improved and allowed new species of flora and fauna to proliferate.	No baseline and no quantitative measurement	MS
OB4 Improved forest cover in the project districts	Baseline to be measured in Y1	Improvement by 3-5% over baseline	Forest cover in general and w.r.t the bamboo regeneration improved from say 4-10% and 40%.	These are guesses, and no quantitative baseline or interim or final measurements have been presented	U
OB5 Enhanced carbon sequestration capacity in project demonstration sites	Baseline to be measured in Y1	10% increase of total system carbon at project demonstration sites	Due to the working of the bamboo clumps, the degraded habitats has about 40 to 60% increase in the density of foliage. This may be correlated to the enhancement of carbon sequestration. The regeneration capacity enhanced in the forest compartments having degraded bamboo. This also enhances the carbon sequestration in those plots.	Yes, but this kind of general statement is inadequate under a UNDP/GEF project. No baseline so cannot measure change.	U
OB6 Change in proportion of project participants who are living above the poverty line	Approximately 3% of families in target districts/ villages	30%	In the project villages the families represented about 10 to 30% of the total village population. Specific to the project target groups the increase is about 10% in the changeover the five years. If the activities sustainably practices supporting their house hold income further, then actual alleviation of change can be expressed.	This indicator should be easy to measure as long as there is an objective definition of the poverty line. Assessment does not address the indicator	S
Outcome 1: Creation of an enabling environment for climate-resilient, sustainable land and ecosystem management				Such an enabling environment is being created but not attributable to the outputs under this Outcome	MS

Number / Indicator	Baseline	Target	PMU assessment	TE Comments	Rating
O1.1 Number of sectoral polices that incorporate SLEM guidelines	Existing sectoral policies	Climate-resilient, biodiversity-friendly, SLEM guidelines integrated into State agriculture, animal husbandry, forest, watershed, and tribal welfare policies by Y5	A short term study has been assigned to Administrative Staff College of India, Hyderabad. Based on the findings of their study a strategy can be formulated. Although in the recent past the GoMP has promoted organic agriculture as a crucial intervention for the farmers in the state. Tribal welfare initiatives are engaging district level initiatives where the community capacities to address traditional knowledge based practices for their land use is explored. Forest Department under the Green India Mission, Bamboo Mission, district level schemes Like MNREGA etc. has already initiated landscape based approaches to improve land degradation.	Indicator not clear. The current short-term study came far too late to be useful to the project	MU
O1.2 Number of government staff and CBO representatives trained in climate-resilient SLEM	Limited	2,000	400 Forest Committee members and about 100 field staff has been covered in the first phase of the capacity building exercise in 2014. In 2015, plan was prepared to involve the remaining target groups through the 400 committee members. But due to absence of funds it has not been implemented.	General public trained but little or no training of government staff. Again, process indicator rather than an impact indicator. More useful would be some measure of how capacities have been changed through this training. Much of formal training very short, but informal on-the-job training effective	MS
O1.3 Strategic plan to institutionalize integrated service provision for climate-resilient SLEM	None	Plan developed and verified	Immerse	Presumably not done	U
Outcome 2: Community-driven, climate-resilient approaches for sustainable land and ecosystem management are demonstrated in 4 micro-catchments				Excellent results under the main component on RBDF. Less good on other livelihood components	S
O2.1 Approx. 14,500 ha of degraded bamboo forests rehabilitated through community based participatory arrangement, thereby enhancing connectivity between relatively undisturbed forest tracts that harbor globally significant biodiversity	Highly degraded areas with only 15-20 culms per clump	25-35 culms per clump by Y5	New clumps ranging from 8 to 15 has been recorded across the areas treated under RDBF. The numbers of new clumps are much higher in Betul, Chhindwara and somewhat lesser in the Sidhi, Singrauli and Umaria forest areas. Over the years the health of the clumps has enhanced immensely.	Indicator concentrates on number of culms per clump and this does not relate closely to the indicator itself	S

Number / Indicator	Baseline	Target	PMU assessment	TE Comments	Rating
O2.2 Increase in earnings of about 700 families from involvement in sustainable management of degraded bamboo areas	About 1000 INR per month/ family	Increase by 60% by Y5	The increase in the house hold income through the remunerations was established for the RDBF families. 789 families benefitted in the engagement for the treatment of the bamboo clumps allotted to them. Based on the harvesting plan after the four years of working, the income further for the beneficiary families shall be sustained. Although it will be on the lower side initially against the remuneration received during the project period. About 30-40% increase is estimated if harvesting of bamboo directly transfers sale proceeds to the families.	So therefore the target is Rs.1600 per month per family (1000 plus 60% of 1000)? The vital question is whether any increase is sustainable into the future. What objective data do we have and what is the sampling protocol?	S
O2.3 Degraded lands planted with fast growing tree species suited to the local environment	0 hectares	200 hectares by Y5	About 220 ha achieved.	Some of the fast-growing tree species planted were exotic species, including *Eucalyptus* (not "suited to local environment"). And many plantations are not on degraded land – many are in well stocked RFs.	MS
O2.4 % of existing head loaders in target villages who substitute their existing practice with income derived from plantations	0%	15% by Y5	Head loader estimation may be 10%, although access to the energy sites is not yet established. It may take another 2-3 years to do so.	As you say, no mature plantations yet so surely this must be zero still. MTR reported that head-loading had ceased among those involved in RBDF and SMEs but this is for a different reason – because they are too busy.	MS
O2.5 Reduction in fuelwood extraction pressures on surrounding forests attributable to fuelwood plantations	Baseline to be identified in Y1 for each demonstration site	Reduction by at least 40%	It may affect as estimated above. But at present extraction for the energy sites is not happening to verify the facts.	Yes. Too early to assess and never would have been possible at this stage	n/a
O2.6 Increase in average fodder yields of degraded land	Baseline to be identified in Y1 for each demonstration site	50–75% by Y5	The fodder sites are well managed and protected. Thus, the yield results from such sites has been very productive. The targeted increase has been achieved.	No quantitative assessment against the baseline.	u/a
O2.7 Hectares of forest facing pressure for livestock grazing and/ or fodder collection attributable to fodder plantations	Baseline to be identified in Y1 for each demonstration site	At least 30–40% of this area faces decreased pressure by Y5	The sites for the plantations has been well protected by fencing. This attributed to the decreased pressure of livestock's considerably. In most of the sites grazing has been almost negligible.	Surely the indicator is referring to reduction in grazing pressure in the surrounding forest not in the plantations themselves.	u/a

Number / Indicator	Baseline	Target	PMU assessment	TE Comments	Rating
O2.8 Increase in perennial vegetation cover on degraded lands	Baseline to be identified in Y1 for each demonstration site	25-40% increase by Y5	All the sites covered under the project for RDBF, energy, fodder plantations etc. were well protected by the community as well as through fencing arrangements. The sites therefore have enhanced regenerative capacity of vegetation. In some sites although the top canopy cover has been good but the ground level were highly degraded or vegetation was absent. Therefore, the vegetative cover has enhanced by 30-40%.	No baseline- no measurements .	MU
O2.9 Number of households in demonstration site directly benefiting from the fodder production component	No. of households in demonstration site measured in Y1	At least half of the households benefit	About 20-30% of households or say 40-50 households on an average in the villages located nearby such sites are benefitting.	Indicators really need quantification. Need data – even if the data are estimates, as long as those estimates are obtained by systematic, consistent methodology	MU
O2.10 Change in average per capita income as a result of fodder plantations and its indirect benefits	Baseline to be identified in Y1 for participating families	Increase by at least 20% by Y5	Fodder extracted from the sites are mostly used for the consumption of the livestock's. Surplus fodder sold for income is very rare and may not add considerably to the income of a household.	Yet so this is probably a poor indicator for this project	n/a
O2.11 Number of SME business plans based on sustainable harvest and added-value processing of local NTFPs	0	100	20 per Forest Division prepared by the respective consultants. The plans prepared covers bio-resource commodities covering forest non-forest (agriculture based) products.	The indicator simply counts numbers of plans which is not really useful, and the project has achieved double the target	MU
O2.12 Number of SME business plans operationalized	0	40	12 Ranging from incense stick, incense, *Lantana* furniture, NTFP based- Chironji (*Buchnania lanzan*), Mahua (*Madhuca indica*), sericulture, bamboo jewelry, poultry, fisheries etc.	Again a process indicator but at least the project has a clear response that can be compared against the target (even if the target is inappropriate).	MU
O2.13 Number of persons with enhanced capacity to promote livelihood security through sustainable natural resource-based enterprises	0	1,000	About 2000 or more directly through the project based IGAs. Indirectly about 3000 more supported by MP State Minor Forest Produce Federation etc.	So this is well over the target. This is presumably through participation in the RBDF as well as other activities	S
O2.14 Curtailment of distress migration	No. of families affected measured in Y1	At last 10% of households no longer affected by distress migration by Y5	About 80% of the beneficiaries has curtailed distress migration.	Do have evidence for this? Again no baseline.	S
O2.15 Number of women participants in SMEs	0	At least 20% of participants are women	About 70%.	Some segregation so that almost all women in some SMEs and almost all men in others	S

Number / Indicator	Baseline	Target	PMU assessment	TE Comments	Rating
O2.16 Number of SMEs operationalized under the project that are linked up with local banking institutions for obtaining loans for further expansion	0	At least 25% by project end	At present such linkages has not been done.	[Would have been good to see cost sharing with beneficiaries more prominent in the model]	n/a
O2.17 Hectares of community land mobilized for reviving local species that enhance ecosystem health and also generate benefits for landless communities (fuelwood, fodder, medical plants, fruit)	0 hectares	600 hectares	Under home garden initiatives the coverage is about 1200 ha (Considering 600,000 saplings distributed to about 60,000 families x 0.2 haof land).	The "home garden" output successful but indicator consisting of simply area covered does not give an adequate measure of impact of the project in terms of the overall aims of the project	S
O2.18 Rejuvenation and or renovation of existing community based watershed structures in 40 villages	No. of structures in target villages measured in Y1	All structures deemed necessary and viable are rejuvenated by Y5	Coverage in about 20 villages.	Again a process rather than an impact indicator	MS
O2.19 New watershed structures built based on local needs and available project resources	0	At least 10 by Y5	Stop dams, check dams, contour trenches/bunding, percolation tanks have been accomplished. More than 50 check dams, 15 stop dams, 100,000 running meters of contour trenches / bunds, 20 percolation tanks, 10 ponds etc. have been made.	So this is way beyond the target – but watershed planning not done? And again, a process indicator rather than an impact indicator.	MU
O2.20 Revival of farmlands that are laying fallow or unused due to lack of water	Area to be measured in Y1	At least 20% of farmlands are revived	About 200 ha. Especially in Chhindwara and Sidhi under the bio-dynamic farming initiatives.	No baseline, so cannot say what percentage 200 ha corresponds to. Indicator leaves it vague what is meant by revived.	MU
O2.21 Increase in farm productivity of marginal and pro-poor tribal farmers due to proposed watershed interventions	Productivity measured in Y1	At least 10% increase by Y5	About 2000 farmers benefitted.	Productivity measure required here not number of farmers. No definition of how productivity measured.	MU
O2.22 Water User Groups (WUGs) created in each of the four project districts	None	At least 25	Rajiv Gandhi Mission under the watershed initiatives separately has made the WUGs. The project either involved the existing or the newly formed ones to the advantage under the project.	Understood. Indicator should have been revised at inception phase.	n/a
O2.23 Increase in the use of fallow farmlands to enhance livelihoods and reduce extensification pressures	Area measured in Y1	At least 20% increase by Y5		No baseline and no final data	n/a
O2.24	Current use measured in Y1	Increased by at least 30% by Y5	Under bio-dynamic farming initiatives under Sidhi and	No baseline – and no units for the Baseline or	MS

Number / Indicator	Baseline	Target	PMU assessment	TE Comments	Rating
Increase in organic and traditional innovations for rain fed farming			Chhindwara districts, about 200 farmers were covered.	the target, so this is a fault with the indicator	
O2.25 Change in on farm productivity through use of improved seed varieties	Farm productivity measured in Y1	Increase by at least 15% by Y5		See O2.21	MU
O2.26 Reduction in natural resource dependency of farmers on nearby forests attributable to integration of on farm agro-forestry practices	Extent of pressure imposed by farmers measured in Y1	Reduction of at least 20% by Y5		No definition of how to measure "extent of pressure", No units.	n/a
O2.27 Improvements in soil fertility	Fertility on demonstration sites measured in Y1	Increase by at least 5%	In about 200 ha of small and marginal farm lands covered under the bio-dynamic farming initiatives such improvements were demonstrated.	No baseline and no units for the baseline or target measurements	MU
Outcome 3: Capacities for adaptive management, learning and replication of project lessons are developed					MU
O3.1 Local level monitoring mechanisms set up in each project site (CBIA)	None	Established in each demonstration site by end of Y2	Communities covered under the RDBF initiatives were trained for bamboo harvesting, monitoring etc. 789 families along with about 100 frontline staff of the MP Forest Department has been sensitized and provided with hands on training in the RDBF sites. The exercises/ training were of 2-3 days' duration.	It seems that monitoring of the bamboo clumps has been done pretty well but the project document called for monitoring on a much wider scale, tracking the impact on the ecosystem and people's livelihoods.	U
O3.2 Learning on best practices and models disseminated within and outside the project villages	None	Documentation is available in local languages by Y5	The communities within the villages or nearby ones became aware of the project interventions for RDBF etc. Case study documentations, local print and visual media etc. covered the project interventions in the districts to spread the awareness.	Are good summaries on final results still required?	MS
O3.3 Replication plan	None	Agreement, by Y5, on watersheds/ villages where lessons can be replicated in 5 and 10 year increments after project closure	In Chhindwara, under MNREGA, the regional forest officials have prepared projects in 2014-15. The idea is to spread the project design for RDBF to involve the local communities in rest of the districts. Similarly, in Sidhi, under Bamboo Mission since 2013, proposals have been funded for the RDMF model. The remuneration package is lower than the one provided under the project.	Has there been agreement on the initial four years of monthly payments in new districts. Need clearer link to the target statement.	U

4 Conclusions, recommendations and lessons

The objective of the project was to promote SLEM and this objective has been achieved to a great extent. The priority now is to learn from the experience in implementation of the pilot project and promote a modified model that will be put into practice under government programmes.

A major strength of the project design was that it formed part of a national level SLEM program consisting of six field projects and one overarching project with a Technical Facilitation Organisation (TFO). There was high-level government commitment reflected by the considerable co-finance committed by the Madhya Pradesh State Government, and there was wide representation of government departments in the Project Steering Committee. The project design brought together ecological and socio-economic benefits in a multipronged and integrated community-based model for improving land and ecosystem quality. The main focus was on a bamboo harvest rights model that was based on work under a previous project which had shown the value of the model and had also indicated where changes were necessary. There was a good exit strategy for the bamboo model and commitment from government to replicate it elsewhere.

There was keen and active participation by the Forest Department of Madhya Pradesh at all levels in their organisation. One of the major achievements of the project has been the strong relationships formed with the JFMC's, and the good engagement with, and mobilisation of poor villagers particularly tribal people. The main thrust of the project has been on demonstration of a bamboo harvest rights model that provides incentives to local communities to tend and harvest bamboo. There is widespread approval of, and interest in this model within the forest department, within local communities and within the joint forest management committees, and this is an important result. The pilot has been useful in showing success as well as identifying snags that need to be solved before replication in other areas. The model successfully worked just as planned in one district: sharing the profits from the first bamboo harvest (after four years) has already taken place, and the villagers are still actively engaged in maintaining the bamboo clumps and are looking forward to the second harvest. Beneficiaries told the TE that income from 20 ha was welcome but that 40 ha per beneficiary would be sufficient to meet their needs without other sources of income, and that they would be willing to take on an additional 20 ha per beneficiary without the four years of monthly payments given to them for the first 20 ha. In another district, harvest has been delayed pending specific approval from government. And in the other three project districts, harvest has taken place but distribution of the profits has been delayed, also pending specific approval from government.

4.1 Corrective actions for design, implementation, monitoring and evaluation

The overall project design was good but the SRF or log frame had significant shortcomings. It is almost as if the designers ran out of time when it came to completing the niceties of the project document: their vision for the main project was well presented, but the formalities were not given the same clarity of thought. Limitations in the indicators have undermined their usefulness for monitoring purposes. Baselines for most were never established. Opportunities should have been taken early in the project, at the well-attended Inception Workshop for example, to revise the log frame and the indicators. Later, during implementation there was limited systematic action on monitoring of impacts so many of the results claimed for the project at local level are anecdotal and unsubstantiated.

Clarity in the project document is vital for project implementation. It is common for those involved in project implementation to have differing understandings of the overall aims of a project, and also for implementation to go off in directions that do not match the original intentions of the design. One snag here concerns the ambiguous use of the word “degraded” in the project design. Ecological degradation and degradation of the potential for commercial exploitation of bamboo are not the same thing, so discussions about the project results are subject to misunderstandings. Another snag is that the term micro-catchment/watershed was never defined, and this led to wider spatial dispersion of the

project's field interventions than was intended by the design. And although climate resilient SLEM was repeated throughout the design, there was nothing on exactly how climate change was to be addressed.

The TE thought that the expectations of the project were high. It is very difficult to achieve policy change in a number of different government sectors within five years. There was inadequate guidance in the project document on how to address the policy work under Outcome 1, and on how to track impacts in them in an objective manner – and this was later reflected in project implementation.

The considerable number of person months for long term technical advisers provided for in the project design was not taken up during project implementation – probably to the detriment of the project. Instead consultancies were awarded for training needs assessments and SME business planning and these consultancies were awarded far too late and with ToR that did not address main project needs. Two consultancies on state policies, and social and environmental impact assessment of the project came so late that they are still in progress after the official end of the project. There is still no exit strategy or replication plan despite these being important parts of the design and firm recommendations at MTR stage two years ago.

There have been frequent changes of National Project Director and also of Forest Department staff at District and Division levels. The TE concurred with the MTR in thinking that government should have made provision for longer service periods for those most closely involved with the project and that UNDP should have liaised to achieve this. The TE were told that this is the government system and that transfers are unavoidable, but nine project directors in six years is simply not conducive to good project management.

The TE consider that in a well-coordinated project with UNDP as implementing agency and GoMP as executing agency such issues could and should have been addressed early on. However, coordination and communication problems between UNDP country office and PMU had impacts on implementation. There were keen and able staff members at both ends, but there appear to be some kind of institutional barriers to establishing a productive, flexible and thoughtful management approach with the overall objective constantly in sight.

