TERMINAL EVALUATION REPORT OF GEF-GOI-UNDP PROJECT ENTITLED "MAINSTREAMING CONSERVATION AND SUSTAINABLE USE OF MEDICINAL PLANT DIVERSITY IN THREE INDIAN STATES".

Country: India

Region: South Asia

Project Size: Full-Sized

UNDP Project Number: 0042968

NEX: Ministry of Environment, Forest and Climate Change

GEF/Implementing Agency: UNDP

Project Duration: 7 years (2008 – 2015)

Evaluation time frame: after 87 months

Evaluation Report Date: November 30, 2015

Report prepared by:

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Prof. A. K. Bhatnagar

Dr. T. S. Nayar

DATE: December 09, 2015

TERMINAL EVALUATION EXPERT GROUP

1.	Arunachal Pradesh	
i.	Dr. A. K. Sharma	
	Head	0100-
	Non Wood Forest Product	1101 moz
	Forest Research Institute	Anno
	P.O. New Forest- Dehradun (India)	
	Telephone : +91 135 275 6847	
	Email: <u>sharmaak@icfre.org</u>	
п.	Dr. Jitendra Kumar	
	DIFECTOR ICAR Directorate of Modicinal & Aromatic Diants Descared	
	Reviewi 297.210 Apand District Culorat	- No-
	Duridvi - 507 510, Andriu District, Gujarat Telephone : ± 012602271602	Jitem
	$F_{2V} + 01 2602 271 601$	
	Email: director dmapr@icar gov in	
iii.	Dr. T. S. Navar	
	Themath, KP V/339 (1), Putichy Road, Kudappanakkunnu,	
	Thiruvananthapuram – 695 043, Kerala.	11,110
	Tel: +91 741 273 2658	- + 12/V)
	Mobile: +91 94 46 46 46 58	
	Email: <u>tsnayar@gmail.com</u>	
2.	Chhattisgarh	
iv.	Prof. A. K. Bhatnagar	
	JA/4B, Ashok Vihar Phase I	
	Delhi – 110052	
	Telephone : +91 11 2/43 1016	
	Mobile: +91 98 10 37 68 85	
2		
) .	Dr G S Pawat	
۷.	Scientist G & Dean	
	Wildlife Institute of India	1
	Post Box # 18, Chandrabani	France
	Dehadun 248 001.Uttarakhand	- Ali
	Telephone : +91 135 2640 304	
	Mobile: +91 96 90 25 38 14	
	Email: <u>rawatg@wii.gov.in</u>	
vi.	Dr. S. K. Srivastava	
	Scientist E & Scientist-in-Charge	C UND CUL
	Botanical Survey of India, Northern Regional Centre	Sh No
	192, Kaulagarh Road, P.O. – KDMIPE	
	Dehradun – 248 195 Uttarakhand	
	1 elephone: +91 0135 2/5 54/8, 2/5 3433	
	FdX: +91 UI35 Z/5 /951 F Mail : heine2001@rediffmail.com	
	E-Mail: DSINCZUU1@realmmail.com	

CONTENTS

ACR	ONYMS	VII
АСК	NOWLEDGEMENT	IX
EXE	CUTIVE SUMMARY	X
Brief	description of project	x
Evalu	uation rating table	x
Sumi	mary of conclusions, recommendations and lessons	XIII
	Actions to follow up or reinforce initial benefits from the project	xiii
	Proposals for future directions underlining main objectives	xiv

CHAPTER - 1.	INTRODUCTION

1.1. Purpose of the evaluation	1
1.2. Key issues addressed	2
1.3. Scope and methodology	2
1.4. Structure of the evaluation report	4

2.1. Project start and its duration	5
2.2. Problems that the project seeks to address	5
2.3. Immediate and development objectives of the project	7
2.4. Adjustments to project design	7
2.4.1. Project outputs	7
2.4.2. Log-frame	8
2.5. Main stakeholders	9

2.6. Expected results and baseline indicators	
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CHAPTER - 3.	FINDINGS	22
3.1. Project desi	ign / formulation	22
3.1.1. Mai	nagement arrangements	22
3.1.2. Ana	alysis of logical/results framework including assumptions a	and risks23
3.1.3. Les	sons from other relevant projects	23
3.1.4. Rep	plication approach	23
3.2. Project imp	lementation	24
3.2.1. Ada	aptive management	24
3.2.2. Par	tnership arrangements	26
3.2.3. Fee	edback from M&E activities for adaptive management	27
3.2.4. Moi	nitoring and evaluation	28
3.2.5. Pro	ject finances	30
3.3. Execution a	nd implementation	35
3.4. Project resu	ılts	40
3.4.1. Atta	ainment of outcomes/ achievement of project objective	40
3.4.2. Sus	stainability	71
3.4.3. Rel	evance	72
3.4.4. Effe	ectiveness	73
3.4.5. Effi	ciency	74

4.1. Design

4.2. Implementation	75
4.3. Monitoring and evaluation	75
4.4. Actions to follow up or reinforce initial benefits from the project	75
4.5. Proposals for future directions underlining main objectives	76
4.6.Best and worst practices in addressing issues relating to relevance performance a success	nd 77
4.6.1. Best practices	77
4.6.2. Worst practices	77

ANNEXES	I
ANNEX – I: Com	position and Terms of Reference of Terminal Evaluation Expert Group.II
Annex – II: Ince	otion reportv
Key issues	s that will be addressedv
Scope & M	1ethodologyvi
Provisiona	l Evaluation Mission vii
Annex – III: Eval	uation mission reportsIX
Report of	TEEG on their visit to Arunachal Pradesh (18-22 June 2015) ix
Report of	TEEG on their visit to Chhattisgarh (21-23 July 2015) xii
Report of	TEEG on their visit to Uttarakhand (18-23 June 2015)xvi
ANNEX – IV: Code	e of Conduct Agreement FormsxIX
ANNEX – V: Refer	encesxxv

ACRONYMS

CBD	Convention on Biological Diversity
CCF	Country Cooperation Framework
DANIDA	Danish International Development Agency
DFO	Divisional Forest Officer
DST	Department of Science and Technology
FGB	Forest Gene Bank
FRLHT	Foundation for the Revitalisation of Local Health Traditions
GoI	Government of India
GSMP	Globally Significant Medicinal Plants
ICFRE	Indian Council of Forestry Research and Education
IDRC	International Development Research Centre
ISG	Implementation Steering Group
JFM	Joint Forest Management
JFMC	Joint Forest Management Committees
LMG	Local Management Group
MAP	Medicinal and Aromatic Plants
MoAYUSH	Ministry of Ayurveda, Yoga, Unani, Siddha and Homeopathy
MoEFCC	Ministry of Environment, Forest and Climate Change
MoF	Ministry of Finance
MoHFW	Ministry of Health & Family Welfare
MoRD	Ministry of Rural Development
MPCDA	Medicinal Plants Conservation & Development Area
NBSAP	National Biodiversity Strategy and Action Plan
NGO	Non-governmental organization

- NMPB National Medicinal Plants Board
- NPD National Project Director
- NPSC National Project Steering Committee
- PISG Project Implementation Steering Group
- PMU Project Management Unit
- PRI Panchayati Raj Institution
- RCU Regional Coordination Unit
- SFD State Forest Department
- SMPB State Medicinal Plant Board
- STA Senior Technical Advisor
- TAG Technical Advisory Group
- TOR Terms of Reference
- UNDP United Nations Development Programme
- VFC Village Forest Committee

ACKNOWLEDGEMENT

The evaluation team would like to thank MoEFCC, UNDP-India, project staff and many national and state level stakeholders for the efficient and professional organizational support they provided during this evaluation. Their impressive efforts reflect the skilled approach adopted towards the overall project implementation. Hopefully, this evaluation will give a fair assessment of the project's achievements and all parties will accept the candid observations with the same collegial spirit with which these are presented.

EXECUTIVE SUMMARY

BRIEF DESCRIPTION OF PROJECT

The project document states:

"India's medicinal plant resources have great national and global significance. India has some 8,000 medicinal plant species out of a world total of 40-50,000 and is the world's second largest producer of medicinal plants and herbal medicines. However, its medicinal plant resources, including globally significant diversity, are increasingly threatened by overexploitation to meet commercial demand. Over 95% of medicinal plants used by the herbal industry are harvested from the wild, primarily from India's forests, which are mostly owned and managed by the Government. Despite this, wild harvesting is still largely uncontrolled and unmonitored. The objective of this project is to achieve the long-term conservation and sustainable use of India's medicinal plant diversity, particularly of its globally significant species, by mainstreaming these objectives into forest management policy and practice at the national, state and local levels in three Indian states: Arunachal Pradesh in North-East India, Chhattisgarh in Central India and Uttarakhand in North-west India, which provide a broad range of ecological conditions, and hence medicinal plant diversity as well a range of institutional arrangements relating to forest management."

Rating Project Performance				
Criteria	Ratings	Comments		
Monitoring and Evaluation: Highly Satisfactory (HS), Satisfactory (S) Moderately Satisfactory (MS), Moderately Unsatisfactory (MU), Unsatisfactory (U), Highly Unsatisfactory (HU)				
Overall quality of M&E	HS	The log frame of the project tracks and measures both impact and progress at the Output level. However, most of the indicators and corresponding targets are repeated at Objective, Outcome and Output levels. The project managed to achieve most of the indicators and targets due to constant monitoring by NPSC,SPSC, MoEFCC, UNDP and three project SMPBs.		
M&E design at project start up	MU	Most of the indicators and corresponding targets are repeated at Objective, Outcome and Output levels.		
M&E Plan Implementation	HS	The key M&E activities were carried out by the responsible parties as per the time-frame given in the project document		

IA & EA Execution: Highly Satisfactory (HS), Satisfactory (S) Moderately Satisfactory (MS), Moderately Unsatisfactory (MU), Unsatisfactory (U), Highly Unsatisfactory (HU)				
Overall Quality of Project Implementation/ Execution	HS	The project managed to achieve most of its targets in highly effective manner. The coordination and timing in getting co-finance to the project by MoEFCC, PMU, FRLHT and three project states are commendable and highly efficient. The outcomes of the project are sustainable in the short, medium and long term.		
Implementing Agency Execution	HS	The project managed to achieve most of its targets in highly effective manner. The coordination and timing in getting co-finance to the project by MoEFCC, PMU, FRLHT and three project states are commendable and highly efficient. The outcomes of the project are sustainable in the short, medium and long term.		
Executing Agency Execution	HS (Quality Assurance)	The project managed to achieve most of the indicators and targets. The outcomes of the project are also sustainable.		
	MS (Financial Management)	Financial management by UNDP could have been more prudent.		
Overall Quality of Project Outcomes	HS	The project managed to achieve most of the indicators and targets. The outcomes of the project are also sustainable.		
Relevance: Relevant (R) or Not Relevant (NR)	R	The project's implementation approach and outcomes were well reasoned to address challenges at national and state levels by developing strategies, revising policies and regulation so as to identify the conservation issues and align institutional responses. Any lacunae in design or changes in national/state circumstances were aptly addressed by project management through adaptive management practices.		
Effectiveness (Effective or Not Effective)	E	The studies initiated under the project stand thoroughly reviewed and recommendations are being taken to a logical, fruitful end. Due to many achievements of the project, especially at the policy level, the Effectiveness of the project is rated as highly effective.		
Efficiency (Efficient or Not Efficient)	NE (GEF funds)	There was a huge difference between the actual expenditure incurred and budgeted		

		amount under every Outcome indicating that
		the project finances were not handled
		efficiently. Financial management by UNDP
		could have been more prudent.
	E (co-finance)	The project leveraged co-finance between
		US\$9million to 12 million. The coordination
		and timing in getting co-finance to the project
		by MoEFCC, PMU, FRLHT and three project
		states are commendable and highly efficient.
Sustainability: Like	ely (L); Moderate	ely Likely (ML); Moderately Unlikely (MU);
Unlikely (U).		
Overall likelihood of	L	The Government of India has sufficient
risks to		budget for the Medicinal Plants sector. The
Sustainability:		project activities can be replicated and
,		sustained with Government funding.
Financial resources	L	Two of the four project Outcomes were aimed
		at revising policies at the national and state
		levels and mainstreaming conservation and
		sustainable use of medicinal plants in the
		forestry sector. The studies and works
		initiated under these outcomes, when
		implemented in letter and spirit, are likely to
		result in achieving the project objectives.
Institutional	L	The project aims towards gap analysis,
framework and		revision of legal frameworks, policies, and
governance		governance structures and processes for
_		conservation and sustainable use of medicinal
		plants. When the recommendations of all
		studies are implemented, the project would be
		successful in ensuring the sustainability of the
		medicinal plant resources in the wild.
		Strengthened capacity of NMPB, SMPBS, State
		Forest Departments and local communities
		through capacity building under the project
		provides the required platform for
		implementation of the necessary policies.
Environmental	L	There may be risks stemming from habitat
		fragmentation, loss of pollinators and seed
		dispersers, pollution and climate change
		affecting medicinal plant species. But these
		are beyond the scope of this project.
Impact: Significar	nt (S), Minimal ((M), Negligible (N)
Environmental	S	A total of 24047 hectares are protected
Status/		through 20 Medicinal Plant Conservation and
Improvement		Development Areas (MPCDAs). The project

		contributed significantly to the revision of the National Forest Working Plan Code (NFWPC) which has been notified recently and made applicable from 1 April, 2014. Various provisions related to resource inventory and participative and sustainable management of the MAP resources would help to mainstream the concerns of MAPs in the forestry sector in most of India's 77 million hectare forest area managed by the Forest Departments. These should lead to the improvement of the status of medicinal plants in the three project states and other states of India.
Environmental Stress Reduction	S	Besides getting medicinal plants included in the NFWPC, the project has paved the way for capacity building of senior, mid and frontline staff of the Forest Departments by getting medicinal plants included in their training course curriculum. The project has also developed sustainable collection protocols for 10 medicinal plant species which are being practised by communities. These and other related activities should lead to reduction in stress on medicinal plants.
Progress towards stress/ status change	S	As highlighted earlier, the project has made significant progress towards the change in stress/status of medicinal plants in the wild.
Overall Project results	HS	Taking all relevant factors in to consideration, the overall project results are highly satisfactory.