4.2 Actions to follow-up or reinforce initial benefits of the project

The TE team specifically tried its best to convey in various debriefing meetings to highlight immediate actions required for issue of necessary notification or Government directives to FDs with details of sharing arrangements with *Hitgrahis*. The TE emphasized the importance of organizing a project closure/dissemination workshop involving larger stakeholders and other forest officials so as to popularize the successful model with minor finer tuning wherever needed. In principle, this was agreed upon. Further, the GEF OFP at the MoEFCC and the UNDP CD agreed to write to the GoMP for institutionalization of this model, upscaling and replication by involving funds under the Green India Mission, National/State Bamboo Mission, CAMPA, BCRLIP, etc. Thus, while the model undoubtedly presents a successful alternative and innovative approach, there might be some socio-political aspects that need be studied and addressed appropriately. This model definitely presents an opportunity to successfully rehabilitate large extent of degraded bamboo areas. However, it would be desirable to examine the details of the model and could be suitably adjusted to accommodate larger sections of rural/tribal community who has time, inclination and interest in such type of work. This presents opportunity to facilitate creation of user group that has unhindered stake in sustenance of bamboo forests. At the same time there are opportunities in bamboo processing, not only incense stick making, which may further promote sustenance of bamboo user groups and so bamboo forests. Communities also need to be made sufficiently aware of opportunities in processing of NTFP. Overall SME promotion approach at landscape level is bearing fruits and is of significance to achieve SLEM objectives. There is a need to pursue it vigorously over a period of time and address the operational issues and make the business

enterprise self-sufficient. This will need carefully planned exit strategy after handholding period.

- There is a still need for clarification of the government position on the legality of distribution of bamboo harvest income. This need was identified at the time of the MTR and indeed before that. It is surprising that the project was not able to facilitate this during the four years leading up to the bamboo harvest.

- As the RBDF model has received such a lot of attention and beneficiaries, if all goes to plan, will start relying on the income, thought should be given now to what happens when the bamboo flowers in perhaps 10 or 15 years' time.

- State Government should issue an appropriate order or notification to allow and facilitate completion of bamboo harvest and distribution of income from the bamboo harvest to beneficiaries according to the MOU prepared earlier in the project. The fact that some of the energy plantations are in reserved forests indicates that clarification regarding harvest of fuelwood should also be included in the State Government's order or notification. This action is required promptly in order to avoid further loss of trust among beneficiaries and to maintain essential work on the bamboo plots.

- At closing meetings with the UNDP Country Director and with the GEF Operational Focal Point it was agreed that letters from both parties to Madhya Pradesh Forest Department would be useful in stressing the urgency of completing the harvest of bamboo and the distribution of income at the project sites. The TE took the opportunity to discuss this with forest department officials at all levels. Most, but not all, said that a solution will be found soon so that harvest revenue will be distributed to beneficiaries. This would help to rebuild the trust of the villagers, encourage them to work again on the bamboo plots, and thus avoid bamboo clumps becoming congested again.

- The Forest Department should also consider, after studying the levels of income realised and predicted in the different Districts and Divisions, the allocation of an additional 20 ha of bamboo plots per beneficiary at existing sites with or without additional monthly payments.

- Further collaboration with the BCRLIP project should be pursued in order to build on achievements, particularly in the four villages in which activities of the two projects overlapped.

- A new World Bank funded project called the Ecosystem Services Improvement Project (ESIP) is about to start in Madhya Pradesh, Chhattisgarh and Maharashtra states. ESIP has already adopted the bamboo harvest rights model demonstrated under the current project, as one of 20 case studies for replication under ESIP. It is recommended that close links be formed with ESIP to ensure that the most recent results of the current project are incorporated into project planning and that opportunities are taken to replicate the model is widely as appropriate.

- The RBDF model should be incorporated wherever appropriate into other forest department programs on bamboo plantations and degraded land.

- Site selection for RBDF should take into account potential for contribution to habitat connectivity for biodiversity.

- There should be close links with the State and National Bamboo Missions in order to maximize the impact of project results over a wide area. The Green India Mission is also an appropriate organization to take on the bamboo harvest rights model and to incorporate it into some of its programs. Funds may be made available under the CAMPA program to provide the necessary monthly payments for four years. These monthly payments are an integral feature of this model and the MTR was concerned that mechanisms to allow such payments to be guaranteed for four

years into the future did not exist under a predominantly annual budget system. The TE team was assured that this would not be a problem, but this still needs clarification from MPFD before the model can be replicated in full.

- An exit strategy and replication plan should be prepared in time for presentation and discussion at a closing workshop for the project to be held before the end of March in Bhopal with attendance from the wide range of stakeholders in state government and at national level.

4.3 Proposals for future directions

The project's goal and development objective was to promote sustainable land management and use of biodiversity without disrupting "ecosystem services" and taking into account climate change. The project has contributed to such promotion well. There is widespread interest in the pilots performed. Future initiatives should take into account all that was learned in implementation of the current project.

The integrated livelihood model, of which the RBDF was a part, has been demonstrated, lessons can be learned from its implementation in the field and it is important now to finish what has been started. An immediate priority is real mainstreaming of SLEM and sustainable use of biodiversity into policy, practice, decision making and action across government sectors and local community-based organizations. This should be elaborated in the exit strategy and replication plan that the project should complete in time for the closing workshop.

4.4 Best and worst practices relating to relevance, performance and success

4.4.1 Lessons

- SLEM is required beyond well-stocked bamboo/dense forest areas.

- Rigorous site planning and environmental and social impact assessment are required to coordinate pilot livelihood interventions to ensure maximum benefits in terms of scale, sustainability, and replicability.

- Either prepare a good SRF (log frame) with sound indicators, or ignore it. The project had a poor SRF but still attempted to go through the motions of responding to it annually in the PIR, when what was really needed was revision of the log frame in order to be able to assess progress towards objectives and outcome annually.

- Clarity of terms used is important in project documents. For example, under this project "degraded' and 'degradation' have been used ambiguously with regard to bamboo on the one hand and land in general on the other; and micro-watershed was never defined clearly.

- Policy level interventions and dissemination work should start early in projects such as this.

- There should be continuity in Project staff. Frequent changes have deleterious effects on project implementation.

- Technical assistance should be strategically planned and acted upon early in projects and consultants' terms of reference should be subjected to careful scrutiny and follow-up.

- Project decision making procedures should be tailored to achieving objectives and should not get bogged down in committees.

4.4.2 Best practices

Many best practices have been referred to throughout this report. For example:

- There was comprehensive involvement of all hierarchical levels of the MPFD.
- The project achieved strong participation of JFMCs and SHGs and good engagement with, and mobilisation of, poor communities, predominantly tribal groups in a wide range of activities.
- Gender balance was good overall, although it was clumped, with almost a hundred per cent women in some activities and almost hundred per cent men in others.
- Project management showed capacity for adaptive management in organisation of the RBDF model: in some areas a communal approach to bamboo protection and harvest was adopted in preference to the individual rights model in the project design.
- The project was well-placed as part of a national level SLEM programme, to get results disseminated.
- The project has taken up opportunities for synergies with government departments and with other projects: for example in Chhindwara District the project manager is working closely with the field manager of the World Bank/GEF/GOI Biodiversity Conservation and Rural Livelihoods Improvement Project (BCRLIP) which overlaps to some degree in its project sites.

4.4.3 Worst practices

The TE did not note any outright worst practices being adopted or encouraged. However, certain aspects of project operations could be improved in future interventions. Some of these are raised in Section 4.1 above.

- An unfinished SRF (log frame), ambiguous terminology and unrealistic expectations with regard to policy aims at the design stage caused some problems in project implementation and monitoring of impacts.
- Widely varying visions of what the project was attempting to achieve contributed later to biases towards certain activities.
- Frequent changes in National Project Director and district and division level FD staff probably affected smooth project implementation.
- Failure at institutional level to address conclusively difficulties in communication and coordination between UNDP CO and PMU regarding project management and technical oversight led to delays and unnecessary expenditure on consultancies. There was not a problem with energy and ability of the staff members responsible, but the arrangements for collaboration suffered from over-reliance on formal committees and a lack of informal routine interactions and UNDP CO field visits. Time was lost. For example, the project decided wisely to appoint Project Managers (who appear to be operating well and with considerable enthusiasm) in each of the five districts but this decision came far too late. In the end only three project managers were appointed, in May or June 2015, well into the one-year project extension, when they should really have been appointed during the first year of the project.

Annex 1 TOR for International Consultant (those for National Consultant similar)

Closing Date: ….. 2015

INDIVIDUAL CONSULTANT PROCUREMENT NOTICE

ASSIGNMENT: International Consultant/ Team Leader for Terminal Evaluation (TE) of *Integrated Land and Ecosystem Management to Combat Land Degradation and Deforestation in Madhya Pradesh (*PIMS 3512)

Duration: Twenty Five working days spread over three months;

Duty Station: Home based with travel to Madhya Pradesh & New Delhi as per assignment

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 upon completion of implementation. These terms of reference (ToR) sets out the expectations for a Terminal Evaluation (TE) of *Integrated Land and Ecosystem Management to Combat Land Degradation and Deforestation in Madhya Pradesh (*PIMS 3512)

The essentials of the project to be evaluated are as follows:

PROJECT SUMMARY TABLE

<table>
<tr><td>Project Title:</td><td colspan="4">Integrated Land and Ecosystem Management to Combat Land Degradation and Deforestation in Madhya Pradesh</td></tr>
<tr><td>GEF Project ID:</td><td>70765</td><td></td><td>at endorsement (Million US$)</td><td>at completion (Million US$)</td></tr>
<tr><td>UNDP Project ID:</td><td>3512</td><td>GEF financing:</td><td>US$ 57,63,000</td><td></td></tr>
<tr><td>Country:</td><td>India</td><td>IA/EA own:</td><td></td><td></td></tr>
<tr><td>Region:</td><td>South Asia</td><td>Government:</td><td>US$ 17.28 million</td><td></td></tr>
<tr><td>Focal Area:</td><td>Land Degradation, Biodiversity, & Adaptation to Climate Change</td><td>Other:</td><td></td><td></td></tr>
<tr><td>FA Objectives, (OP/SP):</td><td></td><td>Total co-financing:</td><td>US$ 17.28 million</td><td></td></tr>
<tr><td>Executing Agency:</td><td>UNDP</td><td>Total Project Cost:</td><td>US $ 23.04 million</td><td></td></tr>
<tr><td rowspan="2">Other Partners involved:</td><td rowspan="2">Madhya Pradesh State Forest Department, Govt. of India</td><td colspan="2">ProDoc Signature (date project began):</td><td>January 2010</td></tr>
<tr><td>(Operational) Closing Date:</td><td>Proposed: 31 December, 2015</td><td>Actual:</td></tr>
</table>

OBJECTIVE AND SCOPE

The project will contribute to the achievement of the following objective of the SLEM Programme: To promote sustainable land management and use of biodiversity as well as maintain the capacity of ecosystems to deliver goods and services [benefitting local livelihoods] while taking account of climate change. The project will contribute to this Programme objective (which becomes the project-level goal) along with the other projects being developed under the Sustainable Land and Ecosystem Management Programme.
The project objective is: To promote community-driven sustainable land and ecosystem management at the landscape level through integration of watershed management, joint forest management, and sustainable livelihoods development so as to balance ecological and livelihood needs. The project objective will be achieved through the following outcomes.
Outcome 1: Creation of an enabling environment for climate-resilient, sustainable land and ecosystem management
Outcome 2: Community-driven, climate-resilient approaches for sustainable land and ecosystem management are demonstrated in 4 micro-catchments
Outcome 3: Capacities for adaptive management, learning and replication of project lessons are developed

Outcome 1: Creation of an enabling environment for climate-resilient, sustainable land and ecosystem management

The objective of this project outcome is to ensure that sectoral policies on management of forests, watershed, agriculture, livestock and tribal welfare take into account climate-resilient, sustainable land and ecosystem management principles as fundamental criteria for realizing policy objectives. Further, capacities need to be developed so that policy modifications can be effectively implemented.

Output 1.1 *State-level policies on forest, agriculture, animal husbandry, watershed management, tribal welfare reflect climate-resilient, sustainable land and ecosystem management principles*

Studies will be undertaken to review relevant state sectoral polices governing the management of natural resources (including forests, water and land resources) and recommend climate-resilient, SLM guidelines that should be integrated. A highly consultative approach will be employed in developing recommendations, involving inputs from government, non-government, and research institutes.

To ensure that biodiversity conservation objectives are integrated into the management of forests, agriculture, pasture and other community lands, this output will identify the potential adverse impacts of activities in these sectors on globally significant biodiversity in the targeted landscape. Recommendations will be provided on modifying sector development plans and strategies to minimize the adverse impacts on biodiversity and capitalize on synergies. The use of Strategic Environmental Assessments as a tool to realize this mainstreaming objective will be considered in consultation with biodiversity experts and sector staff.

A key bottleneck to integrating the climate change threat has been the lack of knowledge and proper understanding of climate change impacts on the local ecosystem and how current land use practices affect this relationship. Currently, land use decisions do not employ climate change scenario planning as part of the decision-making and planning exercise. Through this output, the project will introduce climate change scenario planning as part of the routine management of forests, agriculture, pasture and other community lands. Capacity to synthesize existing climate data patterns to understand climate change impact will be developed within the State Forest Department and also among district, block and village level stakeholders. As current data on climate change are only available at national level, this will involve building of linkages between State-level institutions and the National Ministry of Environment, in particular office responsible for Second National Communication, including a training programme for officials and JFMCs.

Output 1.2 *Community-based organizations and government staff is trained in promoting community-driven, climate-resilient, sustainable land and ecosystem management*

Under the Joint Forest Management Resolution of the Government of India, local communities are entitled to sharing of usufructs in a manner specified by the concerned State Forest Departments, and Village Forest Committees (VFC), among other committees, have been established for joint management of forest areas, within a radius of 5 km from the periphery of forests. An equally critical part of the equation for ensuring that these committees can effectively carry out their role are government line department staff at the local level (particularly

at the District and Block levels), as well as representatives of the elected bodies at village, block and district levels[13] responsible for administration of economic development and social justice issues.

The project will focus on developing the capacity of these existing committees[14] to take action on priority community-based initiatives for sustainable use of local natural resources, and demonstrate the associated income-generating potential. The aim is to enable forest committees to emerge as a village-level community-based organization (CBO) that prioritizes initiatives and provides oversight for benefit sharing mechanisms between the State Forest Department and under-privileged stakeholders. Such ownership and benefit-sharing, in turn, will help reduce over-exploitation of common property natural resources, and provide stronger incentives for communities to manage their forest, pastoral and agricultural resources in a sustainable manner. In addition, the project will aim for adequate representation of women in decision-making positions within the targeted JFMCs. While the primary target will be JFMC representatives, capacity building efforts will also include selected local representatives of government line departments (forest, water resources, agriculture, veterinary/animal husbandry, tribal) and representatives of elected bodies of local administration (village, block and district levels).

Capacity building efforts will be designed to sensitize and improve the capacity of participants on issues related to relevant government policies that provide the framework for undertaking activities geared to sustainable use of forest and land resources, win-win options for sustainable land and ecosystem management that can be applied in and around the target villages, project planning and management, community mobilization, conflict resolution, understanding local variations in weather patterns and related vulnerability to climate change, and such.

A training-of-trainers approach will be used to train approximately 2,000 members of JFMCs, covering JFMCs from each target village in the 4 districts. The objective is to develop a village-level pool of human resource that has the skills and ability to impart further community-based training sessions. The training will also be used as a basis for surveying and gauging community awareness of increasing variations in local weather patterns, and what measures are being taken to counteract such variations. Experience from the JSDF project has shown that such community-level experts are more capable of relating to community needs; ongoing training of these community experts will ensure that their technical skills are periodically updated. Knowledge, skill transfer and an outreach process amongst the community stakeholders by the community itself is the foundation of this project activity. Community-to-community transfer of knowledge, skills, and experience will also be facilitated through this capacity building activity. This output is expected to produce the following impacts:

- 400 JFMC members from the four project districts trained to become community trainers (100 JFMCs will be taken, 4 trained members will become master trainers, out of the 20 JFMC members selected as trainee participants from each of the 100 JFMCs)
- At least 10% of the trainers are women from the identified villages
- Training material on specific local issues in local language is developed for training local communities in the four project districts
- At least 25% of the Community-to-Community trainers involved locally at the block level for community based training in relevant local issues
- At least 5% of Community-to-Community trainers gain recognition by other development agencies as resource persons for such pro-community activities

Outcome 2: Community-driven, climate-resilient approaches for sustainable land and ecosystem management are demonstrated in 4 micro-catchments

This outcome will address land degradation in four selected micro watersheds/ micro-catchments in order to ensure continued ecosystem functions, reduce risks to globally significant environmental assets and help sustain rural livelihoods. This will be accomplished through the promotion of sustainable land management technology packages and practices that have local and global benefits. The four micro-catchments will cover approximately 3,000 hectares of forest/ non-forest land, and 14,500 hectares of degraded bamboo areas within forest land. Approximately 100 villages are to be covered by the demonstrations.

In these micro-catchments, the project will demonstrate a multi-sectoral approach to sustainable management and use of natural resources. In order to address all components of the local livelihood system, this will include forest and pasture management with crop and indigenous livestock production, as well as soil and water conservation as

[13] i.e., the Gram Panchayats (Village level), Panchayat Samitis (Block level), and Zilla Parishads (District level).
[14] Committees are comprised of a representative from each family in the village.

an integrated system. Further, given the important role of rain-fed agriculture in the livelihood system, and its vulnerability to climate change, including variability, resource management at the watershed level will take into account climate change, including variability, to enhance adaptive capacity. All demonstration activities aimed at promoting land stabilization, resource rehabilitation, and sustainable resource use will be designed and implemented at the watershed level. Undertaking work at the watershed level will facilitate the identification and convergence with other efforts taking place within the identified watershed that can be mobilized to achieve the project objective.

The planning and management of natural resource use will follow a participatory approach directly engaging communities through their community based organizations (JFMCs) in decision making and prioritization of potential sustainable land management (SLM) investments at the village level. The purpose is to ensure that the management of natural resources (grazing and agricultural land, water, forest) in target villages is led by representative community bodies in accordance with sustainable land and ecosystem management principles that reduce degradation pressures. The current unsustainable patterns of land use in the project districts have been both cause and consequence of the deteriorating ecological conditions and the livelihoods crisis among tribal and rural communities living in and around forest areas. Communities living in and around forest areas need to be involved, through legitimate community-based organizations, in determining how best to modify their livelihood system to meet their needs as well as support ecosystem health. Further, vulnerabilities to climate change also need to be taken into account in this process. This will be done through community based monitoring of variations in local weather together with documenting any related changes in farming and natural resource management practices. The outputs of this process will be used to (1) better interpret the results of national climate change modeling and forecasting efforts as they relate to Madhya Pradesh; (2) inform the development of the Self Help Group demonstration activities (see below).