SUMMARY OF CONCLUSIONS, RECOMMENDATIONS AND LESSONS

ACTIONS TO FOLLOW UP OR REINFORCE INITIAL BENEFITS FROM THE PROJECT

- a) The inter-sectoral strategies for conservation and sustainable use of medicinal plants formulated at both national and state level must be implemented in right spirit and earnest.
- b) The national and state level policies on forests and traditional knowledge must be revised as deemed appropriate so as to address the concerns of conservation and sustainable use of medicinal plants.

- c) The course modules developed for IFS and frontline staff of the Forest Department must continue to be part of their training course curriculum.
- d) The chapter on NTFPs including medicinal plants given in the National Forest Working Plan Codes must be referred to and implemented while revising Forest Divisional Working Plans.

PROPOSALS FOR FUTURE DIRECTIONS UNDERLINING MAIN OBJECTIVES

- a) Bring the medicinal plants in high volume trade into the fold of cultivation and ensure processing and market linkages in a cluster approach near the cultivation sites.
- b) Undertake threat assessment of medicinal plants of conservation concern, especially the endemic ones, using IUCN Red List categories and criteria. The Red Listed medicinal plants to be brought under conservation action.
- c) Discovery of new medicinal plant species.
- d) Bio-prospecting and drug development based on ethnobotanical knowledge.
- e) GI and patents on processes and products derived from medicinal and aromatic plants.
- f) Harmonized System (HS) codes for medicinal and aromatic plants.
- g) Overcoming cultivation, marketing, trade and buy-back barriers.
- h) Implementation of strategies developed under the present project.
- i) Organisation of outreach programmes at national and global levels for popularising the codified and non-codified systems of Indian medicine.

CHAPTER - 1.INTRODUCTION

1.1. PURPOSE OF THE EVALUATION

Evaluation is an integral part of the UNDP-GEF project cycle management. The GEF-GoI-UNDP project entitled 'Mainstreaming Conservation and Sustainable Use of Medicinal Plants Diversity in Three Indian States' has been operational since 2008 in the States of Arunachal Pradesh, Chhattisgarh and Uttarakhand. The project was operationally closed on June 30, 2015 and, as per the norms of UNDP-supported and GEF financed projects, there is a need to conduct a Terminal Evaluation of the project.

The project was aimed at mainstreaming the long-term conservation, sustainable and equitable use of India's medicinal plant diversity into forest management policy and practice at the national, state and local levels. The project has 4 Outcomes, 25 Outputs and numerous activities that aimed to achieve the aforesaid objectives. Ministry of Environment, Forest and Climate Change (MoEFCC) and UNDP felt that Terminal Evaluation by one or two international experts might not do justice as the project was quite complex and multi-sectoral. Therefore, it was decided to conduct the terminal evaluation of this project through a group of Indian experts who have adequate experience in different sectors related to medicinal plants. Accordingly, a Terminal Evaluation Expert Group (TEEG) was constituted on May 07, 2015. The composition and terms of reference of TEEG are at **Annex - I**.

The Terminal Evaluation (TE) would provide an objective assessment of project implementation and impact, including achievement of global environmental benefits and lessons learned to guide future efforts. The TE assessed the extent to which the planned project outcomes and outputs were achieved, as well as the relevance, effectiveness and efficiency of the project as defined in the Guidelines for Terminal Evaluation (United Nations Development Programme Evaluation Office [UNDP], 2012). The evaluation also measured the strengths and weaknesses of project design, implementation, monitoring and adaptive management and sustainability of project outcomes, including the project exit strategy. The evaluation covered the entire project, including non-GEF financed components. In addition, the terminal evaluation also assessed the key financial aspects of the project, including the extent of co-financing planned and realized under the project. The Terminal Evaluation Report highlights the key contributions of the project. It also mentions appropriate approaches, practices and activities that need mainstreaming into the working of government agencies involved in the sector. Lastly, based on the key learning, the expert group recommended appropriate thematic areas which could aid in preparation of another full scale GEF project in GEF-6 cycle.

1.2. KEY ISSUES ADDRESSED

The concept contained in the key issues addressed below is as per the Global Environment Facility Evaluation Office [GEF], 2008.

Relevance. Were the project's outcomes consistent with the focal areas/operational programme strategies and country priorities?

Effectiveness. Were the actual project outcomes commensurate with the original or modified project objectives? If the original or modified expected results are merely outputs/inputs, the evaluators should assess if there were any real outcomes of the project and, if there were, determine whether these were commensurate with realistic expectations from such projects.

Efficiency. Was the project cost-effective? Was the project the least cost option? Was project implementation delayed, and, if it was, did that affect cost-effectiveness? Wherever possible, the evaluator should also compare the costs incurred and the time taken to achieve the outcomes with that for similar projects.

Sustainability: GEF, 2011 specifies that a terminal evaluation will assess, at minimum, the "likelihood of sustainability of outcomes at project termination, and provide a rating for this". Sustainability is understood as the likelihood of continued benefits after the GEF project ends. Given the uncertainties involved, it may be difficult to have a realistic a priori assessment of sustainability of outcomes. Therefore, assessment of sustainability of outcomes will give special attention to analysis of the risks that are likely to affect the persistence of project outcomes.

Project performance was measured based on the quantitative and qualitative indicators. The evaluation considered issues related to management and substantive/technical implementation, including project delivery, implementation and finances. Particular attention was given to the strategic approaches taken relevant to the achievement of project objectives.

1.3. SCOPE & METHODOLOGY

Standard guidelines for conducting terminal evaluations of UNDP-supported, GEF financed projects and GEF guidelines were used (UNDP, 2012). The Group split into three teams, one for each State: Dr. A. K. Sharma, Dr. Jitendra Kumar and Dr. T. S. Nayar for Arunachal Pradesh, Prof. A. K. Bhatnagar for Chhattisgarh and Dr. G. S. Rawat and Dr. S. K. Srivastava for Uttarakhand. Dr. T. S. Nayar and Dr. A. K. Bhatnagar were assigned the task of writing the final Terminal Evaluation Report based on inputs from all members of the group. Accordingly, Dr. Nayar and Dr. Bhatnagar were also to liaise, coordinate,

collate reports and present the findings of the TE, as and when required. The evaluation inception report is at **Annex – II**. The evaluation was carried out in the three states through evaluation mission, review of documents and stakeholder consultations.

The evaluation commenced with a comprehensive desk review of all pertinent project documents. This included identification of preliminary focus topics/priorities and finalising the mission itinerary in consultation with UNDP-India, MoEFCC and the three project States. The documents reviewed were:

- i. GEF Evaluation Document No. 3 (2008), Guidelines for GEF Agencies in Conducting Terminal Evaluations.
- ii. Document entitled 'Guidance for Conducting Terminal Evaluation of UNDPsupported, GEF-financed Projects'.
- iii. Project Document.
- iv. Project Implementation Review (2008 2014) submitted to GEF.
- v. Report of Midterm Evaluation and Management response to the same.
- vi. Minutes of National Project Steering Committee Meetings (1 8).
- vii. Annual Work Plans (2008 2015).
- viii. Quarterly Progress Reports (QPRs)
- ix. GEF Tracking Tools for Strategic Objective 1 and Strategic Objective 2
- x. Financial Statements (Combined Delivery Reports) of the Project (2008 till date).
- xi. Annual financial audit reports
- xii. Final Technical Reports of Arunachal Pradesh, Chhattisgarh and Uttarakhand.
- xiii. Internal file notes, files and office orders of MoEFCC and three project States.
- xiv. Final Technical Reports of studies commissioned under the project.
- xv. Final Technical Report at national and state levels.

A briefing meeting was held on June 17, 2015 at UNDP office in New Delhi where Dr. J.R. Bhatt, Scientist-G, MoEFCC gave detailed background and objectives of the project. Mr. Doley Tshering, Regional Technical Advisor, Environment & Sustainable Development Group, UNDP Asia Pacific Regional Centre spoke on the procedures and guidelines for evaluation via skype. He stressed on the need for setting the criteria of evaluation based

on relevance, effectiveness, efficiency, sustainability and impacts of the project. Dr. Ruchi Pant, Programme Analyst, UNDP and Mr. Shantanu Goel, Project Monitoring Officer, Project Management Unit (PMU) provided additional documents and details of implementation mechanism. They also helped finalise the 'evaluation mission' in terms of schedule of field visits and meetings with the stakeholders.

From June 18 to July 24, 2015, TEEG members in three teams visited the States of Arunachal Pradesh, Chhattisgarh and Uttarakhand. The purpose of the evaluation mission was to ascertain project accomplishments, visiting demonstration sites and conducting semi-structured interviews with primary stakeholders by way of simple set of questions. This included informal meetings with State Project Steering Committee (SPSC) members, community members, CSOs and representatives of key agencies (e.g. MoEFCC, FRLHT, NMPB, State Forest Department, State Biodiversity Board, DFOs, SMPB, ecologists and botanists engaged in the project). Evaluation mission was conducted for both GEF financed and Government co-financed areas. At least one MPCDA, sustainable harvest site, plantation/nursery and herbal garden was visited by TEEG members in each state. Evaluation mission reports are at **Annex - III**.

The field visit culminated with a formal presentation and discussion of preliminary findings/recommendations with the project implementation partners.

1.4. STRUCTURE OF THE EVALUATION REPORT

The evaluation structure follows the UNDP, 2012 document. The evaluation was guided by comprehensive Terms of Reference (ToRs) developed by the MoEFCC in consultation with UNDP-India (**Annex – I**). These ToRs defined the scope and framework for the final report.

The evaluation process is independent of UNDP, MoEFCC and other responsible partners. The duly filled 'Code of Conduct Agreement Forms' are at **Annex - IV**.

CHAPTER - 2.PROJECT BACKGROUND

2.1. PROJECT START AND ITS DURATION

The project received CEO endorsement in January 2008. Important project timelines, project finances and year-wise project expenditure are given below:

Project Start	Ν
Project Inception Workshop at National Level	S
Mid-Term Review	Ν
Terminal Evaluation Commencement	Ν
Project Operational Close	J
Terminal Evaluation Close	Ν

March 2008 September 2008 November 2011 May 2015 June 2015 November 30, 2015

PROJECT BUDGET	As per prodoc	Actual disbursed
GEF Funding	US\$ 4,935,000	US\$ 4,935,000
Co-financing	US\$ 6,479,121	US\$ 9,116,000
Total Project Budget	US\$ 11,414,121	US\$ 14,051,000

GEF FUNDS			
GEF disbursed 2008	US\$ 14,157		
GEF disbursed 2009	US\$ 570,288		
GEF disbursed 2010	US\$ 313,972		
GEF disbursed 2011	US\$ 652,314		
GEF disbursed 2012	US\$ 1,343,714		
GEF disbursed 2013	US\$ 990,375		
GEF disbursed 2014	US\$ 867,680		
GEF disbursed 2015	US\$ 186,864		
Remaining GEF Funds: NIL			

2.2. PROBLEMS THAT THE PROJECT SEEKS TO ADDRESS

India is one of the mega-diversity countries in the world. The country harbours 10.5% of plant species of the world, though it occupies only 2.4% of the global land area. It is estimated that there are about 4,00,000 practitioners of Ayurveda, Siddha, Unani and Homeopathy systems, besides the folk, and about 7,000 pharmacies are operational in India. About 80% of the raw drugs used in these systems and 20% of the drugs used

in modern medicine are plant based. A major portion of the plant resources come from the wild. Experts are of the opinion that about 250 species of Medicinal and Aromatic Plant species (MAPs) are endangered or threatened mainly due to over-collection and habitat loss. Major stakeholders including experts in this area do agree that the current pattern of MAP harvesting and trade are not sustainable. Despite the condition being thus, the country lacks an adequate policy frame work for developing and implementing a comprehensive action plan for conservation and sustainable use of MAPs, though a few actors, in their own way, have been engaged in different aspects of conservation and sustainable use of MAPs in small scales.

Long term sustainability of MAPs is a multifaceted issue when viewed in the light of the complex nature of threats that operate in different ecosystems. Hence, it would not be possible for a single project to address the gravity of multiple issues involved in the process of long term sustainability of MAPs in a cost effective manner. It is in this context, the project made fruitful attempts to mainstream the sustainable use and in situ conservation of MAPs into the productive forest sector in the states of Arunachal Pradesh, Chhattisgarh and Uttarakhand with special emphasis on Globally Significant Medicinal Plants (GSMPs).

In situ conservation and sustainable harvesting are the viable options for the long term sustainability of MAPs. Cultivation of MAPs is a good option but it involves many barriers, especially the technical and market barriers. The question of whether the cultivated species are as good as their wild counterparts in their secondary metabolites, which are mainly the reasons of efficacy in treatment, has always been an issue and addressing of it is itself a great task.

Of the estimated 750 species in commercial trade, about 300 are in cultivation, but of these, only about 100 are cultivated on a moderate scale. Others are mainly harvested from the wild. Highly traded and threatened species, estimated to be about 30, pose great challenge for their continued survival in the wild. Consumers who have access to wild species at comparatively low cost may not prefer to go for more costly cultivated stocks of raw materials. So, there could be no second opinion about the fact that the attempt should be to ensure the continued existence of natural population of medicinal plants by way of in situ conservation with an emphasis that harvesting MAPs are sustainable and not destructive, especially GSMPs. The present project dealt with these issues and focused on natural forest areas in the three states which harbored well over 400 species of medicinal plants with some 32 GSMPs, involving many critically endangered species. The important aspect was, as envisaged, to fix priority action plan on in situ conservation and sustainable harvesting in the wild and to execute it over the issues involved in the process of commercial trade of medicinal plants.

The project was built on the earlier work carried out by FRLHT but its objectives were to go beyond that and hence, the project was designed after a thorough analysis of 'gaps' that existed in the MAP sector in the country. Moreover, the project's operation was confined, to assume better focus, to community owned and/or managed forests in the above three states where little or a very little work was carried out related to conservation and sustainable use of MAPs. FRLHT, a leading centre in this field, extended technical support to the project.

2.3. IMMEDIATE AND DEVELOPMENT OBJECTIVES OF THE PROJECT

Overall Goal: Conserve India's medicinal plant diversity

Project Objective: Mainstream the conservation and sustainable use of medicinal plants into the productive forest sector of the three Indian states, with particular reference to Globally Significant Medicinal Plants (GSMPs).

2.4. ADJUSTMENTS TO PROJECT DESIGN

The project preparation started towards the end of 2002 with Conservation Assessment and Management Prioritization (CAMP) workshops held in the three States. The project received GEF CEO approval in 2008, and implementation finally began in 2010. During the period from 2002 to 2008, the medicinal plants sector in India witnessed significant development. NMPB was strengthened in terms of human, financial and infrastructural resources, which led to many components of the project being co-financed by NMPB. Another important factor was implementation of the Biological Diversity Act, 2002. Accordingly, adjustments were also made to the project design. These are as follows:

2.4.1. Project Outputs

The Mid-Term Reviewers suggested reorienting Outcome 4 to focus upon the effective capture and communication of results, lessons and successes. Accordingly, with the approval of National Project Steering Committee, the following changes were made to the outputs under Outcomes 4 and 5:

Outcome 4: Materials and methods developed for replicating the successful models of conservation and sustainable use of medicinal plants across other sites in the three states, and more broadly.

All the outputs were changed to:

Output 4.1: Communication strategy and tools developed to support SMPBs in ensuring participation of local communities and also aid in replication, both within the states and across other states.

Output 4.2: Experience and best practices shared at national and international levels through south-south co-operation.

Output 4.3: A proposal for the conservation, cultivation and sustainable use of Medicinal and Aromatic Plants (MAPs) for the five replication States developed.

Output 4.4: Exit strategy formulated and operationalised.

Outcome 5: Effective project monitoring and evaluation, lessons learning and adaptive management

The Mid-Term Evaluators had recommended that the project hire full-time technical staff to augment the National Project Management Unit with skill sets necessary for efficient outcome achievement. Accordingly, all the outputs were changed to:

Output 5.1: Monitoring and evaluation.

Output 5.2: Technical Support Group (TSG) at FRLHT will guide the states on various activities.

2.4.2. Log Frame

The following changes were made to the indicators of the project:

Objective level

Indicator: Natural canopy cover as a measure of the overall ecological status of forests under active management for maintenance of MAP diversity.

The indicator was dropped because it was felt that it was not feasible to assess the improvement in the canopy cover under the MPCDA sites. The Forest Survey of India typically reports State and District-wise data, but does not cover smaller areas captured under MPCDAs due limitation of resolution. This indicator also does not adequately capture the interventions of the project as most of the targeted MAPs are herbs and shrubs. Canopy cover actually blocks out the information from ground.

Outcome 3 and specifically Output 3.4

Target: Ten community knowledge registers should be produced every year in the villages near FGBs (i.e. 1 per village) from year 2 onwards, with a total of 70 community registers/state produced by end of project'

It is not possible to achieve the target because the total number of villages around the MPCDA is less than five in each case. The NPSC and project partners decided to get legal

recognition for the registers. Accordingly, Traditional Knowledge was documented in Peoples' Biodiversity Register (PBRs) under the Biological Diversity Act, 2002.

Indicators and Targets under Outputs 4.1 to 4.5 also had to be modified to bring them in-line with the changes in the Outputs. The new indicators and targets are given under section 2.6 'Expected Results and Baseline Indicators'.

2.5. MAIN STAKEHOLDERS

Specific stakeholders identified during project design are:

National	
MoEFCC	 Take leadership in operational implementation of the project. Provide overall administrative support to the project and ensure regular monitoring and evaluation of project implementation.
	• Steer and facilitate required changes in policy directives for encouraging MAP conservation and sustainable utilisation.
	• Facilitate changes in JFM resolutions and guidelines to incorporate MAP conservation and sustainable utilisation concerns.
	• Issue guidelines to the project states and other states to adopt and assimilate the experiences of project implementation in their forest management.
	• Provide the required co-financing and also coordinate with other ministries and departments at central and state government levels to ensure that the committed co-finance is made available in a timely fashion.
NMPB and MoAYUSH	• Participate actively in capacity development initiatives to develop their own and SMPBs capacities to fulfil their broader mandate.
	• Take leadership in the development of a National Strategy for the MAP sector.
	• Include the MAP species identified for cultivation in their programmes (especially GSMPs) and allocate the required funds for this purpose.
MoRD	• Adopt and assimilate the best practices resulting from the implementation of the project into livelihood related programmes of MoRD and to promote cultivation and sustainable harvest of MAPs more widely.
FRLHT	• Lead technical agency guiding the implementation of the project

	and capacity building at all levels. Closely involved with field research and monitoring activities.
State	
State Governments & State Forest Departments including: Principal Secretaries of State Government Principal Chief Conservators of Forest, District Forest Officers, SMPBs	 Provide the required leadership in the respective states to enable the efficient implementation of the project and ensure the development of state-specific strategies for the MAP sector. Establish and manage the MPCDAs; develop norms for managing forests in wider areas around MPCDA complexes to promote maintenance of MAP diversity; mainstream MAP conservation and sustainable use objectives into forest policy and practices. Contribute the committed co-finance to the project. Evolve and adopt a participatory mechanism for project implementation. Incorporate the policy changes and the guidelines in the state level policy and action as well as different processes of forest management. Incorporate training for MAP conservation management within broader forest management in the training modules of relevant state agencies. Participate in the capacity building initiatives of the project.
CSOs	• Participate in implementation of various components of the project based on their respective areas of competence and expertise.
Community- based Organisations , representativ es of different community- based institutions, including JFM Committees, Gram Sabhas and other Panchayati	 Participate in Biodiversity Management Committees. Participate in the capacity development initiatives of the project. Take leadership in the management of the project at the demonstration sites. Partner with SFDs in implementing the conservation, sustainable harvest and adaptive management of MAPs. Participate in dissemination of lessons learnt and replication of successful models to other forest areas. Identify local-level 'project champions' and constitute task teams for specific project activities.

2.6. EXPECTED RESULTS AND BASELINE INDICATORS

The project is organized around four (4) outcomes and twenty-five (25) outputs. Outcomes 1 and 2 aim at strengthening the policies at national and state levels for MAP conservation on forest-lands. Strategies for MAP conservation and sustainable use at national and project state levels were also envisioned.

Outcome 3 aims to demonstrate in-situ and ex-situ conservation and sustainable use models and build capacities for protection of traditional knowledge related to medicinal plants.

Outcome 4 aims to develop methods and materials to support replication within the project states, national and international levels.

Indicator	Baseline	Target	Adjustments
Objective: To mai	nstream conservation a	nd sustainable use of medicina	al plants including
GSMP into the pr	oductive forest sector	of three Indian states: Ar	unachal Pradesh,
Chhattisgarh and L	Ittaranchal		
Forest area	0 ha. Criteria for	c. 32,000 ha of forest in 21	No Change
actively managed	what constitutes	MPCA/FGB complexes	
for sustainable	'active management	primarily managed for	
use of MAPs and	to favor sustainable	sustainable use &	
maintenance of	use & maintenance	conservation of MAPs.	
MAP diversity	of MAP diversity to	A further 6,000,000 ha	No Change
	be determined and	under management that	
	agreed with key	favours maintenance of	
	stakeholders such as	MAP diversity, including	
	State Forest	GSMPs.	
	Departments in Yr 1.		
Natural canopy	Bi-annual district	Canopy cover maintained	The indicator
cover as a	wise data on canopy	or increased as appropriate	was dropped.
measure of the	cover status is	in each project site. Exact	
overall ecological	available from Forest	target will be set after	
status of forests	Survey of India.	baselines are updated for	
under active		the forests in which the 21	
management for		FGBs/MPCAs are situated.	

The indicators, baselines and targets along with adjustments, if any, are given below:

Indicator	Baseline	Target	Adjustments
maintenance of			
MAP diversity			
Population status	Qualitative	Species specific plots	No Change
of selected MAP	population status	including appropriate types	
GSMP within	species known For	be established in Yr 1	
FGB/MPCA	trees and shrubs	Population stability of	No Change
complexes.	density per unit area,	selected species	
	data are not	maintained or improved	
	available, and will be	over the years.	
	monitored. Similarly,		
	for herbs, areas of		
	occurrence and		
	qualitative		
	nonulation status		
	also will be		
	monitored.		
Population status	Baseline as above	Available generic protocols	No Change
of selected MAP		will be adapted to develop	
including GSMP		species specific protocols	
species in wider		with appropriate types of	
exploited forests		ecological indicators for	
Surrounding		specific species established	
complexes		of selected species	
complexes		maintained or improved as	
		measured against baseline.	

Indicator	Baseline	Target	Adjustments
Number of MAP	Sites where	Sustainable harvesting of 5	No Change
species including	harvesting of GSMP	heavily exploited GSMPs in	
GSMP being	populations takes	place by end of project.	
harvested	place are known.	Monitoring protocols	
sustainably in	Harvesting practices	developed for monitoring	
demonstration	for some of the	harvesting and being used	
sites.	highly traded plants	annually.	
	along with general		
	impacts are broadly		
	known, but		
	comprehensive		
	assessments are not		
	available.		
	Identification and		
	definition of		
	indicators of		
	`sustainable		
	harvesting' &		
	monitoring protocols		
	to be defined in year		
	1.		
Increase in area	Isolated examples of	At least 5000 ha of	No Change
under different	cultivation over	cultivation under different	
MAP species	limited area.	MAP species under private,	
cultivated by		common and marginal or	
government		degraded lands owned by	
programmes.		various Govt Depts such as	
		Forests, and private	
		owners.	
Increase in	10% of species are	Based on the life history	No Change
number of MAP	known to be	strategies of each species	
species used in	cultivated	and habit, an additional 5 –	
afforestation /	sporadically in the	7 highly marketed species	
cultivation	state.	will be brought under	
programmes.		cultivation. These may	
		include herbaceous	
		rhizomatous species and	
		species amenable for	
		asexual propagation.	

Indicator	Baseline	Target	Adjustments
Outcome Level			
Outcome 1: An e	nabling environmen	t at the national level for	mainstreaming
the conservation	and sustainable use	of MAPs into forest manag	gement policies
and practices.	-		-
National forest	No specific focus on	Revised national JFM	No Change
policy revised to	MAPs in national	guidelines with stronger	
favor sustainable	forest policy E.g. JFM	focus on conservation of	
use &	guidelines do not	MAPs.	
conservation of	address sustainable		
MAPS.	use or conservation		
Chuck attack and	OF MAPS.		No Change
Strengthened		of NMDP in incontion	No Change
NMDB to fulfill	to fulfill key parts of	nhase Targeted canacity	
their mandate	its mandate such as	development of key staff	
	assessing supply of	based on results of capacity	
	MAPs. actively	assessment in Yrs 2 & 3.	
	managing supply and	Mechanisms for assessing	No Change
	demand and	supply and demand of	
	particularly for	MAPs developed and	
	intersectoral national	adopted by NMPB by Yr 5.	
	coordination	Mechanisms for	No Change
		intersectoral coordination	
		developed and functioning	
		effectively by Yr 3	
Greater	No formal	An intersectoral technical	No Change
intersectoral	intersectoral	coordination committee	
cooperation at	cooperation in	established and functioning	
national level to	relation to MAPs to	in each of the project states	
achieve	date. However, State	by end of Yr 2	
sustainable use	and Central agencies	A National Strategy for the	No Change
	modicinal plants	Sustainable Use a	
	issues have heen	signed off by at least ?	
	identified and	central ministries including	
	committed	MoEFCC and MoH by Yr 4	
	themselves to	end of project policy and	
	provide their	sector review.	