It is through demonstrating the feasibility and associated benefits of adopting such an approach in different clusters of villages that the project hopes to motivate further uptake and replication. There is a need to demonstrate win-win options that both improve livelihoods and ecosystem health such as, reducing dependence on the forest for firewood, sustaining agriculture-dependent livelihoods by improving soil and water conservation within catchment areas, and imaginatively moving in the direction of non-agricultural livelihoods. In terms of the latter, Madhya Pradesh presents unique possibilities of developing forest-based livelihoods, especially if value-addition avenues are explored and firm market linkages are established. Through enhanced benefit-sharing with communities, they can be more actively engaged in maintaining ecosystem health and resilience.

Demonstration activities will be undertaken in selected clusters of villages in the 4 project districts, and will include marginal and small farming households as well as landless farming households. During the project development phase a list of potential criteria for selection of villages has been prepared and this will be used in the inception phase to identify approximately 100 villages where demonstrations are to take place. The mechanism for undertaking demonstration activities under this outcome will be through self-help groups (SHGs) established under the institutional umbrella of the Joint Forest Management Committees (JFMCs), with each SHG representing some common interest (e.g., SHG for undertaking bamboo rehabilitation, SHG for processing bamboo into baskets, SHG for other NTFPs, SHG for improvements in rain-fed agriculture, water user groups, and such). Key outputs and indicative activities to be pursued under this outcome are described below.

Output 2.1 Plans for rehabilitation and sustainable management of degraded bamboo areas in forest lands near target villages are developed and implemented.

The rehabilitation and co-management of degraded bamboo forest areas offers many opportunities for recovering provisioning services of the local ecosystem thus adding to sustained livelihood security and for securing supporting services such as better soil formation. Through this output, the project plans to enhance the role of bamboo forest areas in maintaining (a) connectivity between relatively undisturbed forest tracts that provide refuge for globally significant biodiversity and (b) the livelihood system of about 700 families (or 100 Self Help Groups) in the four project districts[15]. The project will work with the tribal/ rural landless and marginal land holding families who have significant dependency on the surrounding forest areas for socio-economic needs. The aim is to demonstrate a model for addressing poverty alleviation and environmental protection by engaging needy families in sustainable management of bamboo areas found in forest lands in and around their villages, and sustainable harvest of the resource.

[15] This is estimated on the following basis: in each of the 100 villages, 7-10 pro-poor families will be selected to form Self-Help Groups (SHGs), under the umbrella of the JFMC of that village. On average, this amounts to 100 SHGs or 700 families. A needs-based approach will be adopted in selection.

Each pro-poor family will be allocated approximately 20 hectares of degraded bamboo forest area in and around their villages for rehabilitation and sustainable co-management, targeting 5 hectares per year over the four year time frame of the project. This amounts to coverage of approximately 14,500 hectares by 700 families.

The SHGs will be provided with financial and technical assistance for sustainable management of degraded bamboo areas, as well as for sustainable harvesting. These SHGs will benefit in the short-term from an additional source of income for rehabilitation services rendered, broadening the income base of these families. Over the long term, sustainable co-management practices undertaken by the SHGs would regenerate the local bamboo forest resources creating opportunities for families to access the resource for income generation, as per the existing JFM resolution and government order of Madhya Pradesh. This will help diversify sources of livelihood in the short and long term, in turn, having a beneficial regional impact by reducing distress migration under socio-economic duress.

Target families will develop their skills for managing and protecting degraded bamboo forest areas (survey and demarcation, cleaning of clumps, soil work around clumps, soil moisture conservation through check dams/ contour trench, fire protection, watch and ward), and for sustainably harvesting bamboo[16]. This output is expected to produce the following impacts:

- Ecological impact: 14,500 hectares of degraded bamboo forest land in the four project districts is rehabilitated in collaboration with the local community to produce the following environmental benefits:

Rejuvenation of micro ecological and biological services over the long term by enhancing connectivity between relatively undisturbed forest tracts that provide refuge for globally significant biodiversity
Rehabilitation would help curtail the negative impact of land degradation processes such as high sedimentation rate, and assist in better recharge of ground water, improvements in soil fertility of nearby forest and non-forest lands, restoration of the capacity of bamboo vegetation to provide a refuge for local biodiversity.
Enhanced carbon sequestration as healthy bamboo stands are estimated to absorb at least 4 tons of carbon annually. Therefore, 14,500 ha of degraded bamboo forest land when treated would help in sequestration of 58000 tons of carbon annually.

- Livelihood impact: Community-led sustainable management of degraded bamboo areas would lead to a good harvest of bamboo culms[17]. It is expected that clumps would improve from 15-20 culms (baseline scenario) to 25-35. Therefore, it is estimated conservatively that by the end of the project period degraded bamboo areas would generate at least 1.5 to 2 million bamboo culms[18]. Approximately 0.3 to 0.4 million bamboos will be obtained annually, which can be used by the community as fodder for livestock and as an income-generating resource:
- Enhanced ability to meet fodder needs: Regeneration of bamboo would promote healthy growth of foliage. It is estimated that through regeneration the project could deliver about 3-5 tons of biomass[19] per hectare, which amounts to a conservative estimate of about 40,000 to 70,000 tons of biomass from 14,500 hectares for meeting the fodder needs of livestock. This will be especially important in the lean season when dependency on forests for uncontrolled grazing increases immensely. It is estimated that the use of bamboo biomass as fodder would reduce the present critical pressure on the regional/ local forests from uncontrolled grazing by at least 20%. This is expected to save at least 10,000 hectares of forest land currently under severe pressure of uncontrolled cattle grazing. An estimated 100 trees[20] per hectare of forest land would be saved from uncontrolled grazing by the ever increasing livestock population.
- Income from sale of bamboo: It is estimated that by the project end the area would generate revenues of about INR 15 million through the sale of the bamboo culms (estimated at a nominal rate of INR 8.00 for 1.5 to 2.00 million culms of bamboo produced through community rehabilitation and protection). It is estimated that about 700 families in the 100 villages identified for the project activity would benefit collectively as end users of sustainably harvested bamboo. This will not only help with meeting socio-

[16] A logical next step would be to provide support for added-value processing of the regenerated bamboo resource. Given the time frame of the project, both regeneration and added-value processing cannot be achieved within 4 years. This will be recommended as a follow-on activity to be continued by the State Government post-project.
[17] Single bamboo stand
[18] Average estimated on the basis of rehabilitation of 14,500 hectares of degraded bamboo forest.
[19] Estimate based on an FAO Global Resources assessment study (FAO/INBAR, Bamboo thematic study report 2000) on average bamboo mass per hectare depending on local ecological and regeneration capabilities and natural conditions.
[20] This is the estimated ratio of tree cover per ha of natural forest land which is usually damaged due to the pressure of meeting grazing/ fodder requirements of livestock from surrounding villages.

economic needs, but also help maintain, in the long run, the traditional skills of "Basod" families (families/ individuals whose livelihood for generations has depended on bamboo based product making and its sale).

In addition to the above immediate impacts, the project could also have further impacts on enhancing livelihoods, while also maintaining ecosystem services as follows. Following the successful demonstration of sustainable management and harvest of the local bamboo resource by the local pro-poor tribal communities, further support for added value processing and marketing of bamboo-based, eco-friendly products can be promoted as a continuation of the foundation laid by the project. Further, the successful promotion and implementation of community-led sustainable management of forests for enhanced carbon sequestration could provide a potential model for furthering the dual goals of sustainable community development and climate change mitigation espoused by the Clean Development Mechanism (CDM), and generating an additional (carbon) revenue stream for communities.

Output 2.2 Plantations are established on degraded community and forest lands to improve the provisioning of ecosystem services to meet local fuelwood needs.

Forests in the project area are under severe fragmentation pressure due to extraction of fuelwood to meet daily energy needs of surrounding villages. To reduce instances of illicit felling, and commercial exploitation by head loaders, 200 hectares of degraded forest and community land will be mobilized for fuelwood plantations (5 hectares for each of 40 village-level JFMCs in the project districts). These will be community-based models (led by JFMCs) of intensively co-managed, short rotation bio energy plantations grown on degraded, fallow, wasteland (forests as well as non-forest land) in and around approximately 40 villages in the four project districts. JFMCs will be entrusted with the responsibility of managing these plantations, and will be provided with expertise from the Forest Department, and research institutions.

The plantations will be developed so that they not only have no negative impact on biodiversity, but also directly contribute by providing connecting corridors of native vegetation between fragmented wildlife habitats. In addition, they will provide a renewable source of energy. Selection of a variety of local tree species will be guided by the following criteria: fast growing, native to the region, suitable to low rainfall areas, able to grow rapidly in higher rainfall areas.

The emphasis will be on short rotation times for fuelwood production to meet community energy requirements. Fuelwood species shown to have fast growth rates (around 10 - 15 tons per hectare per annum) would be planted. The Low Rainfall Energy Improvement Group (LREIG) will concentrate on species that have grown well in trials and plantations across dry land conditions of the project districts and can give high value wood for energy requirements.

Seedlings will be planted and maintained with the participation of 200 landless, destitute families, of which about 40% will be women. Plantations will be harvested to raise second rotation plantations. The 200 hectares are expected to generate approximately 0.8 million INR from sale of fuelwood. A Participatory Benefit Sharing Agreement (PBSA) will be in place whereby participating families will receive at least 45% of the share of returns.

The main impacts of this output may be summarized as follows:

- 200 hectares of degraded lands[21] planted with fast growing tree species could sequester some 133,200 tons of CO2 per annum[22]
- Mobilization of community based organizations (JFMCs) to form cooperatives for managing sustainable energy plantations on highly degraded land with 400□600 mm of rainfall[23]
- Diversification of income sources by generating demand for labor, providing other income-earning opportunities associated with goods and services required by such plantation activities; it is expected that about 15% of the existing head loaders in the respective villages will substitute their existing practice with income derived from plantations
- The energy plantations may deliver a withdrawal of at least 40% of the pressure on the surrounding forests of the four project district sites by the end of its implementation phase. Therefore, it is expected to give rise to a situation where at least the growing serial damage to the natural forests in those regions

[21] Based on information collected under the PDF-B studies, this is less than 2% of the area currently sown with crops annually.

[22] 600-700 tons of CO_2 is estimated to be annually sequestered from 1 hectare of afforestation where fast growing tree species are planted in ideal ecological conditions (FAO estimation).

[23] This is the average rainfall pattern in the four project districts.

would be directly reduced. As a conservative estimate, the activity is expected to protect at least 1 to 1.5 million trees from damage.

- By reducing fuel wood extraction pressures in bamboo areas, degraded bamboo forests areas are expected to regenerate by at least 35% from their present state

Output 2.3 Plantations are established on degraded community and forest lands to improve the provisioning of ecosystem services to meet local fodder needs.

Another driver of degradation of forest and pasture lands is the increasing grazing pressures from a growing livestock population. Only 20% of community lands are estimated to be grassland, of which almost 80% has been encroached through land use change and/ or is degraded due to overgrazing[24]. As pastures are degraded, livestock is left to graze in forests. Government programs have been implemented in the last fifteen years to address these pressures. However, the emphasis has been on productivity enhancement approaches that promote conversion of native range to "exotic" grasses/ forbs (artificial pastures). A more appropriate strategy would be to support optimization of fodder production/ use through rotational or planned grazing systems.

Over approximately 200 hectares of degraded lands in the project districts, the project will promote revival of pasture lands through a number of low cost, durable, replicable, and cost-effective technologies that are adapted to the conditions prevailing in the project area. It will include support for improved planting stock and seeds, building on local knowledge and technologies as well as existing national/ international good practice. This will enable the management of community/forest lands for multiple goals: meeting fodder needs of livestock, curtailing degradation of fragile lands, biodiversity conservation, and carbon sequestration[25].

Selected JFMCs will be actively involved in the demonstrations. The project will help these JFMCs in mobilizing households into self-help groups for managing fodder plantation activities; identifying sites in consultation with the villagers, line agency and other specialists; and develop local capacity to manage the fodder plantations. A Participatory Benefit Sharing Agreement will be in place to ensure that communities benefit from the returns generated from better management of degraded common property pasture lands.

The economic and financial viability of the activity rests on the fact that current yields from degraded pasture lands are extremely low in the project area. Under the project, fodder yields would increase significantly due to improved inputs and system of rotational grazing. Annual incremental gross margins are estimated to increase by about INR 1,000 per household for fodder productivity investments, which is a significant increase over current household income levels (60% of families fall below the INR 1,500/ month poverty line). The project would also increase the average incomes of those above the poverty line, cushioning their vulnerability. The main impacts of this output may be summarized as follows:

- The average fodder yield of degraded land will be increased by 50–75%
- Of the forest areas facing pressure for livestock grazing and/ or fodder collection, at least 30–40% of this area faces decreased pressure
- Perennial vegetation cover will be increased by 25-40% on degraded lands
- Soil erosion is anticipated to decrease by 30–40%
- The average per capita income is expected to increase by at least 20% as a result of fodder plantations and its indirect benefits

[24] For example, grass yield is less than 300 kg/ha.

[25] Grazing lands are estimated to contain 10-30% of the world's soil organic carbon (Schuman et al, 2002). Within rangeland grazing systems, soil carbon content responds to a wide range of management and environmental factors including grazing, fire, fertilization, soil erosion, and annual climate factors. Because rangelands are a significant repository for soil C and globally occupy a vast area, improved rangeland management strategies could greatly increase soil C sequestration as well as improving their productivity and other environmental benefits.

- At least half the households where the project is operating directly benefit in some way from the fodder production component.

Output 2.4 Small and Medium Enterprises (SMEs) based on sustainable harvest of other NTFPs are promoted

Through this output the project will involve JFMC's in 100 villages in the development of business plans for SMEs that undertake value-added processing of various sustainably harvested biological resources. The focus will be on locally available resources that have been found to be viable during the project development phase such as *Amla*, *Bel*, medicinal and aromatic plants, *lac*, sustainable wild honey collection and processing, bamboo handicrafts and such. The SMEs are expected to augment year-round income of participating households, while also ensuring sustainable use of the resource.

As a means to further diversify local income sources, other SMEs that are not necessarily based on biological resources will also be explored, such as tailoring, animal husbandry, floriculture, hosiery, and community flour/ spice mills. The intention of the non-bio resource SME is to promote the interests of the community for such practices which indirectly may lessen the pressure on the local natural and forest resources, but this will be funded through co financing. However, Bio resource SME will be funded cent per cent by the project fund.

The 100 JFMCs to be involved in the development of the SME business plans (25 from each of the 4 project districts) will be identified through a consultative and evaluative process based on the following minimum criteria. Clustering of JFMCs will be considered, when this is found to be beneficial in terms of realizing economies of scale.

- Local availability and potential for sustainable harvest of NTFPs and/or medicinal and aromatic plant species that the local community is traditionally using for meeting socio-economic needs
- Interest of community groups in developing SMEs based on NTFPs
- Interest of community groups in developing other, non-NTFP based, SMEs such as hosiery, tailoring, community flour/spice mill, repair shop (electronic/ motor/ cycle) for supporting poor family groups to increase their house hold income
- Ability of the JFMCs to handle the various integrated sub-activities of the project initiative (from needs identification and capacity building to SME business plan preparation and implementation) and to emerge as producer cooperatives
- Adequate representation of pro-poor landless families of the villages in the JFMCs so that benefits of SME development can improve the livelihood security of the primary target group i.e., pro-poor landless or marginal tribal and rural families below the poverty line

Business plan development will take place through a multi-stakeholder consultation process involving the selected JFMCs, Forest Department Staff, as well as the support of able and competent agencies and experts. Business plan preparation will be preceded by a thorough mapping and assessment of potential NTFP resources likely to qualify for enterprise development at the block/ village level. The availability, collection/ harvesting practices, and marketing of such resources, including assessment of the supply chain at least up to the state level, will need to be ascertained by the externally hired competent consulting organizations. The assessment will provide documented justification for SMEs being proposed under the project.

Further, the business plan will take into account the local environment and local knowledge. Emphasis will be on exploring technological options that can be easily managed in the local environment. The viable and bankable business plans will secure both forward and backward linkages and would meet financial, environmental and social feasibility criteria. The business plans will also identify associated risk factors.

As part of business plan development, the capacity building needs of the JFMC clusters for running the SMEs will be identified. Potential civil society (NGO) partners at the local, district or state level that can provide long term handholding support to the community will also be identified, and their capacity building needs will be identified.

Of the 100 SME business plans that are developed under the project, 40 business plans will be operationalized by the project and developed as sustainable community based enterprises. Business plans will be scrutinized and vetted by a Review Committee (state-level) prior to approval of grants for operationalization. The state level committee will approve a 100% grant to viable business plans. Technical support will be provided to:

- Train identified community groups (on a cluster basis) to acquire entrepreneurship skills to execute the business plans
- Train identified civil society organizations that are to provide long term hand-holding support to these community-based enterprises

- GEF grant will support the 40 SME's found most viable out of the 100 selected for the business plan preparation. Those SME's that are found to have possibilities to function effectively out of the remaining 60 SME's will be assisted in linking up with local banks to obtain loans for continuing/ expanding their enterprise in an amount that may be equal to what was provided under the project through GEF. This may assist in leveraging further institutional finance, apart from the grant made available by GEF in the project for possible convergence with some other existing development schemes and/ or local financial institutions in the target area.
- Link-up with evolving certification processes to assess possibilities for obtaining eco-friendly certification of products generated by SMEs.

The main impacts of this output may be summarized as follows:

- 100 SME business plans preparation and development in the four districts results in a well-documented community based interests for the understanding and promotion of locale specific strategies in the region.
- Enhanced capacity of community stakeholders (reaching out to at least 1000 representatives) for promoting livelihood security through sustainable natural resource-based enterprises.
- Incomes are increased for those involved in the 40 SMEs that are operationalized by the project.
- At least 10% of households within the target groups benefit from the curtailment of distress migration as a result of their involvement in SMEs.
- At least 20% of participants in the preparation of SME business plans and their execution are women, providing them with further opportunities for directly being involved in better livelihood options.
- The additional 60 SME business plans, which reflect the development interests of communities, provide a robust basis for local administrations (Panchayati Raj Institutions) to support community development through their existing schemes.
- By the end of the project, it is expected that at least 25% of the SMEs operationalized under the project are linked up with local banking institutions for obtaining loans for further expansion.
- JFMC's that prove their capacity in managing SMEs would have increased opportunity to institutionalize themselves as a co-operative for the rural and tribal poor.