Indicator	Baseline	Target	Adjustments
	expertise for coordinating project		
	components		
Outcome 2: Fores support the conser	st management policies vation and sustainable	s in the three project states tuse of MAPs.	that promote and
Strengthened and	Existing forest laws	Appropriate legal	No Change
new	do	mechanisms	
legal mechanisms	not relate to	and measures that build on	
to	medicinal	existing mechanisms	
protect	plants.	identified	
community		and developed in years 3 &	
interests over		4	
MAPs,		and adopted by end of	
including IPR.		project.	
State forest	Limited focus on	Revised JFM	No Change
policies revised to	MAPs in key state	orders/circulars with	
favor sustainable	forest policies, eg	stronger focus on	
use &	JFM Guidelines do	conservation of MAPs.	
conservation of	not refer to MAPs &	Nature of required	
MAPs.	Forest Division	revisions to be determined	
	Working Plans do not	based on policy analysis by	
	address conservation	Yr 2	
	management of	Forest Division Working	No Change
	MAPs. Other	Plans in project districts	
	opportunities for	revised.	
	forest policy changes		
	at state level to be		
	identified by Yr 1.		
Strengthened	Limited to non-	Over 80% of SMPB	No Change
capacity within	existent capacity.	management and technical	
SMPBs to fulfill	Capacity needs of	level staff to be sufficiently	
their mandate.	each SMPB to be	trained to deliver their	
	assessed by Yr2/Q2.	mandate effectively by Yr	
		5.	

Indicator	Baseline	Target	Adjustments
Greater	Minimal. No	State-level intersectoral &	No Change
intersectoral	dedicated policy for	technical coordination	
cooperation to	MAPs although	committees established.	
achieve	growing interest, eg		
sustainable use	Chhattisgarh &		
and conservation	Uttaranchal declared		
of MAPs	as 'Herbal States'.		
	Baseline studies by		
	Yr 2/Q2 to include: a)		
	Detailed analysis to		
	establish extent of	Individual state strategies	No Change
	conflict and	for the Sustainable Use &	
	cooperation and	Conservation of MAPs	
	main requirements	signed off by at least 2	
	for effective	government departments	
	consultation and	in each state by Yr 6.	
	intersectoral action;		
	and b) A detailed		
	review of state-level		
	policies and key		
	sectors to be		
	undertaken to		
	identify key areas for		
	policy harmonization.		
Outcome 3: Con	servation and sustai	nable use of MAPs mains	treamed at the
local level into	government and cor	nmunity forest managem	ent norms and
practices at dem	onstration sites in th	e three project states.	F
Ha of government	0 ha. Criteria for	At least 4 MPCAs/FGBs	No Change
forest actively	"active	(established in each project	
managed for	management" to	state by Yr 4 (3 in state	
sustainable use of	favor sustainable use	forest & 1 in community	
MAPs and	& maintenance of	forest - 12 in total covering	
maintenance of	MAP diversity and	18,000 ha) & 7 in total per	
MAP diversity.	suitable ecological	project state by Yr 6 (5 in	
	indicators to be	state forest and 2 in	
	determined in Yr 1.	community forest – 21 in	
		total or c. 32,000ha).	

Indicator	Baseline	Target	Adjustments
Indicator	Daseline	Mid-way through the project and by the end of the project, respectively, an additional 2,000,000 ha and 6,000,000 ha of forest will be under active management for sustainable use and maintenance of MAP	No Change
		diversity.	
Numbers of SFD officers actively applying their training in conservation management of MAPs.	0. Criteria for measuring this to be developed by Yr 2/Q2 at same time as when training module being developed.	To be established of Yr 2/Q3	Target was not established
Ha of community forest actively managed for sustainable use of MAPs and maintenance of MAP diversity.	Minimal, Indicators to be established in Yr 1 along with criteria for what constitutes 'active management to favor sustainable use & maintenance of MAP diversity including suitable ecological indicators.	Capacity gaps of communities, such as those for management and monitoring to be established by end of Yr 1. Subsequently developing monitoring protocols and management practices.	Target was not established
Number of MAP species, including GSMP, for which sustainable harvesting techniques developed	0	5 GSMPs per year from the Yr 3 onwards	No Change

Indicator	Baseline	Target	Adjustments
Number of MAP collectors and other groups practicing sustainable harvesting.	0 Documentation is	75% of MAP collectors and all JFM groups practice sustainable harvesting in forest divisions for which sustainable harvesting protocols have been developed for target GSMPs by Yr 6. Target values for mid and	No Change Target was
documentation of Traditional Knowledge on MAPs.	minimal	end of project to be determined during Yr 1.	established as one Peoples' Biodiversity Register per MPCDA site.
Improved knowledge among MAP collectors and community forest users/managers about MAPs generally and about their legal rights, obligations and the requirements for maintaining MAP diversity and abundance.	Documentation is minimal	Target values for mid and end of project to be determined during Yr 1.	Target was established as one BCP per State as pilot.
Outcome 4: Mater conservation and se and more broadly.	ials and methods deve ustainable use of medici	loped for replicating the succ inal plants across other sites in	cessful models of the three states,
Knowledge products developed under the project shared with various stakeholders.	0	Targets to be determined	Targets were not determined.

Indicator	Baseline	Target	Adjustments
Regional and	0	Targets to be determined	Targets were
national level			not determined.
workshops			
organized on			
medicinal plants			
conservation and			
sustainable use in			
order to			
exchange ideas,			
best practices and			
sharing lessons			
across the			
country including			
South-South			
countries.			
Proposals	0	Targets to be determined	Targets were
developed for			not determined.
project States to			
replicate best			
practices and			
sharing lessons			
from the project.			
Outcome 1: An	enabling environment	at the national level for m	ainstreaming the
conservation and s	ustainable use of MAPs	into forest management polic	ies and practices.
Output 1.6 : Strategy and protocols developed for threat assessment and monitoring			
conservation status	s of MAPs		
Threat	Currently methods	Scientifically developed and	No Change
assessment &	for generating field	field tested threat	
conservation	information for	assessment protocol for	
status monitoring	assessment of threat	MAPs developed (building	
strategy and	and conservation	on existing rapid threat	
protocols	status of MAPs,	assessment methods) and	
	including GSMPS do	published by Yr 4 together	
	not exist.	with overall MAP	
		monitoring strategy.	
		Strategy and protocols	
		adopted by the project	
		state governments in the	

Indicator	Baseline	Target	Adjustments	
		management of MAPs by Yr		
		5.		
Output 1.7: Cours	se module on the cons	ervation & sustainable use of	MAPs developed	
for the Indian Fore	st Service curriculum	Г		
A course module	Currently the	To develop the module by	No Change	
on conservation	syllabus for Indian	year 2 and have it included		
and sustainable	Forest Service	in the syllabus by year 5.		
use of MAPs	curriculum does not			
	include a module on			
	conservation and			
	sustainable use of			
Outcome D. For	MAPS.	licies in the three music	at states that	
Dutcome 2: For	est management pe	oncies in the three proje	ADC STATES THAT	
Output 2 2: Povic	ed state forest policies	that support conservation & s	ustainable use of	
	eu state iorest policies	that support conservation & s		
Revised state	No specific focus on	Revised forest policies that	No Change	
forest policies	MAPs in forest	favour sustainable use and	no change	
	policies of these	conservation of MAPs		
	three states	formulated and adopted by		
		the Publication of the		
		revised forest policies in		
		the three states. 93 MAPs		
		three project states by year		
		4.		
Output 2.8: Comprehensive baseline and M&E system developed for monitoring the				
status of medicinal	status of medicinal plant resources in each project state			

Indicator	Baseline	Target	Adjustments
Scientifically	Currently none of the	By year 5 the project states	No Change
compiled	project states have a	will have a dataset on the	
comprehensive	specific information	status of MAPs (i.e. species	
baseline on the	on the status of MAPs	wise quantitative data on	
status of MAPs in	or monitoring	plant density and	
each of the	protocols.	distribution in the FGBs and	
project states.		state-wide assessments of	
		distribution and	
		abundance) and	
		operational systems for	
		MAP monitoring.	

CHAPTER - 3.FINDINGS

The evaluation ratings followed are as per the document entitled "Guidance for Conducting Terminal Evaluations of UNDP-Supported, GEF-Financed Projects". These are on a scale of unsatisfactory, moderately unsatisfactory, satisfactory, moderately satisfactory and highly satisfactory.

3.1. PROJECT DESIGN / FORMULATION

3.1.1. Management Arrangements

The management scheme of the project was well designed with operational and financial management responsibilities clearly delineated. The project document states that UNDP is responsible for maintaining project budget and project expenditure, recruiting and contracting project personnel and consultant services, subcontracting, assisting with equipment procurement, and providing other assistance upon request of the MoEFCC. Accordingly, the GEF funds were released directly by UNDP to project implementation agencies. The Ministry executed the project operationally with the advice and guidance of the National Project Steering Committee (NPSC). MoEFCC and UNDP were both responsible for implementation and achievement of the project outcomes. The management structure is as follows:

- (i) Project Executive for operational management (MoEFCC)
- (ii) National Project Director (Joint Secretary, MoEFCC)
- (iii) National Project Steering Committee
- (iv) National Project Management Unit (full-time Project Manager, Project Monitoring Officer, Admin Assist, Accountant, and additional technical staff as and when required)
- (v) UNDP (Quality Assurance and Financial Management)
- (vi) Senior Technical Advisor (part-time)
- (vii) Technical Support Group (provided by FRLHT)
- (viii) State-level Project Steering Committees
- (ix) State Project Management Units
- (x) Local Management Group (for each MPCDA, later converted to Biodiversity Management Committees)

Given the number of Outcomes and Outputs, the **management arrangement** outlined is highly satisfactory.
3.1.2. Analysis of Logical/Results Framework including Assumptions and Risks

The log frame is vertical logic that helps to analyse an existing situation and establish a causal link between inputs, activities, results, purpose and overall objective. The log frame of the project tracks and measures both impact and progress at the Output level. However, most of the indicators and corresponding targets are repeated at Objective, Outcome and Output levels. For example, the indicators for Outputs under Outcome 3 were repeated for Outcome and Objective level. Similarly, the output level indicators and corresponding targets under Outcome 1 and 2 are also repeated at Outcome level.

For reasons stated above, the **log-frame of the project is moderately unsatisfactory**.

3.1.3. Lessons from other relevant projects

The project was conceptualized and designed from 2002 to 2008, and the overall design of the project is sound. The worth of previous experience gained through the implementation of major MAP conservation initiatives funded by DANIDA and subsequently by UNDP-India (CCF I and II) was built upon to develop the project. The project supplemented established initiatives such as the creation of MPCAs and village botanist course was used to develop modules for Forest Department Officers and front line staff. The project design used the lessons learned from these well-established initiatives, and built upon them by identifying gaps and facilitating national and state level policy and regulatory interventions. Issues such as legal sanctity of Community Knowledge Registers, communication and documentation of lessons learnt were addressed by the Project Management.

The inclusion of **lessons learnt from other relevant projects** in project design **is satisfactory**.

3.1.4. Replication Approach

Outcome 4 (materials and methods developed for replicating the successful models of conservation and sustainable use of medicinal plants across other sites in the three states, and more broadly) is designed to establish a platform for replication. The outputs under this Outcome, however, were reoriented to disseminate lessons learnt under the project and previous projects through training, web-based distribution of products, documentation of field reports, process documentation reports, technical manuals and films at local, state, national and international levels.

The **replication approach is satisfactory**.

3.2. PROJECTIMPLEMENTATION

3.2.1. Adaptive management

As would be noted from section 2.4 'Adjustments to project design'; the management made certain relevant and much needed adjustments to the project's initial design and log frame. Outputs under Outcome 4 were reoriented and a technical support group was established at FRLHT. Some examples of adaptive management are given below:

- (i) Ninety per cent of the country's rural population depends on medicinal plants for primary health care needs. Medicinal plants are mostly found in forest lands. The National Forest Working Plan Code (NFWPC) laid little emphasis on conservation and sustainable use of Non-Timber Forest Produce, including medicinal plants. The project contributed significantly in addressing this issue by helping in the revision of NFWPC which has been notified and made applicable from 1 April, 2014. Various provisions related to resource inventory, participative and sustainable management of MAP resources would now help to mainstream MAPs in the forestry sector in most of India's 77 million hectare forest area managed by the Forest Department.
- (ii) Geographical indication (GI) of goods signifies a specific geographical origin and characteristics or reputations that are essentially attributable to that place of origin. It is an important tool for protection of collective intellectual property rights of the community which has developed the product. GIs are being perceived as an effective way of protecting both the knowledge, and the associated bio-resource, which emanates from a definite location or area. It was realised that while there are provisions in the Geographical Indications of Goods (Registration and Protection) Act, 1999 to register natural and forest produce, not even a single medicinal plant species or forest produce has been registered as a Geographic Indication in the country. Accordingly, as a pilot, the project helped local growers and collectors of *Cinnamomum tamala* in Uttarakhand get their produce registered under Geographical Indications of Goods (Registration Act, 1999.
- (iii) The project management also documented the traditional knowledge of local communities in People's Biodiversity Registers which are recognized under the Biological Diversity Act, 2002. Further, the project also made significant strides towards the legal rights and obligations of the local communities related to MAPs which were again enshrined in Bio-Cultural Community Protocols (BCPs). The Danus and Takulis of Jhuni in Uttarakhand, the Baigas Traditional Healers' Community of Tatidhar, Chhattisgarh, and the Monpas of Arunachal Pradesh prepared BCPs that were released at the 2nd meeting of the Intergovernmental Committee on the Nagoya Protocol (ICNP 2) held in New Delhi on 2 July 2012. After ICNP-II, seven BCPs were prepared for Uttarakhand and Arunachal Pradesh. The Local Management Groups under the project were converted into Biodiversity Management Committees as mandated under the Biological Diversity Act, 2002.
- (iv) State specific communication strategy and tools have been developed for the three project States. Accordingly, more than 75 knowledge products including Brochures/booklets, Films/videos, Jingles, Radio programmes, Mascots, Websites,

Twitter account and puppet shows have been developed under the project. Besides being distributed and showcased within the project States, these were also disseminated in more than 10 national and five international workshops, training programmes and conferences.

- (v) Much of the project activities to date revolve around establishing MPCDAs in each of the project states. The project document pointed out that MPCDAs might be useful, but these should be re-evaluated (adapted) to make certain that these were maximizing *in-situ* conservation. On perusal of the minutes of NPSC meetings, it emerges that the following adaptive management decisions were also taken:
 - a) At the 3rd NPSC held on December 23, 2010, it was decided that there was a need to have the MPCAs across the country evaluated for their effectiveness.
 - b) At the 5th NPSC held on February 13, 2012, it was also suggested to develop additional forward and backward linkages with sustainable harvest, processing, value addition and marketing activities in the MPCDAs and adjacent villages. The activities like development of seed centres and sustainable harvest practices around select MPCDAs through active community involvement were important steps for sustainability of MPCDAs. Nodal agencies with the support of local CSOs and other technical agencies should find innovative ways of engaging the community and other departments in this task.
 - c) At the 7th NPSC held on September 17, 2013, it was decided that to strengthen community capacity, incentivise local communities and to ensure continued management of the MPCDAs after the project period, a one-time deposit would be made in the bank account of BMCs towards Biodiversity (MPCDA) Management Fund.
- (vii) Some other important decisions of NPSC are given below:
 - a) At the 4th NPSC meeting held on November 17, 2011, it was decided that there was a need to document all knowledge pertaining to medicinal plant resources and land use as this would lead to in-depth understanding of the reasons for land conversions. It was also decided that the non-codified traditional knowledge (TK) in the three project states, especially Arunachal Pradesh and Chhattisgarh, needed to be documented (including video documentation) by professional agencies on a priority basis.
 - b) At the 8th NPSC meeting held on February 07, 2014, it was decided that the task of developing an exit strategy including preparing project proposals for replicating project activities within the project states and five more states of India was to be commissioned.
 - c) After the natural calamity in Uttarakhand in 2013, NPSC at its 8th meeting held on February 07, 2014 also decided to establish a MAP retail sales counter and a garden at the Dehradun Airport and undertake greening of the 'Chaar Dham

Yatra' route under the aegis of the aforementioned GEF-GoI-UNDP project on medicinal plants.

The Project Management and the National Project Steering Committee were sensitive towards the aims and objectives of the project as well as the needs of medicinal plants sector and the project States in particular. However, most of the above mentioned decisions of the NPSC could not be implemented due to reasons elaborated elsewhere.

The **Adaptive Management** of the project, except implementation of some NPSC decisions, **is satisfactory**.

3.2.2. Partnership Arrangements

The involved institutions seem to have positive and productive bilateral working relations with one another. The project benefited from capable NPSC and SPSC which have representation from important stakeholders in the medicinal plants sector. These ensured no duplication of efforts and adaptive management as per the requirements of the sector and the project.

Agencies and institutions such as FRLHT, NMPB, SMPB and MoEFCC have worked on these issues for decades. Because these institutions are involved with project activities, the technical capacities associated with the project are reasonably strong. FRLHT has good technical expertise and established excellent working relations with both national and state level institutions. UNDP engaged highly qualified staff dedicated to the project. The Ministry steered and guided the project by providing the required time, attention and taking appropriate actions. It was heartening to observe from file notings, correspondence and minutes of meetings that communication between MoEFCC, project states, FRLHT and UNDP was healthy.

Partnership arrangements in the project were also exemplified. For example, earlier, there was no formal inter-sectoral cooperation in relation to MAPs. The in-situ conservation of medicinal plants is being handled by MoEFCC through the Forest Departments; ex-situ conservation is mostly looked after by Botanical Survey of India (BSI) and its regional botanical gardens and gardens associated with other institutes; cultivation of MAPs is being undertaken by NMPB and SMPBs; protection of traditional knowledge is being ensured by National Biodiversity Authority (NBA); research and development activities are carried out by universities and institutes established for the purpose such as CSIR-CIMAP, NIPER, and FRLHT; trade is mostly controlled and monitored by Ministries of Commerce and AYUSH. To avoid duplication of efforts and obtain high returns from investments and resources, the country needed an inter-sectoral strategy, which was prepared with the consensus and support of various ministries, departments, institutions, private sector and other important stakeholders. Accordingly,

with the support of MoEFCC, NITI Aayog, NMPB, NBA, UNDP, Department of Biotechnology (DBT), State Forest Departments, Director General Foreign Trade (DGFT), Private Sector, Universities and CSOs, the project prepared a 'National Inter-sectoral Strategy on Conservation and Sustainable Use of Medicinal Plants'. The National Strategy was prepared through five thematic consultations and one national consultation. The National Strategy thus prepared was further discussed at two more national consultations and many review meetings. The strategy was also presented and discussed at fora such as XI Conference of Parties to the Convention on Biological Diversity and National Biodiversity Congress at Bengaluru. Besides the consultations and meetings, the strategy has also undergone peer-review by subject experts. Similar consultative and peer-review process was adopted for all the studies commissioned under the project.

Partnership arrangements is highly satisfactory.

3.2.3. Feedback from M&E activities for adaptive management

The project engaged a fulltime Project Monitoring Officer who ensured that the project achieved its envisaged indicators through fulfillment of the targets. The project quarterly progress reports and annual work plans used indicator and corresponding target based reporting. The project progress was also reviewed against the log frame by NPSC. Further, the project made special efforts to get the opinions, views and suggestions of all relevant stakeholders on the various activities, especially the studies commissioned under the project by organizing frequent review meetings and national consultations. The project organized review meetings and partner workshops prior to each NPSC meeting for cross learning, review and sharing of results. The draft reports of the studies were also subjected to peer-review by experts.

One of the MTR observations was as follows (Johnstad & Prasad, 2012):

"The production of Output 1.3 (Legal mechanisms developed to protect traditional MAP knowledge) provides one such example. Rather than focusing energy upon reviewing national level policies to provide substantive recommendations for improvement, the firm was allocated eighteen months and the entire output budget to engage in a five state study of traditional knowledge. None of these five states are included as project pilot states. Although the firm is technically qualified, it is unlikely that the effort will result in the timely development and/or adoption of necessary national legal mechanisms."

In this regard, we also agree with MTR in the sense that the three project States are relatively new ones and could provide learnings, gaps and recommendations for policy revision. Accordingly, it was observed that post MTR, the project States were included in the study. It was further observed that studies under Outcomes 1 and 2 having similar objectives were also commissioned as one study at the national level. For example, a

study to prepare a capacity development framework for NMPB was extended to include the three project SMPBs. We disagree with the observation of MTR about the study under Output 1.3 focusing energy upon reviewing national level policies. It is our considered opinion that Traditional Knowledge protection and documentation are relatively new subject areas. After the enactment of the Biological Diversity Act, 2002, an understanding of its implications and implementation success was essential to inform and revise policy at National level. Accordingly, collecting and collating case studies from the States were both necessary and crucial for the study.

Feedback from M&E activities for adaptive management is highly satisfactory.

3.2.4. Monitoring and evaluation

A look at Annual Work Plans, Quarterly Progress Reports and NPSC meeting minutes shows that the project logical framework was central to project implementation, especially after MTR. As noted under section 2.1.2 'Analysis of LFA/Results Framework", while the log frame of the project tracks and measures both impact and progress at the Output level, most of the indicators are repeated at Objective, Outcome and Output levels.

Type of M&E	Responsible	Time frame	TE Observations
activity	Parties		
Inception	Project Manager,	Within first six	Was held on September
Workshop	NPD	months of	09, 2008. Within six
	UNDP	project start up	months of CEO
			endorsement
Inception Report	Project Team	Finalised within	Inception report was
	UNDP CO	one	issued by MoEFCC on
		month of the IW	September 25, 2008.
Measurement of	Project Manager	Start, mid and	The means of verification
Means of	will oversee the	end of project	for project indicators did
Verification	hiring of specific		not need any revision.
for Project	studies and		However, the Log-frame
Purpose	institutions, and		of the project needed to
Indicators	delegate		be revised through
	responsibilities to		stakeholder participatory
	relevant team		approach due to
	members		repetitive indicators

The key M&E activities, responsible parties and timeframe as given in the project document are given below:

Type of M&E	Responsible	Time frame	TE Observations
activity	Parties		
			along with corresponding targets at all levels i.e. Objective, Outcome and Output levels.
Measurement of Means of Verification for Project Progress and Performance (measured on an annual basis)	Oversight by STA and Project Manager Measurements by regional field officers and local IAs	Annually prior to APR/PIR and to the definition of annual work plans	Indicators and targets were revised from time to time and informed to GEF through PIRs.
APR and PIR	Project Team UNDP CO UNDP-GEF RCU	Annually	PIRs have been regularly submitted.
TPR and TPR report	Government Counterparts UNDP CO Project team	Every year, upon receipt of APR/ PIR	Project Manager, Ministry, UNDP Project Officer and UNDP technical Adviser regularly reviewed and rated the progress in PIRs. GEF OFP also rated the progress in last two PIRs.
Steering Committee Meetings	Project Manager UNDP CO	Following Project IW and subsequently at least once a year	SteeringCommitteemeetingsareheldregularly.NineNPSChave been held so far.
Periodic status reports	Project team	To be determined by Project team and UNDP CO during Inception Phase and agreed at IW	UNDP required quarterly progress reports which were submitted regularly.

M&E is highly satisfactory.

3.2.5. Project Finances

As already highlighted in section 3.1.1 'Management Arrangements', UNDP is responsible for maintaining GEF finances to the project i.e. both budget and expenditure. The Ministry executed the project operationally and was responsible for leveraging cofinances. UNDP took responsibility of releasing GEF funds to project implementation agencies with due approval of MoEFCC and NPSC. In many cases, the funds were also released to study leaders/institutions and other vendors directly by UNDP.

3.2.5.1 GEF finances

3.2.5.1.1 Outcome wise expenditure vis-à-vis budget

Combined Delivery Report as on December 04, 2015 was used to assess the project expenditure vis-à-vis budgeted in project document and Annual Work Plans. Understandably, the project had expended all GEF funds and still had committed expenditure estimated to be around US\$116,000.

OUTCOME	1	2	3	4	5	PMU	TOTAL
	575,732	815,668	1,710,000	855,600	493,000	485,000	4,935,000
PRODOC							
	473,826	1,034,589	1,047,230	983,762	798,347	601,610	4,939,364
Expenditure							
	101,906	-218,921	662,770	-128,162	-305,347	-116,610	-4,364
Difference							-
Difference in	18	-27	39	-15	-62	-24	
%							

The Outcome wise expenditure incurred under the project is given below:

From the above table it can be noticed that there is huge variation in the budgeted amount and actual expenditure under all Outcomes. Savings under Outcome 1 and 3 may be attributed to Government co-financing. Excess expenditure under Outcome 2 may be attributed to separate studies commissioned for the three States.

There is almost 40% savings under Outcome 3, which was for demonstration of in-situ and ex-situ conservation models, capacity building of frontline forest staff and communities and documentation of traditional knowledge. As per our observations, the targets under the outcome are partially achieved for some activities. The funds expended vis-à-vis the achievements under this Outcome seem justified. It is our opinion that some of the NPSC decisions such as evaluation of MPCDAs as conservation model, one-time grant for MPCDA management to BMCs and supplementary livelihood for local communities were essential. The savings under the Outcome could have been better spent on these activities. Some of the outputs under Outcome 4 on 'Materials and methods developed for replicating the successful models of conservation and sustainable use of medicinal plants' such as book labels, calendars and diaries are short lived and do not serve the purpose of replicating learnings, good practices or for capacity building. Accordingly, the funds expended under this outcome cannot be completely justified. The Management had envisaged developing an exit strategy and preparing project proposals for five more states. However, these activities were not undertaken.