Output 2.5 Home gardens are promoted among landless farmers to meet subsistence needs

Under this output, groups of landless, poor tribal families would be identified for promoting home garden-based conservation. The emphasis will be on tree and bamboo species that are useful for meeting household energy needs, have medicinal value for traditional remedies and support to the village medicine men, and can help meet household nutritional requirements. This, in turn, will reduce ecosystem degradation pressures, as well as help reverse the process of micro-ecological and micro-climatic degradation through community-driven in-situ conservation of native species and their revival.

Species would be selected largely on the basis of climatic and ecological suitability to specific site conditions, environmental management objectives, and socio-economic requirements. A detailed afforestation model (covering technical silvicultural prescriptions, growth targets, financial and economic rates of return, and environmental benefits) would be prepared during the first year. These models will draw on the government's existing guidelines for protection of forests, past experience under the National Afforestation Program, and previous forestry projects undertaken in the four project districts.

Interested landless families will be engaged in establishing their own home gardens in their backyard (Badi) that are representative of locally found viable species of flora which have immense significance but have lost their importance due to ecological fragmentation. Participating families will receive seedlings and technical support necessary for them to fulfill their role in managing the home gardens in their own land (backyard land- Badi). This will help develop a promising new sector in the household economy in a small but significant way.

To ensure that this activity can be sustained post-project and to reduce dependency on external support, the project will help establish a Home Garden Farming Fund (HGFF) comprised of 10% of the returns from the final harvest. Financial support for replicating this activity will be partially covered by the HGFF, partially by development funds available to the relevant JFMC, which is the primary CBO for the project, and partially through voluntary labor contributions by participants. The main impacts of this output may be summarized as follows:

- An estimated 600 hectares of private land areas through individual home gardens may be covered in the four project districts for reviving local species that enhance ecosystem health, are resistant to observed variations in local weather, and also generate benefits for landless communities (fuel wood, fodder, medical plants, fruit).
- Over the long term, increase in household incomes from returns from home gardens by at least 10%

- Practitioners of traditional medicine (vaid/ hakeem) recognize the home gardens and the associated families for their constant supply of medicinal herbs, in turn helping in preserving traditional knowledge

Output 2.6 Improved management of water resources at the level of micro/ milli watersheds, with particular emphasis on community mobilization in support of soil and water conservation structures and approaches that are adapted to climate change

Based on successful experiences in other parts of Madhya Pradesh or India, the project will pilot integrated soil and water conservation measures in the 4 identified micro/ milli watersheds. Watershed activities will cover 3000 hectares of forest and non-forest land (900 hectares each in the project districts of Betul, Chhindwara, Umaria and 300 hectares in Sidhi; at least 12 villages in each district), and will address locale specific needs for improving water use practices at the village level. Each year 300 ha of land would be treated in each district (in Sidhi 75 ha.) through watershed management activities. Activities to be promoted include physical works for soil and water conservation (such as low cost percolation tanks, small farm ponds, and earthen check dams) and the formation of water user groups (WUGs) under the institutional umbrella of the JFMC in each target village. Community based information on observed changes in land and water management practices relating to increasing variations and changes in local weather will be gathered and used to inform the development of the pilot measures.

Soil and water conservation (SWC) measures will differ for ridges and valleys for maximum conservation, harvesting and impoundment of rainwater and for mitigation of soil erosion. On cultivable lands, bamboo plantations and SWC measures to be promoted include contour bunds, farm bunds, gully plugs and spillways for surplus water flow. In addition, farm ponds are another means to store rainwater, which can be used for critical and protective irrigation for standing crops. Measures such as continuous contour trenches, stone bunds, pit plantation, gully plugs and loose boulder structures will be implemented on private, common and public wastelands and forest lands. The Village Development Committee (VDC) along with other village institutions will be responsible for planning, execution, supervision and maintenance of different structures.

The formation of WUGs is necessary in order to utilize incremental water resources in a productive manner, reduce water losses, diversify and increase output. The intervention will target poor rain-fed, marginal and small farmers. The project will also put in place systems whereby landless farmers too can benefit from watershed management structures (for example, landless farmers could be given the right to undertake pisciculture in farm ponds by paying in a modest fee into the WUG). The main impacts of this output may be summarized as follows:

- Revival of at least 20% of farmlands that are laying fallow or unused due to lack of irrigation
- Rejuvenation and or renovation of existing community based watershed structures in 40 villages
- At least 10 new watershed structures identified based on local needs and available project resources, and built
- At least 10% rise in farm productivity of marginal and pro-poor tribal farmers due to the proposed watershed interventions
- At least 25 Water User Groups (WUGs) created in each of the four project districts
- Knowledge gathered on locally initiated adaptation measures relating to observed changes in local weather patterns.

Output 2.7 Rain fed agricultural practices are strengthened with people-friendly, cost-effective, climate-resilient technologies that can improve returns within the constraints of local agro ecological conditions

Through this output, the project will curtail degradation processes being observed on agricultural land, reduce extensification pressures, and improve food security by enhancing the rain fed agriculture practices of small and marginal farmers in selected clusters of villages that are confronted with agrarian resource degradation. Approximately 30 farmers SHGs will be formed based on their existing land holding, agrarian practices, socio-economic status and the nature of cultivable land on which improved rain fed farming practices are to take place. Demonstrations will be undertaken in farmers' fields twice a year over a three year period[26]. Local specialists and service delivery agencies from agricultural extension centers will provide extension support as well as specialized inputs. The criteria for the selection of villages and farmers would be as follows:

- Farmers that rely on rain-fed agriculture as their primary source of livelihood
- Farmers whose fields usually remain uncultivated and unused after one cropping cycle

[26] Demonstrations will be planned on at least 0.2 hectares of land of each farmer.

- Farmers who belong to Scheduled Cast and/ or Scheduled Tribes (SC/ STs) and are below the poverty line
- Farmers with land holdings that are not more than 2 to 5 hectares

Support will be provided for building on traditional practices by adopting improved crops, cultivation practices, and technologies to improve soil fertility, diversify production, and generate better incomes. Capacities for climate change scenario planning that are to be developed under Outcome 1 will be tapped to ensure that specific emphasis is placed on the issue of climate change, including variability, by identifying crops, cultivation techniques and technologies that help farmers adapt to the impact of rainfall aberrations. Considering the geo-climatic and agriculture production situation of the project area, there are a few options available, such as

- Better time management of the cropping cycle by utilizing the fallow period for promoting ecologically viable options that can improve returns[27]
- Crop intensification (enhancing per unit production)
- Identification of crop varieties[28] that need lesser water, can survive extreme weather conditions, and mature within a short time span; provide better value; as well as inclusion of varieties of pulses that can be managed under dry land or rain-fed conditions and are a protein rich food[29]
- Integration of agro-forestry practices
- Lowering the costs of input through better nutrient management

The project will support farmers in seed selection, distribution, and treatment; seed banks[30]; preparation and sowing for improved crop productivity; and impart associated training and skills development. Training will be designed by taking into account needs identified by farmers. In addition, resources will also be allocated to improved livestock management[31] by promoting indigenous livestock breeds that are better suited to local climatic conditions. Support will be provided for an Information Centre at the cluster level, Animal Trade Fairs (promotion of indigenous breeds), measures for increasing animal productivity and poultry based activities, revolving funds for addressing financing needs.

The main impacts of this output may be summarized as follows:

- Recognition of the challenges faced at the field-level by rain fed farming in the project area and focusing the attention of supporting resource agencies at the local and state levels for improving food security, and agricultural production in ways that help maintain ecosystem function and services.
- At least 20% increase in the use of fallow farmlands to enhance livelihoods and reduce extensification pressures.
- Organic and traditional innovations for rain fed farming increased by at least 30%
- On farm productivity increased by at least 15% through use of improved seed varieties
- Agro forestry practices increase the minimum household earning in the long run by at least 30%
- On farm integration of agro-forestry practices is expected to reduce the natural resource dependency on nearby forests by farmer groups by at least 20% (particularly by reducing unsustainable and uncontrolled grazing of livestock)

[27] Considering the vast areas of agricultural fallows, which are not cultivated or under cultivated, land remains un- or under-utilized for a significant time period in the existing cropping cycle adopted in the project area.
[28] The project will draw on the expertise of ICRISAT, an agency supporting rain fed farming in India, for selection of crops and seeds.

[29] Participatory exercises conducted with the most deprived groups of studied villages for analyzing food security revealed severe under-nutrition (particularly protein) in almost all age groups.

[30] Farmers involved in rain-fed agriculture face problems of storing seeds. Effective seed storage is required for ensuring timely availability of seeds, availability of low cost seeds, seed availability to more and more farmers, access to other crop seeds, and freedom from moneylenders.
[31] In recent years there has been some replacement for exotic breeds that are not suited to local conditions.

- Improvements in soil fertility by at least 5%
- Better soil and water conservation lead to reduced erosion of top soil by at least 10% and improved soil-water retention.
- Knowledge gathered on locally initiated adaptation measures relating to observed changes in local weather patterns.

Outcome 3: Capacities for adaptive management, learning and replication of project lessons are developed

So that the policy changes and experience generated through demonstrations in the micro-catchments are analyzed, internalized and applied to other micro-catchments within Madhya Pradesh, this outcome will focus on establishing a community-based monitoring and evaluation system; documenting project lessons and experiences; and furthering the dialogue with key stakeholders to replicate the project's sustainable land and ecosystem management approach.

Output 3.1 Community-based system for monitoring and assessment of impacts, as well as external evaluations of the project

The project's effectiveness will be monitored and evaluated throughout its course against set performance indicators. Adaptive management will be employed to provide a basis for learning lessons and adjusting the project to maximize its effectiveness. Project monitoring and evaluation will follow the UNDP/GEF quality guidelines as described in detail in the project's M&E Plan and M&E Budget.

The proposed project monitoring and evaluation (M&E) system will monitor project progress and track the impact on the ecosystem and peoples' livelihoods. Results will be made available to project decision makers, beneficiaries, partner institutions (government and non-government institutions and universities) and civil society in general. More specifically, the M&E system will:

- Track changes (Signs of Change or Science of Change) towards the project development and global environmental objectives, outputs and inputs, and make changes in the project if necessary during implementation, hence providing a basis for decision-making and innovativeness
- Promote accountability for resource use against objectives
- Provide and receive feedback from stakeholders

The actual monitoring of impacts of modified land use practices on rain-fed farms, community pasture lands, adjoining forests, home gardens, fuelwood and fodder plantations, will be undertaken by community representatives. Community Based Impact Assessment (CBIA) and other techniques will be employed, while also incorporating indigenous knowledge on impact monitoring. As with other demonstrations, M&E groups will be formed under the institutional umbrella of the JFMCs. Participants will be trained in documenting and mapping village level natural resources and their status and collecting data on change realized as a result of project interventions. Technical advice and guidance will be provided by external competent support agencies. Measurement of impact indicators related to global benefits (impact indicators are identified at the level of the project objective) will be undertaken through subcontracts to qualified institutions.

In line with GEF and UNDP policy independent, external, mid-term and final evaluations of the project will be conducted. In terms of ecological evaluation, the project would envisage an annual ecological performance audit, to be carried out by an independent organization in collaboration with regional environment and natural resources protection agencies. Results from the audit will be fed back to the project and to the local authorities via an audit report, in order that the identified recommendations and environmental mitigation and/or enhancement measures can be considered and adopted by the project moving forward. Moreover, the audit process will also include parallel (mainly on-the-job) training, awareness and capacity-building in sustainable natural resource management for both project beneficiaries and regulatory authorities, such that in time the awareness and capacity to identify and address environmental issues is mainstreamed within both the project communities and regional natural resources protection agencies alike.

Output 3.2 Documentation of lessons learned and preparation of information dissemination products which are geared to different audiences and are available in local languages.

The Sustainable Land and Ecosystem Management Programme (of which this project forms a part) addresses the issue of institutional coordination, and outreach and scaling up of SLEM solutions through an MSP titled "Policy and Institutional Reform for Mainstreaming and Upscaling SLEM in India" that is to be established within the MoEF. This is to serve as the node for the management, outreach and M&E functions of the Program. Lessons

learned under this project in Madhya Pradesh will be fed into this system for replication in other parts of the country.

To facilitate the dissemination and replication of best practices, the project will dedicate resources to compiling lessons learned on the main elements of the project strategy – integrated management of natural resource at the watershed level covering rain-fed farming, livestock management, fuelwood and fodder plantations, conservation and sustainable use of bamboo areas within forests, SMEs based on NTFPs, soil and water conservation structures – into guidelines, tools, and methodologies. These will be geared to the different audiences and translated in local languages as appropriate.

A replication plan will be developed and agreed on by the Steering Committee of the project. It will identify other micro-catchments and villages for application of project lessons and instruments, in 5 and 10 year increments, following project closure.

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 objectives of the evaluation are to assess the achievement of project results, and to draw lessons that can both improve the sustainability of benefits from this project, and aid in the overall enhancement of UNDP programming.

EVALUATION APPROACH AND METHOD

An overall approach and method[32] for conducting project terminal evaluations of UNDP supported GEF financed projects has developed over time. The evaluator is expected to frame the evaluation effort using the criteria of **relevance, effectiveness, efficiency, sustainability, and impact,** as defined and explained in the UNDP Guidance for Conducting Terminal Evaluations of UNDP-supported, GEF-financed Projects. A set of questions covering each of these criteria have been drafted and are included with this TOR (*Annex C*) The evaluator is expected to amend, complete and submit this matrix as part of an evaluation inception report, and shall include it as an annex to the final report.
The evaluation must provide evidence-based information that is credible, reliable and useful. The evaluator is expected to follow a participatory and consultative approach ensuring close engagement with government counterparts, in particular the GEF operational focal point, UNDP Country Office, project team, UNDP GEF Technical Adviser based in the region and key stakeholders. The evaluator is expected to conduct a field mission to Madhya Pradesh, including the five project districts of Betul, Chhindwara, Sidhi, Singrauli and Umaria. Key stakeholders to be interviewed will include a) local communities, b) NGOs, c) Self Help Groups, d) Village Management Committees/Eco-development Committees, e) Joint Forest Management Committees, f) Relevant department officials, Project Steering Committee, State Level Coordination committee, District Level Committee, etc, and other relevant stakeholders.

The evaluator will review all relevant sources of information, such as the project document, project reports – including Annual APR/PIR, project budget revisions, midterm review, progress reports, GEF focal area tracking tools, project files, national strategic and legal documents, and any other materials that the evaluator considers useful for this evidence-based assessment. A list of documents that the project team will provide to the evaluator for review is included in Annex B of this Terms of Reference.

EVALUATION CRITERIA & RATINGS

An assessment of project performance will be carried out, based against expectations set out in the Project Logical Framework/Results Framework (see Annex A), which provides performance and impact indicators for project implementation along with their corresponding means of verification. The evaluation will at a minimum cover the criteria of: **relevance, effectiveness, efficiency, sustainability and impact.** Ratings must be provided on the following performance criteria. The completed table must be included in the evaluation executive summary. The obligatory rating scales are included in Annex D.

[32] For additional information on methods, see the Handbook on Planning, Monitoring and Evaluating for Development Results, Chapter 7, pg. 163

Evaluation Ratings:			
1. Monitoring and Evaluation	***rating***	**2. IA& EA Execution**	***rating***
M&E design at entry		Quality of UNDP Implementation	
M&E Plan Implementation		Quality of Execution - Executing Agency	
Overall quality of M&E		Overall quality of Implementation / Execution	
3. Assessment of Outcomes	**rating**	**4. Sustainability**	**rating**
Relevance		Financial resources:	
Effectiveness		Socio-political:	
Efficiency		Institutional framework and governance:	
Overall Project Outcome Rating		Environmental :	
		Overall likelihood of sustainability:	

PROJECT FINANCE / COFINANCE

The Evaluation will assess the key financial aspects of the project, including the extent of co-financing planned and realized. Project cost and funding data will be required, including annual expenditures. Variances between planned and actual expenditures will need to be assessed and explained. Results from recent financial audits, as available, should be taken into consideration. The evaluator(s) will receive assistance from the Country Office (CO) and Project Team to obtain financial data in order to complete the co-financing table below, which will be included in the terminal evaluation report.

MAINSTREAMING

UNDP supported GEF financed projects are key components in UNDP country programming, as well as regional and global programmes. The evaluation will assess the extent to which the project was successfully mainstreamed with other UNDP priorities, including poverty alleviation, improved governance, the prevention and recovery from natural disasters, and gender.

IMPACT

The evaluators will assess the extent to which the project is achieving impacts or progressing towards the achievement of impacts. Key findings that should be brought out in the evaluations include whether the project has demonstrated: a) verifiable improvements in ecological status, b) verifiable reductions in stress on ecological systems, and/or c) demonstrated progress towards these impact achievements.[33]

CONCLUSIONS, RECOMMENDATIONS & LESSONS

The evaluation report must include a chapter providing a set of **conclusions**, **recommendations** and **lessons**.

IMPLEMENTATION ARRANGEMENTS

The principal responsibility for managing this evaluation resides with the UNDP CO in India. The UNDP CO will contract the evaluators and ensure the timely provision of per diems and travel arrangements within the country for the evaluation team. The Project Team will be responsible for liaising with the Evaluators team to set up stakeholder interviews, arrange field visits, coordinate with the Government etc.

EVALUATION TIMEFRAME

The total duration of the evaluation will be *25* days according to the following plan:

Activity	Timing
Preparation	2 days
Evaluation Mission	15 days

[33] A useful tool for gauging progress to impact is the Review of Outcomes to Impacts (ROtI) method developed by the GEF Evaluation Office: ROTI Handbook 2009

Draft Evaluation Report	5 days
Final Report	*3* days

EVALUATION DELIVERABLES

The evaluation team is expected to deliver the following:

Deliverable	Content	Timing	Responsibilities
Inception Report	Evaluator provides clarifications on timing and method	No later than 2 weeks before the evaluation mission.	Evaluator submits to UNDP CO
Presentation	Initial Findings	End of evaluation mission	To government counterparts, project management, UNDP CO
Draft Final Report	Full report, (per annexed template) with annexes	Within 3 weeks of the evaluation mission	Sent to UNDP CO, reviewed by RTA, PMU, GEF OFP
Final Report*	Revised report	Within 1 week of receiving UNDP comments on draft	Sent to UNDP CO for uploading to UNDP ERC.

*When submitting the final evaluation report, the evaluator is required also to provide an 'audit trail', detailing how all received comments have (and have not) been addressed in the final evaluation report.

TEAM COMPOSITION

The evaluation team will be composed of 2 consultants – **international and national.** The international consultant will be designated as the Team Leader and will be responsible for finalizing the report. The consultants shall have prior experience in evaluating similar projects. Experience with GEF financed projects is an advantage. The evaluators selected should not have participated in the project preparation and/or implementation and should not have conflict of interest with project related activities.