The overall management cost of the project was high, but this might be due to the extension of the project by more than two years. We agree with the opinion of NPSC that this is a process project which needs to build capacity of staffs and communities, and accordingly the project extensions are justified.

3.2.5.1.2 Expenditure incurred vis-à-vis Annual Work Plans

The table below shows the expenditure incurred each year vis-à-vis the funds budgeted in the Annual Work Plans.

Outcome	2,008	2,009	2,010	2,011	2,012	2,013	2,014	2,015	Total
Outcome	\$	\$	\$	\$	\$	\$	\$	\$	\$
Outcome 1	: An enab	ling enviro	nment for	mainstrear	ning the con	servation a	nd sustaina	able use of	f MAPs into
forest man	agement	policies an	d practice	s at the nat	tional level.				
AWP	20,000	102,330	180,500	90,000	156,750	45,000	55,000	50,950	700,530
Disbursed	11,572	18490	104843	43794	83419	149594	20735	41378	473,826
Remaining	8,428	83,840	75,657	46,206	73,331	-104,594	34,265	9,572	
% spent	58	18	58	49	53	332	38	81	68
Outcome 2	2: Forest	managem	ent polici	es in the	three proje	ct states t	hat promo	te and s	upport the
conservatio	on and su	istainable u	ise of MAP	S.					
AWP	25,000	345,881	149,500	166,000	272,750	55,000	107,556	27,600	1,149,287
Disbursed	2,096	475,552	59,606	98,175	186,823	75,149	105,843	31,347	1,034,589
Remaining	22,904	-129,671	89,894	67,825	85,927	-20,149	1,713	-3,747	
% spent	8	137	40	59	68	137	98	114	90
Outcome 3	: Conserv	vation and s	sustainabl	e use of MA	Ps are mains	streamed a	t the local l	evel into g	overnment
and comm	unity fore	st manage	ment norn	ns and prac	tices at dem	onstration	sites in the	three pro	ject states.
AWP			270,000	160,000	325,500	330,000	218,530	7,950	1,311,980
Disbursed		75,513	27,878	234,233	279,002	216,027	207,783	6,796	1,047,230
Remaining		-75,513	242,122	-74,233	46,498	113,973	10,747	1,154	
% spent			10	146	86	65	95	85	80
Outcome 4	: Materi	als and me	thods dev	eloped for	replicating t	the success	ful models	of conser	vation and
sustainable	e use of n	nedicinal pl	ants acros	s other site	es in the thre	ee states, a	nd more br	oadly.	
AWP			21,000	35,000	380,500	100,000	173,637	14,100	724,237
Disbursed			508	59,290	519,737	241,568	157,145	5,515	983,762
Remaining			20,492	-24,290	-139,237	-141,568	16,492	8,585	
% spent			2	169	137	242	91	39	136

Outcome	2,008	2,009	2,010	2,011	2,012	2,013	2,014	2,015	Total	
outcome	\$	\$	\$	\$	\$	\$	\$	\$	\$	
Outcome 5	Outcome 5: Monitoring and Evaluation									
AWP			80,000	40,000	210,000	130,000	165,333	46,486	671,819	
Disbursed			2,505	65,365	139,328	209,864	291,054	89,008	797,125	
Remaining			77,495	-25,365	70,672	-79,864	-125,721	-42,522		
% spent			3	163	66	161	176	191	119	
Project Ma	nagemen	t								
AWP	32,000	65,698	93,000	104,000	105,000	75,000	85,000	27,914	587,612	
Disbursed	489	733	118,632	151,458	135,406	98,174	85,120	12,820	602,832	
Remaining	31,511	64,965	-25,632	-47,458	-30,406	-23,174	-120	15,094		
% spent	2	1	128	146	129	131	100	46	103	
UNDP and	other Cha	arges								
AWP		4,000	20,000	20,000	20,000	15,000	44,944	7,500	131,444	
Grand Tota	ls									
AWP	77,000	517,909	814,000	615,000	1,470,500	750,000	850,000	182,500	5,276,909	
Disbursed	14,157	570,288	313,972	652,314	1,343,714	990,375	867,680	186,864	4,939,364	
Remaining	62,843	-52,379	500,028	-37,314	126,786	-240,375	-17,680	-4,364		
% spent	18	110	39	106	91	132	102	102	94	

From the above table it would be observed that the expenditure under Outcome 3 was almost consistently below what was budgeted every year, while that under Outcomes 4 and 5 was way above what was budgeted.

It would be observed that more than US\$ 500,000 was spent under Outcome 4 in 2012. This expenditure is more than 50% of the total budgeted finances under Outcome 4. Accordingly, to understand the reasons the 5th NPSC minutes were perused. It was learnt from the minutes that the amount was spent on developing communication strategy and tools, and XI Conference of Parties (CoP) to the Convention on Biological Diversity (CBD) held in October 2012 at Hyderabad, India. The minutes also highlighted that the event led to the capacity building of more than 100 people, including representative of BMCs, healers, communities, NGOs, academicians and Forest Department front line staff and Senior Officers from the three project States. The showcasing of the project at XI CoP to the CBD was an important activity. However, an expenditure of more than 50% of the total budgeted finances under Outcome 4 in 2012 may need further justification.

Understandably, salaries of project staff, including TSG at FRLHT, were charged under Outcome 5. Expenditure under Outcome 5 and Project Management Unit together was observed to be significantly higher in 2014 and 2015. This should be viewed in the backdrop of NPSC decisions (8th and 9th NPSC meeting minutes) to reduce the staff. It is learnt that UNDP engaged additional staff in the Project Management Unit in the last leg of the project, which cannot be completely justified.

It was also observed through audit reports that while the expenditure incurred by the three project States and FRLHT was subjected to audit by UNDP appointed Chartered Accountants, the expenditure incurred directly by UNDP was not audited.

Given that the project achievements are highly satisfactory, the expenditure vis-à-vis the achievements seems satisfactory. The project, however, could have achieved more, provided UNDP was more cautious in managing the finances. Accordingly, the **financial management of the project by UNDP is moderately satisfactory**.

3.2.5.2 Co-financing

The project document records the Co-finance committed to the project and the breakup from various agencies. These are reproduced below:

Name of the Co-financer (source)	Classificati on	Туре	Amount (US\$)
National Medicinal Plants Board	Government	Reoriented Baseline	1,894,863
Arunachal Pradesh State Forest Department	Government	Reoriented Baseline	540,644
Chhattisgarh State Forest Department	Government	Reoriented Baseline	1,051,282
Uttarakhand State Forest Department	Government	Reoriented Baseline	1,052,281
MoEFCC	Government	In Kind	407,909
Arunachal Pradesh State Forest Department	Government	In Kind	500,513
Chhattisgarh State Forest Department	Government	In Kind	500,513
Uttarakhand State Forest Department	Government	In Kind	500,116
Foundation for Revitalization of Local Health Traditions	NGO	In Kind	31,000
Total Co-financing			6,479,121

The project benefited from substantial national and state level government support. It is important to note that there have been various direct and indirect partners in addition to the above, who have contributed towards the co-finance of project activities. As a part

of adaptive planning and implementation, such partners have allied with the project and contributed significantly.

The co-financing committed to the project and actually leveraged is more than the GEF funds. However, co-finance provided to the project has not been reflected in the Annual Work Plans (AWPs) or quarterly progress reports, which made the exact documentation difficult. An effort was made by the Project Management Unit to record the co-finance leveraged by the project in their Final Technical Report. The co-finance leveraged by the project was in Indian Rupee, which was converted and expressed in US\$ by using an exchange rate of 1US\$ is equal to Rs.60/-. Co-finance recorded by the PMU was classified into two major types. These are explained below:

i) Type-1: Co-finance directly provided in-cash or in-kind for project implementation. For example, compensation to government staff for their time in project implementation has not been provided by the project, and their salaries have been provided by the respective governments alone.

ii) Type-2: Co-finance provided for supporting project activities. Various activities planned under the project were supported at different stages of implementation by the national, state and local governments, which may be attributed towards co-financing. These activities could be towards achieving policy, planning, implementation and other forms of support.

Co-financing Grants (Type/Source)	Classification	Тур	Total Disbursement (US\$)	
		е	Planned	Actual
State Government of Arunachal	Covernment	Ι	540,644	461,420
Pradesh	Government	II	500,513	2,752,000
Total			1,041,157	3,213,420
State Covernment of Chhattisgarh	Covernment	Ι	1,051,282	104,840
	Government	II	500,513	914,320
Total			1,551,795	1,019,160
State Covernment of Uttarakhand	Government	Ι	1,052,281	313,380
		II	500,116	2,594,500
Total			1,552,397	2,907,880
Ministry of Environment, Forest	Covornmont	Ι	407 000	606,165
and Climate Change	Government	II	407,909	419,000
Total			407,909	1,025,165
National Medicinal Plants Board	Government		1,894,863	499,992
Foundation for Revitalisation of Local Health Traditions	Government		31,000	249,383

Co-financing Grants (Type/Source)	Classification	Тур	Total Disl (U	oursement S\$)
		υ	Planned	Actual
Other Government and Civil Society Organisations	CSOs			75,000
Private Sector	Private Sector			10,000
UNDP	GEF Executing Agency			116,000
TOTAL CO-FINANCE LE	6,479,12 1	9,116,000		

As would be noted, the project managed to leverage much more co-finance than had been envisaged. The co-finance figure would go beyond US\$9 million if the actual exchange rates for each year were to be used. The co-finance would range anything between US\$ 9 million and US\$ 12 million. It was also observed that these were back of the envelope calculations and conservative figures. Therefore, the actual co-finance may be much more than calculated.

The **co-finance leveraged by the project is highly satisfactory**.

3.3. EXECUTION AND IMPLEMENTATION

The following table compares the management framework as designed and implemented. The Status Ratings used are given below:

Highly Satisfactory	HS
Satisfactory	S
Moderately Satisfactory	MS
Moderately Unsatisfactory	MU
Unsatisfactory	U
Highly Unsatisfactory	HU

Management Framework as Designed	Management Framework as Implemented	Observations	Rating
Project Executive	The MoEFCC operated as	The operational	HS
(MoEFCC)	the project's executing	implementation of	
	agency and along with	the project is	

Management Framework as Designed	Management Framework as Implemented	Observations	Rating
	UNDP was responsible for the effective achievement of the project objective, outcomes and outputs.	highly satisfactory as evidenced by the attainment of results as per logical framework.	
National Project Director (Joint Secretary, MoEFCC)	The NPD was duly supported by a Nodal Officer (Scientist-G, MoEFCC) to look after day to day matters of project implementation. The Nodal Officer, a botanist, was well versed with the medicinal plants sector and ensured that project was taken to its logical, fruitful end.	The operational implementation of the project is highly satisfactory as evidenced by the attainment of results as per logical framework.	HS
National Project Steering Committee (Operational Level)	The National Project Steering Committee was constituted in September 2008. Membership was quite strong with representation from relevant institutions including private sector. NPSC was convened nine times during the project period.	The NPSC met often and provided well-reasoned decisions/ recommendations to steer the project.	HS
Implementation Steering Committee	This committee was not constituted as the NPSC met frequently and provided necessary handholding as and when required.	Not Applicable	Not Applicable
Project Management Unit (full-time Project	Initially FRLHT served as PMU. After MTR, a part of	The PMU functionsseemedwellcoordinatedand	HS

Management	Management	Observations	Rating
Framework as	Framework as		
Designed	Implemented		
Manager, Officer,	the PMU was shifted to	fruitful in	
Admin Assist,	UNDP office, New Delhi.	achieving almost	
Accountant)		all the project	
		targets	
UNDP (Quality	UNDP financially managed	The attainment of	Quality
Assurance and	the GEF grants since the	project results	Assurance –
Financial	funds were not routed	highlighted that	HS
Management)	through the Government of	the quality	Financial
	India budget. UNDP	assurance function	Management
	released funds to the three	of UNDP was	– MS.
	project States and FRLHT	Highly	
	through a NPMU account	Satisfactory.	
	with due authorization of	However, better	
	MoEFCC. Payments were	financial	
	also directly made by UNDP	management	
	to vendors, especially study	should have been	
	leaders/institutions. UNDP	provided by UNDP	
	was also responsible for	so as to avoid	
	quality assurance.	disproportionate	
		expenditure under	
		the outcomes vis-	
		a-vis the budget	
		as per project	
		document	
		(prodoc), and	
		paucity of funds	
		towards the end of	
		the project.	
		Further, some	
		largets were not	
		achieved and	
		important studies	
		SUCII dS SOCIO-	
		evaluation of	

Management	Management	Observations	Rating
Framework as	Framework as		
Designed	Implemented		
		MDCDAe were not	
		MPCDAS were not	
		though requested	
		by both NPSC and	
		MoEFCC.	
Senior Technical	Dr. D. K. Ved (IFS), Advisor,	The project	HS
Advisor (Part-	FRLHT was the Senior	achieved most of	
time, international	Technical Advisor to the	its indicators due	
level quality	project.	to the technical	
assurance)		support it	
		received.	
Technical Advisory	A Technical Support Group	The project	HS
Group	was established at FRLHT.	achieved most of	
		its indicators due	
		to the technical	
		support It	
Stata-loval Project	State lovel PSC have been	The SPSC met	ЦС
Implementation	organized Membershin	often and provided	LID.
Steering Groups	includes most primary	well-reasoned	
Steering Groups	project stakeholders.	decisions/	
	Oualified and motivated	recommendations	
	staff members represent	to steer the	
	relevant organizations. The	project.	
	state level PSC's appear to		
	be quite good with active		
	and committed members.		
	They seem quite dedicated		
	to taking a committed role		
	in overseeing management.		
State Project	Each of the pilot states	The SPMU	HS
Management Units	have a SPMU. The capacity	functions seemed	
(nodal officer/two	of SPMU staff was built and	well coordinated	
assistants)	now most have been	and fruitful in	

Management Framework as Designed	Management Framework as Implemented	Observations	Rating
	absorbed by the SMPBs as	achieving most of	
	regular staff.	the project targets	
Local	The Local Management	The local	HS
Management	Group initially formed under	communities were	
Group (each	the project were later	enthusiastic and	
MPCA)	converted to Biodiversity	supportive	
	Management Committees	towards the	
	as mandated under the	MPCDAs and	
	Biological Diversity Act,	project activities.	
	2002.		

As would be noted from section 3.3 'Project Results', the project managed to achieve most of its targets in highly effective manner. Section 3.2.5.2 on 'Co-financing' reveals that the coordination and timing in getting co-finance to the project by MoEFCC, PMU, FRLHT and three project states is commendable and highly efficient. Section 3.3.2 - 'Sustainability' highlights that the outcomes of the project are sustainable in the short, medium and long term. Project **implementation by MoEFCC is highly satisfactory.**

In terms of **Execution**, as mentioned earlier, the project managed to achieve most of the indicators and targets. The outcomes of the project are also sustainable. Accordingly, the **quality assurance** role of UNDP **is Highly Satisfactory**. As would be noted from section 3.2.5.1, the **financial management** of GEF funds by UNDP is **moderately satisfactory**.

3.4. PROJECT RESULTS

3.4.1. Attainment of Outcomes/ Achievement of project objective

Status Ratings

Highly Satisfactory	HS
Satisfactory	S
Moderately Satisfactory	MS
Moderately Unsatisfactory	MU
Unsatisfactory	U
Highly Unsatisfactory	HU

Color Coding
Green: completed, indicator shows successful achievement
Yellow: likely that the output would be taken to its logical, fruitful end even after project closure
Blue: Partially achieved.
Red: indicator shows poor achievement i.e. unlikely to be completed even after project closure

Indicator	Baseline	Target	Results at project end	Sources of	Observatio	Ratin		
	Baseline			verification	n	<i>g</i>		
Objective : To m	Objective: To mainstream conservation and sustainable use of medicinal plants including GSMP into the productive forest sector							
of three Indian states: Arunachal Pradesh, Chhattisgarh and Uttaranchal								
Forest area	0 ha. Criteria for	c. 32,000 ha of	A total of 24047 hectares are	Field visit;	About 75%	S		
actively	what constitutes	forest in 21	protected through 20 Medicinal Plant	stakeholder	of the target			

Indicator	Baseline	Target	Results at project end	Sources of	Observatio	Ratin
lindicator	Bascinic			verification	n	<i>g</i>
managed for	`active	MPCA/FGB	Conservation and Development	consultations;	has been	
sustainable use	management to	complexes	Areas (MPCDAs). The state-wise	and reports	achieved.	
of MAPs and	favor sustainable	primarily	breakdown of MPCDA sites are as		Management	
maintenance of	use &	managed for	follows: Arunachal Pradesh 8743 ha;		plans have	
MAP diversity	maintenance of	sustainable use &	Chhattisgarh 6100 ha; and		been made	
	MAP diversity to	conservation of	Uttarakhand 9204 ha. Activities such		for the	
	be determined	MAPs.	as ecological/botanical surveys,		MPCDAs and	
	and agreed with		protection, resource augmentation		some	
	key stakeholders		of medicinal plants, soil and moisture		MPCDAs	
	such as State		conservation carried out by the		have been	
	Forest		project contributed to the		included in	
	Departments in Yr		sustainable management of MAPs.		the Forest	
	1.		The three project States also		Divisional	
			prepared management plans for all		Working	
			MPCDAs in order to continue		Plans.	
			scientific management even after		However,	
			the project period.		the MPCDAs	
					established	
					under the	
					project need	
					to be	
					evaluated for	
					their	

Indicator	Bacolino	Targot	Posults at project and	Sources of	Observatio	Ratin
Indicator	Daseillie	Talyer	Results at project end	verification	n	g
					effectiveness	
					, relevance	
					to local	
					communities	
					and	
					sustainability	
		A further	The project contributed significantly	Revised	The	HS
		6,000,000 ha	to the revision of the National Forest	National	recommenda	
		under	Working Plan Code (NFWPC) which	Forest	tions of	
		management that	has been notified recently and made	Working Plan	NFWPCs	
		favours	applicable from 1 April, 2014.	Codes	would be	
		maintenance of	Various provisions related to		taken into	
		MAP diversity,	resource inventory, participative and		consideratio	
		including GSMPs.	sustainable management of the MAP		n while	
			resources would help to mainstream		revising all	
			the concerns of MAPs in the forestry		working	
			sector in most of India's 77 million		plans in the	
			hectare forest area managed by the		future.	
			Forest Departments.			
Natural canopy	Bi-annual district	Canopy cover	This indicator was dropped because	Indicator	Indicator	Indicat
cover as a	wise data on	maintained or	it was felt that it was not feasible to	dropped	dropped	or
measure of the	canopy cover	increased as	assess the improvement in the			

Indicator	Bacolino	Target	Pecults at project and	Sources of	Observatio	Ratin
Indicator	Daseiiiie	Talyet		verification	n	<i>g</i>
overall	status is available	appropriate in	canopy cover under the MPCA sites.			droppe
ecological	from Forest	each project site.	The Forest Survey of India typically			d
status of forests	Survey of India.	Exact target will	reports data, State and District -wise			
under active		be set after	but does not cover smaller areas			
management		baselines are	captured under MPCAs due to lack of			
for		updated for the	resolution.			
maintenance of		forests in which	This indicator does not adequately			
MAP diversity		the 21	capture the interventions of the			
		FGBs/MPCAs are	project as most of the targeted MAPs			
		situated.	are herbs and shrubs. Canopy cover			
			actually blocks out the information			
			from ground.			
Population	Qualitative	Species specific	Species specific plots as a part of	Field visit,	The plots	HS
status of	population status	plots including	Monitoring protocol have already	stakeholder	would be	
selected MAP	indicators for over	appropriate types	been marked in all MPCAs. In some	consultations	utilized in the	
species	50 species known.	of ecological	MPCAs permanent monitoring plots	and reports	future to	
including GSMP	For trees and	indicators to be	for ecological survey have also been		monitor the	
within	shrubs density per	established in Yr	established to study the changes in		changes in	
FGB/MPCA	unit area, data are	1.	ecology in the medium and the long		population	
complexes.	not available, and		terms. The agencies have also		status.	
	will be monitored.		marked transects with GPS			
	Similarly, for		coordinates.			

Indicator	Bacolino	Target	Pesults at project and	Sources of	Observatio	Ratin
Indicator	Daseinie	Talget	Results at project end	verification	n	g
	herbs, areas of	Population	Actual impact of the interventions on	Field visits,	The MPCDAs	S
	occurrence and	stability of	the population status and stability of	reports and	established	
	qualitative	selected species	select Medicinal Plant species cannot	stakeholder	under the	
	assessment of	maintained or	be ascertained during project	consultations	project need	
	population status	improved over the	tenure. The change can only be		to be	
	also will be	years.	monitored after repeating the		evaluated for	
	monitored.		surveys in some of these selected		their	
			areas after four to five years.		effectiveness	
					, relevance	
					to local	
					communities	
					and	
					sustainability	
					•	
Population	Baseline as above	Available generic	In Arunachal Pradesh, a pilot study	Reports and	Database	HS
status of		protocols will be	to create database on population	stakeholder	has been	
selected MAP		adapted to	status of select MAPs has been	consultations	created for	
including GSMP		develop species	conducted in three forest divisions		future use.	
species in wider		specific protocols	namely Hapoli, Daporijo and Alang			
exploited		with appropriate	for two GSMPS i.e. Panax sp. and			
forests		types of	Paris polyphylla. In Uttarakhand, a			
surrounding		ecological	database on the population status of			
		indicators for	medicinal plants in Garhwal region			

Indicator	Bacolino	Targot	Posults at project and	Sources of	Observatio	Ratin
Indicator	Daseinie	Talyer	Results at project end	verification	n	g
FGB/MPCA		specific species	covering seven districts of the state			
complexes.		established in Yr	was carried out by Wildlife Institute			
		1. Population	of India during the period 2008-12.			
		stability of	In Chhattisgarh, a study for			
		selected species	assessing the medicinal plant			
		maintained or	resource covering whole of the state			
		improved as	was conducted by National Medicinal			
		measured against	Plants Board in 2006. Another study			
		baseline.	conducted by CCD and MFP			
			federation established resource			
			levels of nine commercially			
			important species of the state.			
Number of MAP	Sites where	Sustainable	Sustainable collection protocols have	Reports, field	The project	HS
species	harvesting of	harvesting of 5	been developed for 10 medicinal	visits and most	has prepared	
including GSMP	GSMP populations	heavily exploited	plant species by FRLHT in co-	importantly	good field	
being	takes place are	GSMPs in place by	operation with the local communities	stakeholder	collection	
harvested	known.	end of project.	and are being practised by	consultations	practice case	
sustainably in	Harvesting	Monitoring	communities.		studies.	
demonstration	practices for some	protocols	Cinnamomum tamala, Dioscorea			
sites.	of the highly	developed for	hispida, Andrographis paniculata,			
	traded plants	monitoring	Terminalia arjuna, Semecarpus			
	along with general	harvesting and	anacardium, Embelia tsjeriam-			
	impacts are		cottam, Celastrus paniculatus, Rubia			

Indicator	Baseline	Target	Pesults at project end	Sources of	Observatio	Ratin
Indicator	Daseille	Talyet	Results at project end	verification	n	g
	broadly known,	being used	cordifolia, Illicium griffithi and			
	but	annually.	<i>Swertia chirayta</i> are being			
	comprehensive		sustainably harvested using the			
	assessments are		protocols developed by the project.			
	not available.					
	Identification and		Under the project, collectors of the			
	definition of		resource have been organized into			
	indicators of		task teams. The members of the task			
	`sustainable		teams are provided uniforms,			
	harvesting' &		improved implements and are taught			
	monitoring		to carry out resource survey to			
	protocols to be		assess harvest levels in advance.			
	defined in year 1.		They are trained in sustainable			
			harvest protocols and these			
			members also facilitate peer			
			learning. The collectors are provided			
			basic support for post-harvest			
			handling in the form of storage			
			godowns and drying sheds.			
			Wherever possible, the project has			
			provided market tie-ups to enable			
			the collectors to fetch a better price			

Indicator	Baseline	Target	Results at project end	Sources of	Observatio	Ratin
Indicator	Dasenne	Target	Results at project chu	verification	n	g
			from the market as they pool their produce.			
			Monitoring of harvest is an important part of the sustainable harvest protocols developed under the project.			
Increase in area	Isolated examples	At least 5000 ha	In the three project states, a total	Reports, field		HS
under different	of cultivation over	of cultivation	area of 13,130 ha is under cultivation	visits and		
MAP species	limited area.	under different	for various medicinal plants including	stakeholder		
cultivated by		MAP species	GSMPs.	consultations		
government		under private,	In Arunachal Pradesh, a total of			
programmes.		common and	4211.30 ha is under cultivation of			
		marginal or	MAPs, including <i>Swertia chirayata,</i>			
		degraded lands	Acorus calamus, Cinnamomum,			
		owned by various	Stevia, Jatamansi and Aconitum.			
		Govt Depts such	In Chhattisgarh, a total of 2705 ha is			
		as Forests, and	under cultivation. This includes some			
		private owners.	GSMP species such as <i>Aeale</i>			
			marmelos, Gmelina <u>arborea,</u>			
			Azadirachta indica, Terminalia			
			arjuna, Asparagus racemosus,			

Indicator	Baseline	Target	Results at project end	Sources of	Observatio	Ratin
Indicator	Dasenne	Target	Results at project end	verification	n	g
			Embeliatsjeriam-cottam, Terminaliachebula,Terminaliabellirica,EmbilicaofficinalisandLawsoniainnermis.InUttarakhand, a total area of 6214ha is under cultivation of medicinalplantspeciessuch asEmbilicaofficinalis,Cinnamumconficinalis,Cinnamumtamala,Picrorhizakurrooa,Aconitumheterpohyllum,andSaussurealappa.Thecultivation ofGovernmentandPrivatelandshasbeentaken up through co-finance.			
Increase in number of MAP species used in afforestation / cultivation programmes.	10% of species are known to be cultivated sporadically in the state.	Based on the life history strategies of each species and habit, an additional 5 – 7 highly marketed species will be brought under cultivation. These	In Chhattisgarh, the State Forest Department has directed all Divisional Forest Officers to plant the nine medicinal plants species identified and prescribed under the project in new irrigated CAMPA plantations with the help of self-help group.	Reports	The medicinal plants suggested by the studies get included in government	HS