The Team Leader must present the following qualifications:

Team Leader -International consultant

1. A minimum of 10 years of working experience in the related field is required;
2. Master's Degree (preferably Ph.D.) in the field of natural sciences or social sciences or a subject closely related to SLM/ integrated natural resource management. In-depth understanding of landscape ecology conservation approaches and community-based natural resource management is desirable;
3. Should have good knowledge of UNCCD process; NAP and other relevant UN conventions (CBD and UNFCCC) will be an added advantage;
4. Experience and familiarity with assessments of policies, strategies and possess sufficient knowledge of land degradation and desertification issues at the national and local levels is necessary;
5. Highly knowledgeable of participatory monitoring and evaluation processes, and experience in evaluation of technical assistance projects with major donor agencies, especially as a lead evaluator; previous evaluation/review experience of UNDP-GEF projects is a distinct advantage;
6. Familiar with conservation approaches in Asia either through management and/or implementation or through consultancies in evaluation of conservation projects. Understanding of local actions contributing to global benefits is crucial;
7. Demonstrated ability to assess complex situations, succinctly distil critical issues, and draw forward-looking conclusions and recommendations;
8. Ability and experience to lead multidisciplinary and national teams, and deliver quality reports within the given time;
9. Knowledge of UNDP and GEF procedures.

Both consultants should be fluent in English with excellent writing skills. In addition, they should possess excellent computing skills, including MS Word, Excel, Power Point and other related programmes. The consultants must bring his/ her own computing equipment.

Annex 2. Itinerary and list of meetings

AL = Andrew Laurie, PKM = Pradeep Kumar Mathur

Date	Time	Details of Travel, Meetings, etc *Overnight*
Pre-mission	Various	AL and PKM meetings with ICFRE, Dehra Dun (PKM) and WPSI (AL)
Jan 10	1230h onwards	AL and PKM meet at Hotel Ahuja Residency, New Delhi to prepare for mission together *Delhi*
Jan 11	1130h - 1230h	UNDP Energy and Environment Unit Meeting with SLEM Program Analyst - Ms. Lianchawii Chhakchhuak and Mr. M.C. Jajoo, Finance Analyst
	1230h – 1300h	Meeting with Mr. Suneel Padalia, Former Program Analyst (mid 2013-early 2015)
	1300h – 1330h	Meeting with Mr. Umesh Chawla, M&E Analyst
	1430h – 1500h	Meeting with Ms. Payal Suri, Head, Resource Management Unit
	1630h – 1715h	Mr. Srinivasan Iyer, Ford Foundation (Former Program Analyst) *Delhi*
Jan 12	1030h – 1130h	Meeting with Mr. R.B. Sinha, Joint Secretary, National Mission for Bamboo, Ministry of Agriculture and Farmers Welfare, Krishi Bhawan, New Delhi
	1230h – 1300h	UNDP CO, New Delhi Senior Management Meeting with Mr. Jaco Cilliers, Country Director; Ms. Marina Walter, Deputy Country Director
	1430h – 1500h	UNDP Energy and Environment Unit Meeting with Mr. G. Padmanabhan, Head (I/C), Energy and Environment Unit (Presently, Emergency Analyst)
	1600h – 1715h	Dr. Anupam Joshi, Senior Environmental Specialist, The World Bank (SLEM – TFO Implementing Agency at ICFRE)/ BCRLIP and MP ESIP *Delhi*
Jan 13	0620h – 0805h	*Travel to Bhopal; Check in Hotel Jehan Numa*
	1100h – 1415h	Meeting with Mr. M. Yadavendu, National Project Director; Mr. A.B. Gupta, CCF, CFM; Mr. Somit Barman, Project Coordinator and other PMU staff; Desk Review and Finalization Programme of Field Visit
	1500h – 1600h	Skype Conference Meeting with Mr. Doley Teshring, RTA, GEF
	1500h – 1600h	Desk Review *Bhopal*

Date	Time	Details of Travel, Meetings, etc *Overnight*
Jan 14	1130h – 1230h	Madhya Pradesh Forest Department Meeting with Mr. Narendra Kumar, Principal Chief Conservator of Forests and HoFF, MPFD; (Mr. M. Yadavendu, NPD, Mr. D B Gupa, CCF, CFM; and Mr Somit Barman, NPC, PMU also attended Meeting)
	1300h – 1400h	Meeting with Dr. Rekha Singhal and Dr. Amitabh Pandey, IIFM on Consultancy Assignment on Training Need Analysis
	1500h – 1615h	Meeting with Mr. Jauvad Hasan, PCCF, Working Plan, MPFD
	1630h – 1730h	Desk Review *Bhopal*
Jan 15	0900h – 1300h	Desk Review
	1330h – 1430h	Meeting Mr. Bhagwan Bux Singh, MP State Bamboo Mission
	1500h – 1615h	Meeting with Mr. Jitendra Agarwal, PCCF, Research & Extension, MPFD
	1630h – 1715	Desk Review *Bhopal*
Jan 16	0900h – 1400h	*Travel Bhopal to Betul via Bhaura* Meeting with DFOs and SDOs of three divisions
	1500h – 1800h	An Overview Presentation - Mr. A.S.Tewari, DFO, Betul (North) FD An Overview Presentation - Mr. A. K. Mishra, DFO, Betul (South) An Overview Presentation – Mr. P.K. Singh, DFO, Betul (West) Interaction and Meetings with Mr. Devendra Singh, Project Manager, Betul; with Mr. R.S. Srivastava, SDO, Amla; Mr. M.S. Solanki, SDO, Sarni; Mr. B.C. Mishra, SDO, Chicholi; SDO, Tawri; SDo, Shahpur; Mr. Dushyant, Computer Operator, Betul *Betul*
Jan 17	0830h – 1800h	Visit Field Sites in North Betul Forest Division; RDBF Plots, SMC Works, Fuelwood and Fodder Plots in Sarni Forest Range; Intercation with Beneficiaries; Visit Tawadhana Village, North Betul Division, Sarni Range, Interaction with Villagers (Korku tribe)/, JFMCs; Herbal Garden, Improved Agriculture/Animal Husbandry Resource Interventions, SME - Poultry *Betul*
Jan 18	0900h – 1300h	*Travel Betul to Chhindwara* and Halt at Hotel Karan*, Chhindwara*
	1400h – 1830h	Meeting with Mr. Chitranjan Tyagi, CCF, Chhindwara; DFOs, SDOs and RFOs of three divisions; An Overview Presentation by CCF on activities in three Forest Divisions – Chhindwara North, West and South, Interaction and Meetings with Mr. N.K.Sanodia, DFO (West); Mr. Mr. S.S. Udey, DFO (East); Mr. Ravindra Mani Tripathi, DFO (South); Mr. A.K.Mahale, SDO; Mr. M.K.Gole, SDO; Mr. A. Bhudolia, SDO; Mr. V.Singh, RFO; Ms. Geetanjali, Project SME Manager; Mr. Chandrakant, BCRLIP *Chhindwara*
Jan 19	0730h – 1800h	Site Visit – Tamia, Village Kunwabadla (RDBF, Energy/Fodder/Watershed/Home gardens/ *Lantana* furniture/Incense making/ Fish ponds/Rope making/ Improved agriculture, sprinkler irrigation; Co-finance activities; Interaction with Local communities, SHGs, JFMCs, *Chhindwara* *Chhindwara*

Date	Time	Details of Travel, Meetings, etc *Overnight*
Jan 20	0730h – 1900h	*Travel Chhindwara to Tala; Halt at Hotel Nature Heritage, Tala;*
	1100h – 1200h 1900h – 2000h	Interaction with Mr Subranjan Sen, Field Director, Pench Tiger Reserve Interaction with Mr. N.S. Dongriyal, Regional Manager, MP Forest Development, Corporation, Jabalpur *Tala*
Jan 21	0730h – 1900h	*Travel Chhindwara to Tala; Halt at Hotel Nature Heritage, Tala;* Interaction with Mr. N.S. Dongriyal, Regional Manager, MP Forest Development, Corporation, Jabalpur
	1030h – 1230h	Desk Review
	1430h – 1800h	An Overview Presentation(s) on Project Activities in Umaria, Sidhi and Singrauli Districts by Concerned Field Officers. Meeting and interaction with Mr. Sunil Agarwal, CCF, Shahdol; Mr. K.Raman, CCF and Field Director, Bandhavgarh Tiger Reserve (former CCF, Sidhi); Mr. M.L.Ladia, CF, Umaria Circle; Mr. Manoj Kataria, SDO, Manpur, BTR; Mr. A.K.Shukla, SDO, Panpatha, BTR; Mr. Nitesh Rajvanshi, Project SME Manager, Sidhi; Mr. A.K.Tewari, SDO, Pali, Umaria; Mr. O.P.Singhal Baghel, SDO, Singrauli; Mr. Virendra Jyotishi, RFO, Panpatha Buffer Range, BTR; Mr. A.P. Tripathi, RFO, Ghunghuti, Umaria; Mr. Umesh, Administrative and Finance Assistant, Umaria *Tala*
Jan 22	0800h – 0900h	Meeting with Mr. Neel Gogate, Taj Hotel (Former Field Coordinator, Satpura Landscape, WWF-India, Mandla)
	0900h – 1230h	Desk Review
	1300h – 1700h	*Travel Tala to Jabalpur* via Circle Office, Umaria, Meeting with Mr. M.L.Ladia, CF, Umaria; *Travel and* Halt at Hotel Kalchuri *Jabalpur*
Jan 23	0800h – 1500h	*Travel Jabalpur to Bhopal, Halt at Hotel Jehan Numa*
	1600h- 1800h	Desk Review and Preparation for Debriefing Meeting at MPFD *Bhopal*
Jan 24	0830h – 1300h	Desk Review and Preparation for Debriefing Meeting at MPFD
	1430h- 1800h	Desk Review and Preparation for Debriefing Meeting at MPFD *Bhopal*
Jan 25	0830h – 1000h	Meeting with Ms. Preeti Soni, Head, Energy and Environment, UNDP; Ms.Payal Suri, Head, Resource Management Unit, UNDP; and Ms. Lianchawii, Programme Analyst, UNDP
	1100h – 1330h	Debriefing Meeting at MP State/MPFD – Meeting with Mr. Narendra Kumar, PCCF and HoFF, MPFD; Debriefing Presentations by TE before PSC - Chaired by Mr. Juavad Hasan, PCCF; Others Present – Mr. Ramesh Kumar Srivastava, Secretary, Forests, GoMP; Dr. Atul Kumar Srivastava, APCCF (Protection) and Former NPD; Mr. Mahendra Yadavendu, APCCF, CFM and NPD; Mr. A.B. Gupta, CCF, CFM; UNDP Team - Ms. Preeti Soni, Ms. Payal Suri, and Ms. Lianchawii; PMU - Mr. Somit Barman, Project Coordinator and staff Incorporation of Feedback from State Level Debriefing and Preparation of Meeting at UNDP CO and MoEFCC *Bhopal*
	1430h – 1800h	
Jan 26	0845h – 0900h	26th January - Republic Day Function
	1100h – 1300h	Writing up and preparation of final presentation
	1430h – 1730h	Writing up and preparation of final presentation *Bhopal*
Jan 27	0820h-1005h	Travel Bhopal -New Delhi; Halt at IHC, New Delhi

Date	Time	Details of Travel, Meetings, etc *Overnight*
	1430h-1500h	Consultation/Meetings with UNDP – Ms. Preeti Soni, Head, E& E Unit, UNDP; Lianchawii, Project Analyst; Ms. Payal Suri, Head, Resource Management Analyst; Ms. Anushree Bhattacharya, RA; Mr. M.C. Jajoo, Administrative and Finance Assistant
	1500h-1530h	Meeting with Mr. Prabhjot Sodhi, Country Program Manager, GEF, UNDP SGP CEE
	1530h-1615h	Debriefing to Mr. Jaco Cilliers, CD, UNDP Co; Ms. Marina Walter, Deputy CD, UNDP CO and UNDP Project Team – *Delhi*
Jan 28	0930h-1030h	Consultation/Meetings with UNDP – Ms. Lianchawii, Project Analyst/ Ms. Anushree Bhattacharya, Research Associate
	1100h-1230h	Final Debriefing to GEF OFP – Mr. Susheel Kumar, Special Secretary, MoEFCC Other stakeholders in Debriefing (Mr. Ashok Kumar, Joint Secretary, MoEFCC; Mr. Arun Mehta, Joint Secretary, GEF and International Cooperation, Ms. Nayanika, GEF, MoEFCC; UNDP – Ms. Marina Walter, Deputy CD; Ms. Preeti Soni, Ms. Lianchawii; Ms. Anushree Bhattacharya; Mr. Somit Barman, PMU CD) *Delhi*
Jan 29	0900h-1300h	TE Team continue work on incorporation of feedback to both presentations into the draft report
	1430h-1530h	Consultation, Meeting and Collection of Additional Information/ Documentation from UNDP
	1600h-1800h	Preparation of Draft Report *Delhi*
Jan 30	0900h-1730h	TE Team continue work on preparation of draft report *Delhi*
Jan 31	0900h-1730h	TE Team continue work on preparation of draft report *Delhi*
Feb 01	1100h-1230h	TE Team continue work on preparation of draft report, final meetings with UNDP Team TE Mission Over *Delhi*
Feb 02		TE (AL and PKM) Team Returned
Post mission	--	Skype conference with Eugenia Katsigiris, Team leader of MTR

Annex 3. Documents Reviewed

I. Project-Based Documents and Information – From UNDP CO and PMU

a. Project Document – Signed Document (UNDP and MPFD) dated 23.01.2010

b. Project Inception Report by MPFD

c. Proceedings -Project Inception/ Launch Workshop (10.08.2010) – in English

d. PIF Document

e. Annual Work Plans (2009, 2010, 2011, 2012)

f. Project Implementation Report (PIR)- November, 2105

g. Minutes of the PSC Meeting (Altogether 08 Meetings; First Meeting – 28.06.2010; Second Meeting – 04.11.2011; Third Meeting – 27.04.2011; Fourth Meeting – 29.09.2011; Fifth Meeting – 09.05.2012; Sixth Meeting – 27.12.2012; Seventh Meeting – 16.08.2013; Eighth Meeting – 12.11.2014; first meeting proceedings in English, rest in Hindi only)

h. Minutes of the Review Committee on SME Consultancy (12.12.2012), Review of TNA assignment (12.12.2012); Third Meeting (24.06.2013); Review Committee Meeting on SMEs and Business Plans (21.02.2014; 11.07.2014; and 19.08.2014)

i. PMU provided various documents relevant to SME and TNA Consultants - MPVS, IIFM and Access Development Agency including Report by IIFM on TNA and copies of SME Business Plans

j. TOR for SME work and corresponding award letters and contract values

k. TOR for TNA work and corresponding award letters and contract values

l. Project brochures on bamboo (2 brochures), incense (2 brochures), chindi (*Phoenix*) rope, fisheries, lac, vegetable cultivation, and watershed management

m. Project promotional video

n. Resolution of MP Forest Department (Oct. 2001) regarding JFMC rights and duties

o. Data tables on annual project expenditures by division

p. Data tables on annual project expenditures: Outcome-wise by UNDP CO

q. Annual Audit Reports (by M/S SP Chopra & Co, CAs, New Delhi) – 2010-2014

r. Copy of Power Point Presentation by PMU dated 15.12.2015

s. Copies of Quarterly Progress Reports cum PO's Report (30.04.2014)

t. Report – Mid Term Review (MTR)

u. Management Response to Mid Term Review (Issue Date: August, 2014)

v. Statement by PMU on Budget Allocation to Different Forest Divisions (Year: 2010, 2011, 2012, 2013, 2014, and 2015)

w. List of SME Plans by Access, MPVS, and IIFM and Cost of Each SME Plan

x. List of Livelihood Based Activities in Different Villages under Various FDs

y. MP Government Notification (F. 16-4-91-10-2 dated 22.10.2001) - Resolution on Community Participation in Forest Conservation and Development

z. PCCF, MP Letter No. C&M/Bamboo/3481 dated 30.08.2010 – Directives to DFOs to

issue Certificate to Beneficiaries of Beneficiary Based Bamboo Plantations

aa. PCCF, MP's Letter No. C&M/Bamboo/399 dated 27.04.2013 regarding Plantation of Bamboo and other Species in Allotted Forest Lands to Village Forest Committees

bb. PCCF, MP's Letter No. C&M/Bamboo/989 dated 04.06.2012 regarding Distribution of 100% Profit to JFMCs involved in Bamboo Harvest based on Net Profit obtained from Sale of harvested bamboos.

cc. GoMP, Forest Department, Bhopal Letter No. (i) F-25-1/2004/10-3/1241 dated 01.07.2015 and (ii) Letter No. F-25-12/2015/10-3/1241 dated 15.07.2015 on Management of Reserved Forests and Village Forests by Village Forest Committees

dd. GoMP Gazette Notification No. 211 dated 04.06.2015 on MP Village Forest Rules, 2015

ee. PCCF, MP Letter No. CFMP/UNDP/2014/07 dated 03/01/2015 to concerned DFOs of GEF-UNDP SLEM Project regarding harvest of bamboo from allocated Degraded Bamboo Forests to Beneficiaries.

ff. Proceedings of the National Workshop on Opportunities, Strategies and Challenges in Developing Community-led Forest Based Enterprise jointly Organized by MPFD, UNDP and CEE at New Delhi on 16.12.2014

II. Information Provided by MP State Bamboo Mission

a. National Policy Consultation on Bamboo as Change Agent for a Better Country Proceedings (12.02.2015, New Delhi)

b. Bamboo for Better Future – Proceedings of the National Seminar (05-06 June, 2014)

c. Madhya Pradesh State Bamboo Mission – Vision Document (2015)

d. Managing Bamboo in Totality, An Outcome Report of Consultation Workshop on the World Bamboo Day (18 September, 2014), M P State Bamboo Mission

e. Book of Circulars – Compilation of Govt. Notifications, Orders, Guidelines, Rules, Circulars relevant to State Bamboo Mission and Bamboo Management (in Hindi)

f. Amazing Bamboo (*Adhbhoot Bans*), State Bamboo Mission (in Hindi)

g. Bamboo Investor's Meet (June,2015), Investing in the Gold, MP State Bamboo Mission

h. MP State Bamboo Mission - Annual report (2013-14; 2014-15)

i. Statement on Extent of Bamboo Forests and Degraded Bamboo Areas in Different Forest Divisions of Madhya Pradesh based on information from respective Working Plans

III. Information Provided by Different Forest Divisions

a. Copies of Presentation – An Overview and Project Achievements in North Betul
b. Copies of Presentation – An Overview and Project Achievements in South Betul
c. Copies of Presentation – An Overview and Project Achievements in West Betul
d. Copies of Presentation – An Overview and Project Achievements in West Chhindwara
e. Copies of Presentation – An Overview and Project Achievements in East Chhindwara
f. Copies of Presentation – An Overview and Project Achievements in South Chhindwara
g. Copies of Presentation – An Overview and Project Achievements in Sidhi
h. Copies of Presentation – An Overview and Project Achievements in Umaria

IV. Documents and Information Provided by the TFO – ICFRE and the World Bank

a. Good Practices – SLEM Project
b. Brochure/ Flyers – SMEs

Annex 4. Indicative questions used in interviews

Annex 4a Basic Project Framework with some indicative questions

Goal, Objective, Outcomes and Outputs	Indicative questions/themes to explore
GOAL (as part of SLEM Programme): To promote sustainable land management and use of biodiversity as well as maintain the capacity of ecosystems to deliver goods and services [benefitting local livelihoods] while taking account of climate change.	What links have been made with the other SLEM projects and in particular with the high level ICRFE implemented SLEM-CPP TFO at Dehra Dun and coordination at MoEFCC? What is meant by "promotion"? How has climate change been considered and have you been liaising with central government agencies on climate change issues?
Project objective: To promote community-driven sustainable land and ecosystem management at the landscape level through integration of watershed management, joint forest management, and sustainable livelihoods development so as to balance ecological and livelihood needs.	Which different state and district government agencies have been involved in integration of land management in the watersheds? Do you still view ecological needs as needing to be balanced with livelihood needs? Or would you agree that when considering the long term, ecological and livelihood needs are in fact one and the same thing in the long term?
Outcome 1 Creation of an enabling environment for climate-resilient, sustainable land and ecosystem management	What changes have been made that constitute an enabling environment – e.g. in legal, political, cultural, administrative, organization, information, public involvement, other? What specific climate change provisions? Which agencies have been involved in the project? Can you break down by actual changes achieved so far, changes agreed to by government so far, and changes predicted by project management that will arise after project termination and will be attributable to the project (with time frame and mechanism)?
Output 1.1 State-level policies on forest, agriculture, animal husbandry, watershed management, tribal welfare reflect climate-resilient, sustainable land and ecosystem management principles	What cross-sectoral coordination on this? How was policy change approached – methodology? What state level policies have been adjusted or introduced for the first time as a result of the project? In what ways do (or will) state policies now reflect climate resilient, sustainable land and ecosystem management principles? Has the project listed the main "principles" that should be reflected in policy? If so what are they? For policy changes not yet achieved what steps are in place to get changes in policy after the end of the project? Is this output one that is in the power of the project to achieve? Was there ever sufficient time to get the policy and legal changes established? Are the final approvals necessary from government within the power of the UNDP GEF project to secure?
Output 1.2 Community-based organizations (JFMCs) and government staff are trained in promoting community-driven, climate-resilient, sustainable land and ecosystem management	Breaking down by government sector/agency and by individual CBO what changes in human capacity have been achieved? What is the project vision to create these changes? How well did the Training Needs Analysis inform and contribute to the actual training programme? The TE team understands that a lot of the training went ahead before the TNA was completed. What lessons were learned here about the

Goal, Objective, Outcomes and Outputs	Indicative questions/themes to explore
	way to implement a TNA? Would you reduce the number of TNA contractors, or even bring the TNA in house if given the choice in a future project? Trained in "promotion" of land and ecosystem management sounds vague although important. What was the balance between conceptual (ecosystem approach) and practical technique (specific field skills) training? And what were the training groups? Are the improvements permanent, i.e. self- renewing through the training of trainer's approach included in project activities, or is it likely that further project-type one-off training inputs will be required? What measures have been taken to have training and other capacity development institutionalized so that it will continue post-project? Have changes in practice been achieved even if official policy remains unchanged? And how secure are such changes in practice? What links to Output 3.1?
Outcome 2: Community-driven, climate-resilient approaches for sustainable land and ecosystem management are demonstrated in 4 micro-catchments	How are micro-catchments defined? The word is used in different ways: is it the best one to use for what are quite large plots of land? Are they discrete mini drainages or not? Who will oversee what further inputs are needed to keep all the demonstrated initiatives going when the project finishes? What kind of environmental assessment was performed for outputs 2.1 to 2.7? Do all these demonstrations have to be replicated in the same division or micro-catchment in order to result in significant reduction in land degradation? - The MTR was concerned that many initiatives not geographically near enough to each other How was climate change considered in planning the initiatives under each output? Was there a standard approach here? How did you deal with the fundamental risk that, however many new and helpful developments in bamboo, fodder, firewood and small businesses take place, some local people may continue to overexploit the existing resources? Is this by peer pressure, law enforcement or …..? Are you monitoring impacts of all 7 outputs and will such monitoring continue post-project? Will incentives to keep demonstrations going be sustainable (a) in project area and (b) outside project area? Will it be necessary to have project level investment in new areas in order to kick off new practices in new areas?
Output 2.1 Plans for rehabilitation and sustainable management of degraded bamboo areas in forest lands near target villages are developed and implemented.	Which species are involved? Are they all local indigenous species? What role did planting of new bamboo plots play as opposed to encouraging the recovery of degraded areas through reduction in grazing etc.? Who developed the plans? Who assessed the plans and decided on funding? What did the funding cover? Does the new regime increase connectivity for wild species and if so which species?
Output 2.2 Plantations are established on degraded community and forest lands to support local fuelwood needs.	What decisions were made on length of the planting/harvesting cycle? What are the calculations on firewood requirements *vs* firewood supply predicted from the plantations? What scaling up will be required to reduce firewood use from forest land to sustainable levels? Are there drawbacks to fast-growing species? Are strictly native only, or local only, species being allowed? What safeguards to prevent exotic species being used post-project?
Output 2.3 Plantations are established on degraded community and forest lands to support local fodder needs.	What kind of fodder? Tree leaves or grass? What measures in place to guard against increase in livestock numbers in response to fodder plantations?
Output 2.4 Small and Medium Enterprises (SMEs) based on sustainable harvest of other NTFPs are promoted	Have potential side-effects, ecological, biodiversity, socio-economic push-back through market mechanisms been considered for each of these SMEs through standardized environmental assessment?

Goal, Objective, Outcomes and Outputs	Indicative questions/themes to explore
	Were criteria for acceptance of proposals unified across the different sub-contractors engaged to select SMEs? What monitoring mechanisms in place to track ecological, social and economic impacts?
Output 2.5 Home gardens are promoted among landless families to meet subsistence needs	When we say landless, will they have adequate home gardens ? What prevented these people from planting in their home gardens before the project started? What proportion of subsistence needs are met by such home-gardens?
Output 2.6 Improved management of water resources at the level of micro/ milli watersheds, with particular emphasis on community mobilization in support of soil and water conservation structures and approaches	What is the difference between micro-catchments and micro-milli watersheds? What coordination with other agencies (Rural Development, Water?) Are they now adopted and independent of project inputs/support/subsidies? Where does water come from and is it being removed from other uses? What environmental impacts considered? What do the Water User Groups do? Are they sustainable? What is the history of and precedents for WUGs in the area and elsewhere in the state and the country
Output 2.7 Rain fed agricultural practices are strengthened with people-friendly, cost-effective, climate-resilient technologies that can improve returns within the constraints of local agro ecological conditions	Give examples of climate-resilient practices? Are they now adopted and independent of project inputs/support/subsidies? What is the long term outlook for introduced practices?
OUTCOME 3: Capacities for adaptive management, learning and replication of project lessons are developed	How do institutional areas of responsibility/authority over natural resources and human development coincide or conflict here? What links with Wildlife Sanctuaries and National Parks?
Output 3.1 Community-based system for monitoring and assessment of impacts, as well as external evaluations of the project	How is the community-based system working? Do they really look critically at (ecological, economic, social) impacts of, for example, SMEs on abundance of harvested species, on market prices for harvested products and feed-back into harvesting levels, Outputs 2 and 3 on actual reduction in use of forest land for firewood and livestock grazing/browsing etc. What links to Output 1.2?
Output 3.2 Documentation of lessons learned and preparation of information dissemination products which are geared to different audiences and are available in local languages.	What are the main Lessons Learned so far? Give some examples. What publications done so far? Which local languages? What steps to disseminate lessons learned and results of the project – a) during the project b) post-project Are you working with NGOs on this? Have you linked with the GEF Small Grants Programme? What has been the feedback from recipients of documentation/ (films?) on lessons learned and project results?
PROJECT DESIGN	Questions on: • Assumptions and risks • Relevance of outputs and outcomes and overall expected impacts after project closure • *Feasibility* • *Sustainability* • *Environmental assessment* • *Quality of indicators* • *Logical reasoning in the SRF* • *Cost effectiveness*

Goal, Objective, Outcomes and Outputs	Indicative questions/themes to explore
	• *Scope for incorporation of national and international best practice* • *Relevance of end of term targets to achieve project goals*
PROJECT IMPLEMENTATION	Questions on: • *Smoothness of administrative and financial support* • *Ability to overcome problems and adapt* • *Use of PIRs and MTR – responses to both* • *Reasons for delays* • *Use of technical assistance* • *International best practice incorporated* • *Processes for recruitment of project staff* • *Processes for subcontracting* • *Processes for "calls for proposals" within the project (e.g. SMEs)* • *Monitoring of demonstrations* • *Strategic allocation of effort between demonstrations at site level, policy at state level, and dissemination nationally* • *Attention to the need for sustainability of policy/institutional/legal changes and replicability of demonstrations*

Annex 4b Indicative questions for assessment of SRF (log frame) indicators

No	Indicator	Baseline	Target	Indicative questions
GENERAL QUESTIONS				When did baselines get measured and where are the data? Who is measuring the progress towards the targets?
Project objective: To promote community-driven sustainable land and ecosystem management at the landscape level through integration of watershed management, joint forest management, and sustainable livelihoods development so as to balance ecological and livelihood needs.				
OB1	Hectares of land where climate-resilient, SLEM is demonstrated for further replication in other areas	0 hectares	3,000 hectares of non-forest land and 14,500 hectares of degraded bamboo areas within forest lands	How do you define climate-resilient? What are the criteria? How do you define sustainable? What are the criteria?
OB2	Overall decrease in trend and/or severity of land degradation as measured by % increase in NPP (Net Primary Productivity) and/ or RUE (Rain Use Efficiency) and associated loss of biodiversity and enhanced forest cover	Baseline to be measured in Y1	10% increase in NPP and land productivity over baseline at project demonstration sites	How did you measure NPP and/or RUE? How was loss of biodiversity measured? How was forest cover measured? (The Log frame just says "field surveys") Is the baseline established?
OB3	Reduced threats to forest habitats enhancing survival probabilities of threatened species	Baseline to be measured in Y1	Reduction in threats over baseline	What species? How was this measured? (The Log frame just says "field surveys") Is the baseline established?
OB4	Improved forest cover in the project districts	Baseline to be measured in Y1	Improvement by 3-5% over baseline	How does this differ from OB1 and what data were used to show trends? Is the baseline established?
OB5	Enhanced carbon sequestration capacity in project demonstration sites	Baseline to be measured in Y1	10% increase of total system carbon at project demonstration sites	How was this capacity measured? Is the baseline established?
OB6	Change in proportion of project participants who are living above the poverty line	Approximately 3% of families in target districts/ villages	30%	What is the definition of poverty line? BPL What was the process to do the socio-economic surveys? Do you use official government figures or your own survey results or a combination?
Outcome 1 Creation of an enabling environment for climate-resilient, sustainable land and ecosystem management				
O1.1	Number of sectoral polices that incorporate SLEM guidelines	Existing sectoral policies	Climate-resilient, biodiversity-friendly, SLEM guidelines integrated into State agriculture, animal husbandry, forest, watershed, and tribal welfare policies by Y5	What are the guidelines? Can the TE team see a copy? How do you assess whether they have been incorporated or not into sectoral policies? Is incorporation into sectoral practices (policy implementation) also recorded by the project? How many of these sectors have been influenced?
O1.2	Number of government staff and CBO representatives trained in climate-resilient SLEM	Limited	2,000	Which sectors, and which CBOs, have been included in training programmes? What changes in capacity have been achieved?

No	Indicator	Baseline	Target	Indicative questions
				Has the training been institutionalized?
O1.3	Strategic plan to institutionalize integrated service provision for climate-resilient SLEM	None	Plan developed and verified	Has the plan been approved across government sectors?
Outcome 2: Community-driven, climate-resilient approaches for sustainable land and ecosystem management are demonstrated in 4 micro-catchments				
O2.1	Approx. 14,500 ha of degraded bamboo forests rehabilitated through community based participatory arrangement, thereby enhancing connectivity between relatively undisturbed forest tracts that harbor globally significant biodiversity	Highly degraded areas with only 15-20 culms per clump	25-35 culms per clump by Y5	Does rehabilitated bamboo forests enhance connectivity? For which globally significant species?
O2.2	Increase in earnings of about 700 families from involvement in sustainable management of degraded bamboo areas	About 1000 INR per month/family	Increase by 60% by Y5	Is 60% increase the estimated ceiling? What are the measures to prevent overexploitation again in response to demonstration of profitable practices?
O2.3	Degraded lands planted with fast growing tree species suited to the local environment	0 hectares	200 hectares by Y5	Overall impact of this?
O2.4	% of existing head loaders in target villages who substitute their existing practice with income derived from plantations	0%	15% by Y5	Is this still too high to prevent forest degradation?
O2.5	Reduction in fuelwood extraction pressures on surrounding forests attributable to fuelwood plantations	Baseline to be identified in Y1 for each demonstration site	Reduction by at least 40%	This is two measures in one – a complicated indicator. MTR noted long maturation period for firewood plantations – can you record 40% reduction within the project period? If not what means are there to continue monitoring post-project? Is the baseline established?
O2.6	Increase in average fodder yields of degraded land	Baseline to be identified in Y1 for each demonstration site	50–75% by Y5	Is the baseline established?
O2.7	Hectares of forest facing pressure for livestock grazing and/ or fodder collection attributable to fodder plantations	Baseline to be identified in Y1 for each demonstration site	At least 30–40% of this area faces decreased pressure by Y5	Is the baseline established?
O2.8	Increase in perennial vegetation cover on degraded lands	Baseline to be identified in Y1 for each demonstration site	25-40% increase by Y5	Is the baseline established?
O2.9	Number of households in demonstration site directly benefiting from the fodder production component	No. of households in demonstration site measured in Y1	At least half of the households benefit	Is the baseline established? What are geographical limits of the “demonstration site”? How do you measure “benefit”? Is this purely financial, or ecological, lifestyle or other? Does not seem precise enough for an indicator

No	Indicator	Baseline	Target	Indicative questions
O2.10	Change in average per capita income as a result of fodder plantations and its indirect benefits	Baseline to be identified in Y1 for participating families	Increase by at least 20% by Y5	Is the baseline established? Mean per capita income? And over which area – i.e. which people are included in the calculation of per capita income? What do you mean by "indirect benefit"?
O2.11	Number of SME business plans based on sustainable harvest and added-value processing of local NTFPs	0	100	Numbers alone do not informing us much about actual project impact.
O2.12	Number of SME business plans operationalized	0	40	
O2.13	Number of persons with enhanced capacity to promote livelihood security through sustainable natural resource-based enterprises	0	1,000	How do you measure enhanced capacity, and is capacity to "promote" really what you want to measure? More specific indicator – specific capacity being used in some specific part of life would be better.
O2.14	Curtailment of distress migration	No. of families affected measured in Y1	At last 10% of households no longer affected by distress migration by Y5	Is the baseline established? By "affected" what is meant? Does it mean families moved out or moved in?
O2.15	Number of women participants in SMEs	0	At least 20% of participants are women	What is the basis of the 20% figure? Why not higher if it is thought to be important?
O2.16	Number of SMEs operationalized under the project that are linked up with local banking institutions for obtaining loans for further expansion	0	At least 25% by project end	Linked up merely means introduced? Does not mean funded? Not clear
O2.17	Hectares of community land mobilized for reviving local species that enhance ecosystem health and also generate benefits for landless communities (fuelwood, fodder, medical plants, fruit)	0 hectares	600 hectares	Are these the home gardens of landless poor? Confusing to naïve readers as the area involved is three times the size of the fodder and firewood plantations. *[The project really needs maps showing the interrelationships of all these initiatives]*
O2.18	Rejuvenation and or renovation of existing community based watershed structures in 40 villages	No. of structures in target villages measured in Y1	All structures deemed necessary and viable are rejuvenated by Y5	Is the baseline established?
O2.19	New watershed structures built based on local needs and available project resources	0	At least 10 by Y5	What is the basis of the 10 figure? Is this based on specific structures after a survey of requirements?
O2.20	Revival of farmlands that are laying fallow or unused due to lack of water	Area to be measured in Y1	At least 20% of farmlands are revived	Is this 20% based on survey that concludes this farmland and its irrigation (ie sufficient water resources in relation to other needs for water) and soil erosion potential is viable and the remaining 80% not?
O2.21	Increase in farm productivity of marginal and pro-poor tribal farmers due to proposed watershed interventions	Productivity measured in Y1	At least 10% increase by Y5	Is the baseline established? "Implemented" watershed interventions *What do you mean by "pro-poor" here? It does not seem to make sense under usual use of the word.*

No	Indicator	Baseline	Target	Indicative questions
O2.22	Water User Groups (WUGs) created in each of the four project districts	None	At least 25	Is the 25 arbitrary? It sounds high. What area for each WUG?
O2.23	Increase in the use of fallow farmlands to enhance livelihoods and reduce extensification pressures	Area measured in Y1	At least 20% increase by Y5	Sounds as though some of these indicators are overlapping and difficult to disentangle *Overall there are in fact too many indicators here and it would have been better to reduce the number of them and include only the strongest. Perhaps this could be shown in the Terminal Report and presented as a Lesson Learned in project design and implementation*
O2.24	Increase in organic and traditional innovations for rain fed farming	Current use measured in Y1	Increased by at least 30% by Y5	Difficult to see what units you are dealing in here – numbers of innovations?
O2.25	Change in on farm productivity through use of improved seed varieties	Farm productivity measured in Y1	Increase by at least 15% by Y5	Can you attribute productivity changes to improved seed varieties? Are there not risks too to using improved seed varieties?
O2.26	Reduction in natural resource dependency of farmers on nearby forests attributable to integration of on farm agro-forestry practices	Extent of pressure imposed by farmers measured in Y1	Reduction of at least 20% by Y5	How do you measure this? What units? Not clear as an indicator?
O2.27	Improvements in soil fertility	Fertility on demonstration sites measured in Y1	Increase by at least 5%	How measured? Over what area? Imprecise as an indicator
Outcome 3: Capacities for adaptive management, learning and replication of project lessons are developed				
O3.1	Local level monitoring mechanisms set up in each project site (CBIA)	None	Established in each demonstration site by end of Y2	Need to define the system and look at impacts
O3.2	Learning on best practices and models disseminated within and outside the project villages	None	Documentation is available in local languages by Y5	*Do you have lists of these documents and copies of them?*
O3.3	Replication plan	None	Agreement, by Y5, on watersheds/ villages where lessons can be replicated in 5 and 10 year increments after project closure	What about replication further afield?

Annex 4c Various other indicative questions for interviewees

1. What is your involvement with the project?
2. Since when have you been involved?
3. What kind of technical oversight does UNDP provide to projects in general and to this project in particular?
4. What level of scrutiny is given to quarterly work plans by UNDP CO?
5. How often have you visited the project areas and how often does UNDP CO organize monitoring missions? Can the TE team see back to office reports from these missions?
6. How often do you meet SLEM project staff?
7. Are you working with NGOs on this project? If so which and in what capacity?
8. What has been the role of the GEF Small Grants programme in this project?
9. Have GEF tracking tools been applied in this project?
10. What is the involvement of the GEF OFP? We note that he is not keen to meet us at the start of the TE.

11. **For UNDP policy expert:** Do you look at proposed work-plans and do you review draft policy proposals in projects that produce them and in this project in particular?
12. How much does UNDP provide advice in the policy field in general and to this project in particular?
13. Do you work also on institutional mechanisms to facilitate policy implementation?
14. Does UNDP use its influence to help projects to get policy and policy implementation changes promoted?
15. Has this happened on the SLEM and project?
16. SLEM is particularly cross sectoral in nature. There may be institutional barriers to good implementation of policy. Does UNDP help in such cases through lobbying at high level?

17. Could you please tell us without too much detail about your understanding and impressions of the project – its design, implementation, results, and outlook for sustainability?
18. Are you familiar with the project's bamboo rehabilitation model?
19. What is the relationship between SLEM programme and its constituent projects, and what kind of integration has there been? For example, did FAO, UNDP, WB et cetera come together for meetings and if so how frequently? What kind of communication including lessons learned has taken place between the projects? How is this reflected in the programme and project steering committees and the empowerment committee?
20. Do you have a map of the area of Madhya Pradesh in which the project operates?
21. Do you know what the GEF BCRLI project is doing in Satpura? What links if any are there with the MP SLEM project?
22. How are (or will be) the results of the Madhya Pradesh SLEM project being used at the national level? What is the mechanism for dissemination? What are the plans for scaling up to additional areas?
23. There are many components to this project. In your view which components have been successful, which is not so successful, and why?
24. How has climate change being considered and have you been liaising with central government agencies on climate change issues?
25. Which different state and district government agencies have been involved in integration of land management under the project and to what extent?
26. What operational difficulties have there been in implementation?
27. According to the project organigram at which levels were the main operational difficulties encountered?
28. Why was the MTR accepted although it did not follow any of the official/unofficial guidance for MTR format available in 2014?

29. The MTR noted excessive delays in engaging and then fielding consultants to carry out training needs analysis (TNA) and small and medium enterprise (SME) business planning. What were the underlying reasons for this and have you thought about how to avoid such delays in the future?
30. What have you learned from this project's implementation that would help in the design and implementation of similar assets in the future?
31. Following the MTR observations and recommendations, what specific adjustments have been made in response?
32. What differences have you observed in the performance of the five or 6 SLEM projects – specifically the Nagaland project? What are the underlying reasons for any differences observed?
33. In your view has the project achieved the necessary lasting changes in a) policy b) capacity c) community participation/village level institutions d) cross sectoral coordination between line agencies to make the project successful in the long-term?
34. In case policy changes are still required how will these changes be pursued after the end of the project?
35. What changes have been achieved so far what changes have been agreed to by government so far and what changes are predicted to arise after project termination and to be attributable to the project?
36. Will the requirement to guarantee four years of payments to bamboo plot holders be met regardless of the current annual budgeting system?
37. What were the mechanisms used to make the final selection of SME proposals to be funded under the project? What were the criteria? As part of the screening process were environmental and social assessments done to look at potential ecological, social and economic impacts of the SMEs?

38. How were the project sites, villages, communities and families selected for the various components of the project – including for the bamboo monthly payments?
39. How are micro –, mini –, and milli – drainages /catchments /watersheds defined?
40. What if any overlaps are the in membership between the various committees – SHG, VDC, VFC, WUG, JFMC – and do the members all fulfil their duties?
41. The project's bamboo model is presented as innovative because it gives incentives to individual families for protection of 20 ha plots. However, at the time of the MTR there was still a possibility that income from harvests would be pooled and then divided equally among participating families, thus removing much of the foreseen incentives. What is the status now?
42. Are the fuelwood (200 ha) and fodder (200 ha) plantation pilots large enough to assess whether they can be applied over larger areas?
43. Do all the outputs 2.1 to 2.7 have to be implemented in the same micro-catchment in order to result in significant reduction in land degradation? (The MTR was concerned that many initiatives were not geographically overlapping or near enough to each other).
44. Under the new regime will there be an increase in connectivity for wild species and if so which species?
45. [TOF shows not much change over project period]
46. How efficient has the project been in getting funds to the local levels – at which most funds have been applied?
47. Have consultants been used to good effect under the project? How widely and to produce what specific outputs? There were 22 person-months of international consultants and 420 person-months of national consultants (climate change, agriculture, animal husbandry, water management and irrigation, SME/enterprise development) budgeted for in the project document. Were these consultants employed and, for those that were, can we see copies of their reports?
48. What are the future plans for the website and its maintenance?
49. How do the project's achievements match with the vision of the project document – particularly with reference to the integration required for the SLEM ecosystem-based approach?
50. What mechanisms are in place to monitor impacts of the project after project termination?
51. What overseas training has there been if any? Where, which institution or agency, and what topics?

52. How has the co-finance been accounted for and tracked? (page 50 of Prodoc - MPFD $32 million, MFPF $ 2.5 million + $1.5 million, RGMWM $33 million, MP Agriculture Department $15 million, Animal Husbandry $10 million)
53. What is your opinion about the indicators in the strategic results framework (SRF)? Were they useful and well- conceived?
54. Regarding management structure do you think that the number of PMU staff was adequate? Would it have been better to include more technical expertise? The MTR recommended an additional PMU member to document lessons learned and work on dissemination. Was this recommendation followed up on?
55. How has adaptive management been employed during the project? Were adjustments made in timely fashion where necessary? Do you have any examples? Do you have examples of lessons learned in one district being applied in another district?
56. How well did the project perform in involving people in design and work planning?
57. How well did your training needs analysis (TNA) inform your training program? We understand that a lot of training went ahead before the TNA. What lessons were learned about the way to implement a TNA? Would you reduce the number of TNA contractors or even bring the TNA in-house if given the choice in a future project?
58. How was the training of trainers (TOT) approach implemented and what is the status of the trainers now, and will they repeat the training – i.e. has there been some kind of institutionalisation?
59. Is there monitoring of the sustainability of the livelihood initiatives including consideration of both immediate and delayed impacts and both biophysical and socio-economic impacts?

Annex 5 UNEG (United Nations Evaluation Group) Code Of Agreement Form

(See www.unevaluation.org/unegcodeofconduct)

Evaluators:

1. Must present information that is complete and fair in its assessment of strengths and weaknesses so that decisions or actions taken are well founded
2. Must disclose the full set of evaluation findings along with information on their limitations and have this accessible to all affected by the evaluation with expressed legal rights to receive results.
3. Should protect the anonymity and confidentiality of individual informants. They should provide maximum notice, minimize demands on time, and: respect people's right not to engage. Evaluators must respect people's right to provide information in confidence, and must ensure that sensitive information cannot be traced to its source. Evaluators are not expected to evaluate individuals, and must balance an evaluation of management functions with this general principle.
4. Sometimes uncover evidence of wrongdoing while conducting evaluations. Such cases must be reported discreetly to the appropriate investigative body. Evaluators should consult with other relevant oversight entities when there is any doubt about if and how issues should be reported.
5. Should be sensitive to beliefs, manners and customs and act with integrity and honesty in their relations with all stakeholders. In line with the UN Universal Declaration of Human Rights, evaluators must be sensitive to and address issues of discrimination and gender equality. They should avoid offending the dignity and self-respect of those persons with whom they come in contact in the course of the evaluation. Knowing that evaluation might negatively affect the interests of some stakeholders, evaluators should conduct the evaluation and communicate its purpose and results in a way that clearly respects the stakeholders' dignity and self-worth.
6. Are responsible for their performance and their product(s). They are responsible for the clear, accurate and fair written and/or oral presentation of study limitations, findings and recommendations.
7. Should reflect sound accounting procedures and be prudent in using the resources of the evaluation.

Evaluation Consultant Agreement Form

Agreement to abide by the Code of Conduct for Evaluation in the UN System
Name of Consultant: W A Laurie
Name of Consultancy Organization (where relevant)**:**
I confirm that I have received and understood and will abide by the United Nations Code of Conduct for Evaluation.
Signed at
Date

Signature:

Name of Consultant: P K Mathur
Name of Consultancy Organization (where relevant)**:**
I confirm that I have received and understood and will abide by the United Nations Code of Conduct for Evaluation.
Signed at
Date

Signature:

Annex 6 Explanation of the various rating scales

The different scales[34] for rating various criteria are shown in **Annex 6A below**, and further defined in **Annex 6B** (level of satisfaction scale) and **Annex 6C** (likelihood of sustainability scale)

Annex 6A Ratings and their scales for different evaluation criteria

Outcomes, Effectiveness, Efficiency, M&E, I&E Execution	Sustainability	Relevance
6. Highly Satisfactory (HS): no shortcomings **5. Satisfactory (S):** minor shortcomings **4 Moderately Satisfactory (MS):** moderate shortcomings **3. Moderately Unsatisfactory (MU):** significant shortcomings **2. Unsatisfactory (U):** major shortcomings **1. Highly Unsatisfactory (HU**): severe shortcomings	**4. Likely (L)**: negligible risks to sustainability **3. Moderately Likely (ML)**: moderate risks **2. Moderately Unlikely (MU)**: significant risks **1. Unlikely (U):** severe risks	**2. Relevant (R)** **1. Not relevant (NR)**
	Additional ratings if relevant	**Impact**
	Not Applicable (N/A) **Unable to Assess (U/A)**	**3. Significant (S)** **2. Minimal (M)** **1. Negligible (N)**

Annex 6B Definitions of ratings of levels of satisfaction

From *Guidelines for GEF Agencies in Conducting Terminal Evaluations,* 2008

Rating	Definition
Highly Satisfactory (HS)	The project had **no shortcomings** in the achievement of its objectives in terms of relevance, effectiveness, or efficiency.
Satisfactory (S)	The project had **minor shortcomings** in the achievement of its objectives in terms of relevance, effectiveness, or efficiency.
Moderately Satisfactory (MS)	The project had **moderate shortcomings** in the achievement of its objectives in terms of relevance, effectiveness, or efficiency.
Moderately Unsatisfactory (MU)	The project had **significant shortcomings** in the achievement of its objectives in terms of relevance, effectiveness, or efficiency.
Unsatisfactory (U)	The project had **major shortcomings** in the achievement of its objectives in terms of relevance, effectiveness, or efficiency.
Highly Unsatisfactory (U)	The project had **severe shortcomings** in the achievement of its objectives in terms of relevance, effectiveness, or efficiency.

[34] Guidance for Conducting Terminal Evaluations of UNDP-supported, GEF-Financed Projects, UNDP Evaluation Office, 2012

Table 6C Definitions of levels of risk to sustainability of Project outcomes

From: *Guidance for Conducting Terminal Evaluations of UNDP-supported, GEF-Financed Projects, UNDP Evaluation Office, 2012*

Rating	Definition
Likely (L)	**Negligible risks** to sustainability, with key outcomes expected to continue into the foreseeable future.
Moderately Likely (ML)	**Moderate risks**, but expectations that at least some outcomes will be sustained.
Moderately Unlikely (MU)	**Substantial risk** that key outcomes will not carry on after project closure, although some outputs and activities should carry on.
Unlikely (U)	**Severe risk** that project outcomes as well as key outputs will not be sustained.

Annex 7 Expenditure according to Outcome and Year

Years	2010	2011	2012	2013	2014	2015	Total
Outcome-- -1							
Total Project budget in Prodoc	365,000	205,000	125,000	95,000	60,000		850,000
Annual Work Plan	72,000	26,257	163,462	86,000	43,413	91,666	482,798
Disbursed		5,008	61,199	47,910	55,213	19,713	189,043
Remaining GEF Funds	365,000	199,992	63,801	47,090	4,787	(19,713)	660,957
Outcome-- -2							
Total Project budget in Prodoc	1,145,000	845,000	545,000	360,000	405,000		3,300,000
Annual Work Plan	277,000	1,305,360	1,587,336	1,031,000	820,804	202,166	5,223,666
Disbursed	283,033	980,379	1,324,388	958,241	519,105	233,579	4,298,725
Remaining GEF Funds	861,967	(135,379)	(779,388)	(598,241)	(114,105)	(233,579)	(998,725)
Outcome-- -3							
Total Project budget in Prodoc	385,000	235,000	230,000	120,000	118,000		1,088,000
Annual Work Plan	32,000			120,000	42,745	130,313	325,058
Disbursed	14,117	44,325	2,276	99,434	236,310	67,452	463,914
Remaining GEF Funds	370,883	190,675	227,724	20,566	(118,310)	(67,452)	624,086
Project Management							
Total Project budget in Prodoc	120,000	110,000	110,000	95,000	90,000		525,000
Annual Work Plan	141,000	133,159	149,692	263,000	82,818	89,850	859,519
Disbursed	19,845	290,853	(27,171)	75,987	59,458	57,173	476,145
Remaining GEF Funds	100,155	(180,853)	137,171	19,013	30,542	(57,173)	48,855
Unrealized Gain/ Loss	(1,533)	37,173	160,065	(14,375)	17,765	12,282	211,377
Total							
Total Project budget in Prodoc	2,015,000	1,395,000	1,010,000	670,000	673,000		5,763,000
Annual Work Plan	522,000	1,464,776	1,900,490	1,500,000	989,780	513,995	6,891,041
Disbursed	315,462	1,357,738	1,520,757	1,167,197	887,851	390,199	5,639,204
Remaining GEF Funds							**123,796**

UNDP GEF Biodiversity Advisory Note

Lack of the Solution is not the Problem

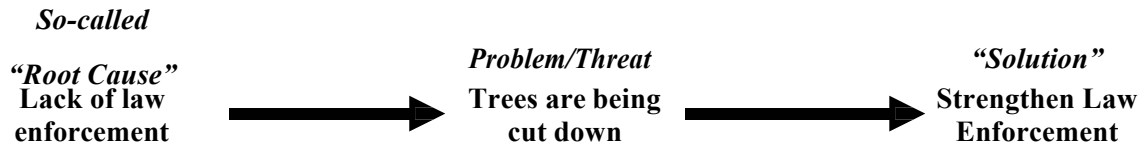
Normally it is easier to solve a problem if we know what the problem is.

Developing a coherent problem tree is one of the most difficult and time consuming parts of project development, yet it is often given little attention. Rather than starting with a clearly diagnosed problem, many proponents of biodiversity project proposals start with the solution, something they want to do – a set of "activities" – and then spend significant amounts of time and effort laying out a project that will carry out these activities. Only once they have done this do they turn to "retrofitting" a problem analysis. Not surprisingly, in most cases the so-called "root cause" of the problem turns out to be the "lack of the solution" they have so carefully designed.
The consequence is generally a poorly designed project that does not effectively or efficiently solve a biodiversity problem. Instead it leaves parts of the problem unsolved and it includes activities that are not really necessary to solve the problem.

A key indicator of a "solution driven analysis" is that the identified problem or problems that the project is supposed to solve are articulated as something that there is a "lack of", or is "inadequate" or "insufficient". The "something" is normally the intended project "solution".

The problem with a "solution driven analysis" is that it often obscures the true cause of the problem, and worse, potentially points to the wrong solution. For example, the statement "trees are being cut down because of a lack of enforcement," is not a statement of cause and effect.

If the logic is laid out in a cause and effect chain the problems become clearer:



Obviously this is a circular argument. If the "root cause" is stated as a "lack of law enforcement" the only logical solution is to "strengthen law enforcement". Consideration of alternative solutions is eliminated. The real "cause" of the problematic behaviour (cutting down trees) remains unknown. Instead, attention is focused on the proposed

solution – increasing law enforcement. The real cause of tree cutting might be that people need trees in order to build houses, or cutting trees and selling the timber is perceived as the only way of generating cash income to pay school fees, and so on. The possibility of finding alternative ways for people to build houses, or finding alternative sources of trees or ways of getting children schooled, are not investigated. If the problem is actually that people have a fairly basic "need" for trees and have no real alternatives, strengthening law enforcement is only going to heighten conflict and not lead to a lasting solution of the problem.

While a “lack of something” argument is obviously circular, it is one of the most commonly used arguments in biodiversity projects. Similar common examples (and their solutions) include:

- lack of awareness (inform or educate people)
- poor land use planning (improve land use planning)
- insufficient financial resources (send more money / set up a trust fund)

Unfortunately much of the published log frame guidance, while providing step by step instructions for preparing a problem analysis, still uses the “lack of the solution” shorthand in its problem trees.

Avoiding “lack of” problem statements is much more likely to lead to an accurate diagnosis of the problem from which alternative solutions can be developed, feasible ones can be compared, and the “best” solutions chosen. The “best solution” may in fact be the one originally proposed, but if we get there by logical analysis rather than “assumption” we will have considered, and discarded, other alternatives and we will be confident that this is in fact the best solution. We will also be aware of the full extent of the problem and while the project itself may not be able to address all aspects of the problem, the parameters or assumptions within which the project operates will be clear.

Please send any comments or suggestions for improving this note to: john.hough@undp.org

Annex 9: UNDP/GEF Note on Indicators

UNDP-GEF Biodiversity Advisory Note 2003

INDICATORS

Summary
During GEF2 there was an increasing emphasis placed on monitoring for impact. OPS2 (Overall Performance Study 2) nevertheless concluded that most GEF projects had failed to establish an effective process of monitoring to demonstrate impact. Consequently, during GEF3 there will be a strong focus on "monitoring for results", and the Council has already blocked projects that do not have adequate monitoring plans proposed. It is also important, in terms of demonstrating impact for future OPS that UNDP/GEF support a process of retrofitting appropriate indicators to those projects that lack them.

This note clarifies some key concepts to guide the design of monitoring systems in pipeline projects and the retrofitting of projects already in the portfolio, with the airm of establishing effective systems of monitoring within projects and being able to demonstrate results. The attached annex provides a "menu" of good indicators, almost all of which are real examples taken from existing project documents, which may help to guide identification of appropriate indicators.

1. Monitoring against the log-frame

The logical framework approach used in the design of all GEF projects incorporates a conceptual hierarchy of objectives. A complicating factor is that multiple terms have been used to refer to similar concepts, but the UNDP/GEF M&E recognizes four hierarchical levels:

a) **Goal** (equivalent to "Development Objective"). The overall result to which the project will contribute, along with various other, external interventions.
b) **Objective** (equivalent to "Immediate Objective"). The overall result that the project itself will achieve, independent of other interventions. There should be only one Objective per project
c) **Outcomes**. The results of individual project components that achieve changes in conditions that affect the Objective.
d) **Outputs**. The direct results of project **Inputs**, achieved through the completion of project activities.

In the past, most UNDP/GEF projects have monitored for Inputs (which is basically financial accounting) and Outputs. Output indicators, sometimes thought of as "process indicators", are simply an accounting of the results of individual project activities. No further guidance is provided for Output monitoring since these only tell us what "has been done". Not whether any impact has been achieved.

Monitoring for Outcomes, and against the Objective is less simple. At both levels, indicators can be thought of as "impact indicators".

- As the Objective of GEF-funded projects in the biodiversity focal area is, by definition, related to globally significant biodiversity, indicators against the Objective are best expressed in terms of impact indicators affecting the state of biodiversity. Where such indicators are difficult to define, surrogate impact indicators focusing on changes in threats to biodiversity may substitute.

- Individual Outcomes rarely have a direct impact on biodiversity, since the Outcomes are usually defined in terms of the conditions necessary to conserve biodiversity. Therefore, impact indicators at the Outcome level will usually focus on impacts on responses or impacts on threats.

The distinction between impact indicators for these two different hierarchical levels in the logframe is reflected in the annex which gives specific examples.

UNDP/GEF projects do not generally monitor against the Goal, since this requires monitoring of external interventions over which neither the project team nor UNDP/GEF has control. However, noting that the successful completion of these external interventions are essentially "Assumptions" in the definition of the Goal, it may be possible in specific projects to identify indicators of these Assumptions, which can be monitored. However, no further guidance is provided on this issue.

2. What makes a good indicator?

An indicator is a quantitative or qualitative variable or parameter that provides a **simple** and **reliable** basis for assessing change or performance. It reduces data and information on a particular phenomenon to its simplest form while retaining their essential meaning. Indicators are used in different disciplines to measure a variety of issues such as country economic "health", company management effectiveness, regional social conditions, or project performance.

In the project management context, project indicators are used to measure project performance, i.e. "how" and "whether" an intervention is progressing towards its objectives. They also allow comparisons between actual and expected results. Defining indicators that include appropriate verifiers and qualifiers and also are complemented by targets and baselines ensures this performance measurement function. An effective indicator "package" should include:

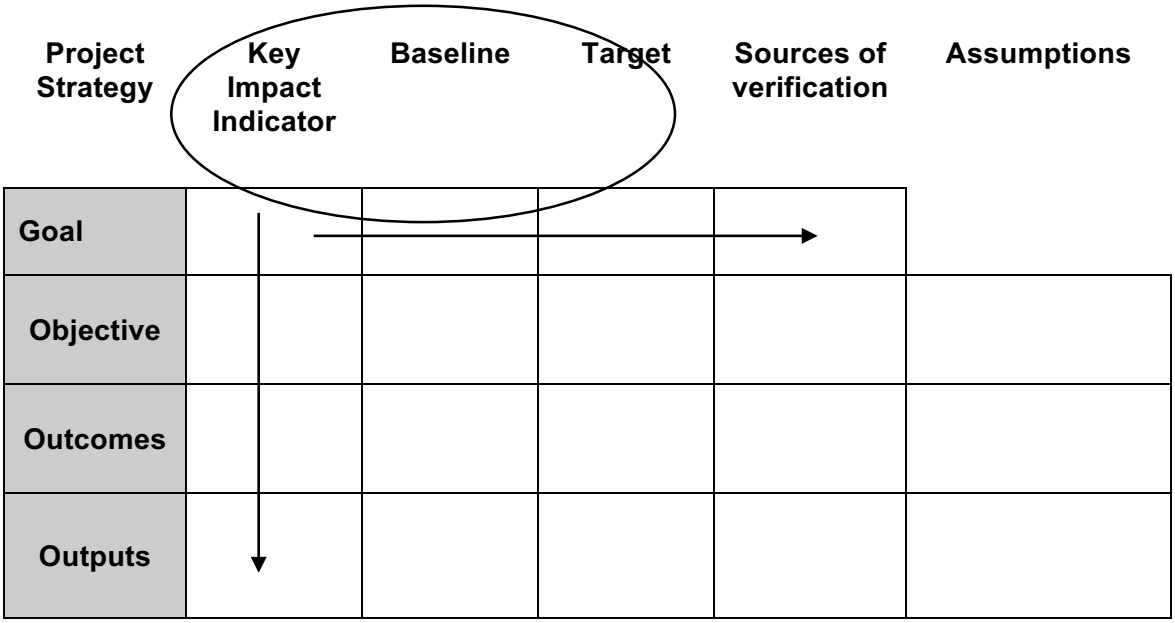
- **Indicator,** including**:**
  - **Verifier.** Variable or parameter that retains the essential meaning of the objective and that *can be measured on the ground*.
  - **Qualifiers.** Contribute to describe the verifier allowing to respond to: *what, when, where, who*
- **Targets/ Baseline**- Values associated to the verifiers that define *how much* the objective is planned/expected to be achieved compared to the situation prior to project start. Intermediate targets (milestones) allow assessment of progress.

Project indicators therefore describe and translate the strategy objectives in the Project Planning Matrix (PPM) (Goal, Objective, Outcome) in terms of its concrete meaning, its quantity, quality, time frame, and location so that it can be measured and verified objectively.

An example of a good indicator is:

Objective: "*Conservation of keystone species"*
Indicator: At the end of the fifth year ***(qualifier: when)***
the population sizes (***qualifier: what***)
of species A, B and *C* ***(verifier)***
within the boundaries of the park **(*qualifier: where*)**
have remained constant ***(target)***
compared to X number at project-start level ***(baseline)***

For clarity of presentation the indicator, baseline and target are placed in three adjacent columns in the Project Planning Matrix (PPM).



A good indicator should have the following characteristics. It:

- **Closely tracks** the objective/result that is intended to measure
- Must allow general agreement over interpretation of the results (assessment by different stakeholders will reach same conclusion). This means the indicator should be **operationally precise (qualifiers)** - no ambiguity about:
  - *What* is being measured. Avoid reference to "adequate partnerships" - what type of partnership, who with, what is adequate, and who decides what is adequate?;
  - The *extent* of change intended. Avoid reference to "significant increase", "to strengthen", "to improve" unless these tersm are explicitly defined;
  - *Where* are we measuring
  - *Who* are the stakeholders/ beneficiaries

- Is **unidimensional** - measures only one phenomenon at a time. Example. Community x has access to and use of a certain technology
- Is **dissagregated**, where appropriate, by gender, location, or some other dimension important for managers.
- Is **quantitative**, where possible;
- Is **practical**. Data must be:
  - *Obtainable* in a timely way and at reasonable cost (both human and financial resources).
  - *Available* on a frequent enough basis to inform management decisions.
  - *Reasonable and appropriate* as compared to the utility of the data
- Should be **adequate**. As a group, the indicator should adequately measure the phenomenon in question. Do not repeat indicators. Do not use process/activities indicators to measure results.
- Must be **owned**. Stakeholders need to agree that the indicator is useful (need to reconcile different interests). Indicators created in government (or UNDP) offices are not appropriate.

How many indicators are needed? That depends on the complexity of the project strategy and level of resources available. Strike a balance between resources available and information needed to make well-informed decisions. In general, **a few good indicators are more useful than many weak indicators.**

3. Process

Formulation of indicators is an iterative process that extends throughout project development and ought to begin **as early as possible**. Tentative indicators should be identified as part of the analysis and development of objectives stage during the planning phase. Thinking simultaneously about indicators and objectives at this early stage contributes to more precise and focused objectives. Moreover, this early attempt to define targets and milestones will result in a more realistic project strategy in terms of time frame and expected impact.

4. Implications for work-plans

Monitoring does not occur spontaneously, or at no cost. An effective monitoring system requires a specific and adequately costed monitoring plan. The plan needs to identify **what** data is available from existing reliable sources and which data will be collected. For the data to be collected, the plan will identify by **whom**, at **which** locations, at **what** times, using **which** methods. Similarly, the subsequent use of the data needs to be described – **who** will be responsible for analyzing and reporting, against **what** deadlines? The costs of data collection, analysis and reporting need to be accurately calculated, and subsequent budget revisions should not reduce these costs (for example, if other project components are over cost), unless there is clear evidence that the original costs were over-estimated.

The process of **retrofitting** indicators for projects already under implementation is not complete without an associated revision of the work plan and budget revisions that address the issues described in the preceding paragraph.

Menu of real indicators from existing projects (sometimes modified)

Overall Impact (Applies to the Objective level of the PPM)

Project Outcome	Impact on Biodiversity	Impact on Pressures	Impact on Response Measures
	➢ Populations of indicator species native to project sites remain at viable levels – no decline compared with baseline surveys (6 species specified). ➢ Populations of rare and endangered fauna and flora remain at current levels (5 species specified). ➢ Biological monitoring in 2006 indicates that the integrity of the project site remains secure with no significant change in habitat block size ➢ Biological assessment in year 3 shows no decline in number of species collected per unit of collection effort in 8 transect plots (baseline to be determined following biological assessment in yr. 1, and verified through field surveys) ➢ 20% increase in the area of natural regeneration of [endangered plant species specified] within the project area, compared with baseline level, based on annual ground surveys ➢ Habitat monitoring in yr. 5 indicates that there has been no reduction in the total area of primary forest from 1999 baseline (lowland forest; 119, 248 ha; mossy forest: 1,650 ha) ➢ Connectivity maintained between 2 largest primary forest block with no net reduction in biological corridor beyond yr. 1999 baseline (distance between blocks 18 kilometers; corridor area 15,700 ha) ➢ No decrease in canopy cover of secondary forest beyond yr 2002 baseline ➢ By Dec. 2004 the [ecosystem] will show: Equal to 1998 or increased natural vegetation cover or Equal to 1998 or increased species diversity	➢ At the end of the project the number and extent of human-caused fires (not part of a fire management plan) will be reduced by 50% compared to the average from 1995-1999 ➢ No illegal new settlement occurs within project site beyond 1998 baseline ➢ No illegal resource extraction occurs in the project site after June 2003 ➢ Illegal activities (grazing, hunting, settling, plant collecting, etc.) in protected areas will be reduced by 50% by year 4, compared with baseline levels. ➢ Annual (or periodic) assessment using "Threats Reduction Analysis" (TRA) shows positive trends throughout life of project	Note: Impact indicators at the Objective level should ideally cover impact on biodiversity (2nd column), and/or impact on threats (3rd column). Impact on responses is of limited value. However, the GEF has introduced some generalized indicators for obligatory use. These are: For SP1projects: ➢ Annual application of WB/WWF "tracking tool" shows increased scores throughout life of project For SP2 projects: ➢ Annual application of GEF "tracking tool" shows increased scores throughout life of project

Components of project strategy (Applies to the Outcomes level of the PPM)

1. Improved resource management outcomes

Project Outcome	Impact on Biodiversity	Impact on Pressures	Impact on Response Measures
Improvement of protected area management systems	Note: This column is largely empty because individual outcomes rarely have direct impacts on biodiversity	➢ Area of new encroachment within the protected area declines to zero by year 4 ➢ Incidence of fires (number) spreading into protected area from surrounding farmland in years 3-5 declines by 50%, compared with annual average from 5 previous years	➢ Legislative approval of PA status approved by yr. 2003 Q4 ➢ Full complement of PA staff recruited by 2003, Q4 ➢ PA boundaries fully delineated by 2004, Q4 ➢ Management plan produced by end of year 1 ➢ Endorsement of management zoning proposals by communities by end of year 2
Establishment of sustainable management systems		➢ Number of livestock grazing within the protected area boundary declines by 90% by the end of year 3, compared with average numbers recorded in two years before beginning of project.	➢ By the end of year 5, all local fishermen are observing no-take zones ➢ By the end of year 3, at least 70% of all farmers within the project site have voluntarily adopted stall feeding.
Establishment of community management		➢ Number of incidents reported per unit monitoring effort declines by 50% by year 4, compared with year of initial monitoring	➢ Community-based natural resource management program implemented in 50% of communities by 2004, Q4
Effective enforcement		➢ Number of incidents reported per unit patrolling effort declines by 50% by year 4, compared with year of initial patrolling	➢ Community forestry guards designated by 2003, Q3 ➢

2. Economic and financial outcomes

Project Outcome	Impact on Biodiversity	Impact on Pressures	Impact on Response Measures
Improved livelihoods	➢ No net decrease in forest cover of local farmers' land holdings in years 3 and 5, compared with baseline levels	➢ Number of livestock grazing within the protected area boundary declines by 90% by the end of year 3, compared with average numbers recorded in two years before beginning of project.	➢ Provisional harvest quotas for sustainable use of NTFP's established by 2004, Q1 ➢ Livelihoods of beneficiaries of project's small grants programme improved over 1999 baseline, as measured by income levels
Alternative livelihoods		➢ Annual monitoring of regeneration of [4 important NTFP species] shows an increase of at least 30% in years 4-6 compared with the average for years 1 and 2 ➢ Frequency of incidents of hunting for bushmeat in project area declines by 70% by year 4, compared with baseline levels.	➢ At least [number] of examples of sustainable traditional resource use practices revived by yr. 4.5 ➢ Alternative income generation plans for all affected [sub-districts] produced by end of year 1 ➢ Specific alternative income initiatives under implementation in all affected [sub-districts] by end of year 2 ➢ Quantifiable changes in livelihoods of local communities, reducing the frequency of environmentally damaging activities, by year 5
Sustainable financing and financial instruments			➢ 50% of additional staff salaries absorbed into [Ministry of Environment] budget by 2004 ➢ Endowment Fund is fully capitalized and is providing funds for biodiversity by year 6 ➢ Annual recurrent costs for management of [project area] do not require additional donor support from year 5 onwards ➢ Park budget benefiting from income flows through ecotourism by year 5
Engagement of private sector in conservation goals		➢ By the end of year 4, monitoring of dive sites shows no new anchor or trampling damage	➢ Number of privately owned reserves established under national regulations reaches 4 within project area by year 4. ➢ Funding of community patrolling by local hotels supports at least 10 rangers by end of year 3

3. Capacity Development outcomes

Project Outcome	Impact on Biodiversity	Impact on Pressures	Impact on Response Measures
Strengthen institutions		➢ At least 80% of incidents of illegal logging successfully prosecuted from year 4 onwards	➢ The number of land-use requests per year, approved after 1999 that are inconsistent with the Project's biodiversity criteria will decrease to zero in the final year of the Project ➢ [PA Agency] staff equipped and able to enforce corridor regulations from year 3 onwards
Mobilization of communities for enforcement, monitoring, etc.		➢ Number of incidents reported per unit monitoring effort declines by 50% by year 4, compared with year of initial monitoring	➢ By the end of year 4, at least 10 villages within project area either voluntarily establish community monitoring, following model of pilot villages, or approach project for assistance in establishing community monitoring
Training & interpretation		➢ Incidence of fires spreading into protected area from surrounding farms decreases by 90% by year 4 (compared with baseline level)	➢ During the nesting season, at least 80% of all farmers avoid grazing livestock in areas used for nesting
Policies, legislation for conservation and sustainable livelihoods		➢ Three proposed protected areas and three proposed extensions to existing protected areas remain free from mining and other activities inconsistent with EIAs	➢ Game Law amended by 2003
Mainstreaming protected area management, including zoning			➢ Endorsement of management zoning proposals by communities by end of year 2 ➢ Corridor boundaries physically demarcated by end of year 3 ➢ All stakeholders, including local communities have clear understanding by year 5 of roles and responsibilities in land management of corridors

4. Management of Information and Knowledge outcomes

Project Outcome	Impact on Biodiversity	Impact on Pressures	Impact on Response Measures
Environmental education and awareness building		➢ Support for commercial hunting among villagers within project site declines by at least 80%, based on targeted surveys conducted in year 1 and year 5	➢ Increased understanding and commitment of local authorities and communities to objectives of the Biosphere Reserve measured by tangible contributions (buildings, personnel, finances, administrative support) by year 3 ➢ Biodiversity conservation measures developed by the Project are included in the 2008 Central and local government's Four-year plans ➢ Awareness of park boundaries and regulations established in 100% of adult community members surveyed by year 5
Support for indigenous knowledge		➢ Incidents of grazing and fire in [specified areas where NTFP's are collected] decline to zero by year 4.	➢ Re-established traditional medicine clinics provide employment for at least 30 local farmers in sustainable harvesting (and processing) of NTFP's by end of year 4
Replication			➢ Management model extended to at least 1 other PA by 2004 ➢ The number of replicates within other national and regionally protected areas, of approaches demonstrated and lessons learned by the project ➢ Protected areas and buffer zone principles are applied to other protected areas and buffer zones in [target country], as indicated by reference to this Project

5. Scientific and Technical Outcomes

Project Outcome	Impact on Biodiversity	Impact on Pressures	Impact on Response Measures
Biological and socio-economic surveys			➢ Biological and socio-economic data for corridors input into existing [PA Agency] GIS unit by end of year 1 ➢ Most intensively utilized grazing lands identified by end of year 1 and ecological impacts of grazing documented
Ecological restoration, including species recovery plans		➢ Sales of endangered animals or animal parts in local markets declines by 90% in year 5 compared with year 1	➢ Basal area of woody species within [specified degraded areas] shows a 20% increase in survey conducted in year 5, compared with year 1 ➢ Number of juveniles recorded by camera trapping in year 5 shows a 30% increase (per unit trapping effort) compared with year 1.
Research in support of conservation		➢ Adoption of alternative grazing systems reduces the number of livestock grazing in natural forest within project site by 70% by end of year 4, compared with baseline levels.	➢ Viable IPM systems providing alternatives to chemical pesticides successfully tested in project area by end of year 4