Indicator	Pacolino	Targot	Poculta at project and	Sources	of	Observatio	Ratin
Indicator	Dasellile	Taryer	Results at project end	verificatio	on	n	g
		may include	For Uttarakhand, a list of ten species			planting	
		herbaceous	for afforestation and cultivation has			programmes	
		rhizomatous	been shared with State Forest				
		species and	Department and Herbal Research				
		species amenable	and Development Institute. Mainly				
		for asexual	highly marketed 10 MAP species				
		propagation.	namely Kuth, Damask Rose, Atees,				
			Japanese Mint, Kutki, Chammomile,				
			Satawari, Lemon grass, Sarpgandha,				
			and Tagar have been taken up for				
			commercial cultivation in the state.				
			SFD and HRDI are expected to				
			undertake large scale plantations				
			and cultivation under their various				
			schemes and programs.				
			In Arunachal Pradesh, 27 species				
			have been prioritized on the basis of				
			commercial demand and threat				
			status. The list is being shared with				
			the SFD and State Horticulture				
			Department for inclusion in				
			planting/cultivation programmes of				

Indicator	Baseline	Target	Results at project end	Sources of	Observatio	Ratin
Indicator	Daseime	Target	Results at project end	verification	n	g
			the State.			
			Complete package of practices of			
			these 56 species, which include			
			nursery practices have been			
			developed and disseminated by the			
			project in all the three states.			
Outcome Level						
Outcome 1: An	enabling environ	ment at the nation	nal level for mainstreaming the co	onservation and	l sustainable	
use of MAPs in	to forest managen	nent policies and p	practices.		1	
National forest	No specific focus	Revised national	A study for identifying gaps in JFM	Reports	Assumed	HS
policy revised	on MAPs in	JFM guidelines	guidelines for conservation and		that the draft	
to favor	national forest	with stronger	sustainable use of Medicinal Plants		revised	
sustainable use	policy E.g. JFM	focus on	was commissioned to IIFM, Bhopal.		guidelines	
& conservation	guidelines do not	conservation of	The recommendations in the form of		shared with	
of MAPs.	address	MAPs.	revised guidelines have been shared		relevant	
	sustainable use or		with MoRD, MOTA and MoEFCC for		departments	
	conservation of		consideration and necessary actions.		/ ministries	
	MAPs.				actually get	
					implemented	
Strengthened	Limited technical	Capacity needs	A report for Strengthening of the	Revised		HS
capacity within	and institutional	assessment of	NMPB and SMPBs (of the three	operational		
	capacity to fulfill	NMPB in inception	project States) to act as nodal	guidelines for		

Indicator	Pacolino	Taraot	Poculto at project and	Sources of	Observatio	Ratin
Indicator	Daseinie	Talyet	Results at project end	verification	n	<i>g</i>
NMPB to fulfill	key parts of its	phase. Targeted	agencies for the medicinal plants	Central Sector		
their mandate.	mandate such as	capacity	sector has been submitted to the	Scheme on		
	assessing supply	development of	respective Boards for their	Conservation,		
	of MAPs, actively	key staff based on	consideration and consequent	Development		
	managing supply	results of capacity	actions. The recommendations of	and		
	and demand and	assessment in Yrs	the study led to NMPB core support	Sustainable		
	particularly for	2 & 3.	to all SMPBs by providing Rs.40 to	Management		
	intersectoral		50 lakhs as nucleus/core funds for	of Medicinal		
	national		staff remuneration, purchase of	Plants so as to		
	coordination		equipment, office expenses etc.	include		
			Further, the project provided IT	`Strengthening		
			support in the form of computers	of SMPBs'.		
			and printers to SMPBs.			
		Mechanisms for	Two studies have been		Studies	HU
		assessing supply	commissioned at regional level by		commissione	
		and demand of	UNDP i.e. for Western and Central		d by UNDP	
		MAPs developed	India to assess the supply chain of		could not be	
		and adopted by	medicinal plants and value additions		completed	
		NMPB by Yr 5.	along the supply chain.		due to	
			NMPB had conducted a demand and		paucity of	
			supply study in 2004 and has		funds.	
			recommissioned a similar study in			
			2015.			

Indicator	Baseline	Target	Pesults at project end	Sources of	Observatio	Ratin
Indicator	Daseinie	Target		verification	n	g
		Mechanisms for	NMPB is the nodal agency for the	NMPB		HS
		intersectoral	sector in India. An inter-sectoral	website,		
		coordination	technical committee has been	reports and		
		developed and	established by NMPB at the national	documents		
		functioning	level involving various ministries,			
		effectively by Yr	departments and institutions. The			
		3.	Committee reviews the progress of			
			implementation of various schemes			
			of NMPB and provides handholding			
			support. The Committee meets			
			atleast once a year or more, as			
			deemed necessary.			
Greater	No formal	An intersectoral	NMPB is the nodal agency for the	NMPB		HS
intersectoral	intersectoral	technical	sector in India. An inter-sectoral	website,		
cooperation at	cooperation in	coordination	technical committee has been	reports and		
national level to	relation to MAPs	committee	established by NMPB at the national	documents		
achieve	to date. However,	established and	level involving various ministries,			
sustainable use	State and Central	functioning in	departments and institutions.			
and	agencies involved	each of the				
conservation of	with medicinal	project states by				
MAPs.	plants issues have	end of Yr 2				

Indicator	Baseline	Target	Pesults at project and	Sources of	Observatio	Ratin
Indicator	Daseinie	Target		verification	n	<i>g</i>
	been identified	A National	A national intersectoral strategy has	The final	Assumed	HS
	and committed	Strategy for the	been prepared and is being put up	report and	that the	
	themselves to	Sustainable Use &	for government approval.	internal	strategy is	
	provide their	Conservation of		documents of	approved by	
	expertise for	MAPs signed off		MoEFCC.	the	
	coordinating	by at least 3			Government.	
	project	central ministries				
	components	including MoEF				
		and MoH by Yr 4				
		end of project				
		policy and sector				
		review.				
Outcome 2: For	est management pol	icies in the three pro	ject states that promote and support the	ne conservation a	nd sustainable	
use of MAPs.						
Strengthened	Existing forest	Appropriate legal	A study to identify gaps and provide	Report and	The	HS
and new	laws do	mechanisms	recommendations for strengthening	internal	recommenda	
legal	not relate to	and measures	legal mechanisms to protect	documents of	tions are	
mechanisms to	medicinal	that build on	community interests was	MoEFCC	shared with	
protect	plants.	existing	commissioned to TERI. The final		relevant	
community		mechanisms	report on legal mechanism to protect		ministries/	
interests over		identified	TK related to harvest, cultivation and		departments	
MAPs,		and developed in	use of MAPs including the drafted sui			
including IPR.		years 3 & 4	generis regime for TK on Medicinal			

Indicator	Baseline	Target	Results at project end	Sources of	Observatio	Ratin
		and adopted by end of project.	Plants in India has been shared with all relevant stakeholders.			9
State forest policies revised to favor sustainable use & conservation of MAPs.	Limited focus on MAPs in key state forest policies, eg JFM Guidelines do not refer to MAPs & Forest Division Working Plans do not address conservation management of	Revised JFM orders/circulars with stronger focus on conservation of MAPs. Nature of required revisions to be determined based on policy analysis by Yr 2	Studies have been commissioned to legal agencies for identifying gaps in policies and providing necessary recommendations. The report for Arunachal Pradesh led to the State approving a Medicinal Plants Conservation and Sustainable Use policy.	Report and internal documents of SMPBs. Arunachal Pradesh Gazette notification.	The other two States are yet to put-up their policy recommenda tions.	HS
	MAPs. Other opportunities for forest policy changes at state	Forest Division Working Plans in project districts revised.	Revision of Forest Division Working Plans of one MPCA district in Arunachal; four MPCA districts in Chhattisgarh and two in Uttarakhand has been carried out.	Revised Working plans		HS

Indicator	Baseline	Target	Pesults at project and	Sources of	Observatio	Ratin
Indicator	Daseiiile	Talyer	Results at project end	verification	n	<i>g</i>
	level to be					
	identified by Yr 1.					
Strengthened	Limited to non-	Over 80% of	A report for Strengthening of the	Revised		HS
capacity within	existent capacity.	SMPB	NMPB and SMPBs (of the three	operational		
SMPBs to fulfill	Capacity needs of	management and	project States) to act as nodal	guidelines for		
their mandate.	each SMPB to be	technical level	agencies for the medicinal plants	Central Sector		
	assessed by	staff to be	sector has been submitted to the	Scheme on		
	Yr2/Q2.	sufficiently	respective Boards for their	Conservation,		
		trained to deliver	consideration and consequent	Development		
		their mandate	actions. The recommendations of	and		
		effectively by Yr	the study led to NMPB core support	Sustainable		
		5.	to all SMPBs. In all the three states,	Management		
			the project staff are the only	of Medicinal		
			technical staff available for	Plants so as to		
			furthering the work in MAP sector.	include		
			The project staff have been	`Strengthening		
			continuously trained in various	of SMPBs'.		
			technical areas through thematic			
			trainings and managerial trainings			
			for audit and finance. The project			
			coordinator from Chhattisgarh was			
			part of the group which visited Costa			

Indicator	Baseline	Target	Results at project end	Sources of	Observatio	Ratin
				verification	n	<i>g</i>
			Rica for an exposure visit on Access			
			and Benefit Sharing.			
Greater inter-	Minimal. No	State-level inter-	The members on the Executive	Reports and		HS
sectoral	dedicated policy	sectoral &	Board of the three project State	internal		
cooperation to	for MAPs although	technical	Medicinal Plants Boards are from	documents of		
achieve	growing interest,	coordination	various Ministries, Departments,	the SMPBs		
sustainable use	eg Chhattisgarh &	committees	Institutions including representation			
and	Uttaranchal	established.	from Traditional Healer Association			
conservation of	declared as		and Traders. The Executive Board of			
MAPs	'Herbal States'.		the SMPBs also serve as an Inter-			
	Baseline studies		sectoral technical committee.			

Indicator Basel	ine	Target	Results at project end	Sources of	Observatio	Ratin
		i ai gee		verification	n	g
by Yi	· 2/Q2 to					
include	e: a)		Further, to assess proposals			
Detaile	ed analysis		regarding medicinal and aromatic			
to esta	blish extent		plants, Uttarakhand constituted a			
of co	onflict and		sub-inter sectoral committee in May			
cooper	ation and		2014. One meeting of the inter-			
main			sectoral sub-committee has since			
require	ements for		taken place. Since 2008, the			
effecti	/e		Committee in Chhattisgarh has met			
consul	tation and		approximately 10 times.			
inter-s	ectoral 1	Individual state	State specific strategies are being	The reports	Assumed	HS
action	and b) A	strategies for the	drafted by various agencies for the	for the three	that the	
detaile	d review of	Sustainable Use &	three project states, which will be	States are	strategies	
state-l	evel policies	Conservation of	operationalized after appropriate	ready and	are approved	
and ke	y sectors to	MAPs signed off	approval from the respective state	would be put	by the state	
be un	dertaken to b	by at least 2	government.	up for state	governments	
identif	y key areas 🛛 🛛	government		government		
for	policy d	departments in		approvals in		
harmo	nization.	each state by Yr		due course.		
	6	<i>,</i> 6.				
Outcome 3: Conserva	tion and sus	stainable use of	MAPs mainstreamed at the local	level into gove	ernment and	
community forest ma	nagement no	orms and practice	es at demonstration sites in the th	ree project stat	tes.	

Indicator	Baseline	Target	Results at project and	Sources of	Observatio	Ratin
Indicator	Dasenne	Target	Results at project end	verification	n	<i>g</i>
Ha of	0 ha. Criteria for	At least 4	A total of 24047 hectares is	The local		S
government	"active	MPCAs/FGBs	protected through 20 Medicinal Plant	communities		
forest actively	management" to	(established in	Conservation and Development	do not directly		
managed for	favor sustainable	each project state	Areas (MPCDAs). The state-wise	benefit from		
sustainable use	use &	by Yr 4 (3 in state	breakdown of MPCDA sites are as	the MPCDAs.		
of MAPs and	maintenance of	forest & 1 in	follows: Arunachal Pradesh 8743 ha;	There is a		
maintenance of	MAP diversity and	community forest	Chhattisgarh 6100 ha; and	need to		
MAP diversity.	suitable ecological	- 12 in total	Uttarakhand 9204 ha. Activities such	evaluate the		
	indicators to be	covering 18,000	as ecological/botanical surveys,	MPCDAs from		
	determined in Yr	ha) & 7 in total	protection, resource augmentation	socio-		
	1.	per project state	of medicinal plants, soil and moisture	economic and		
		by Yr 6 (5 in state	conservation being carried out by	ecological		
		forest and 2 in	the project is contributing to the	angle to		
		community forest	sustainable management of MAPs.	ascertain if		
		– 21 in total or c.	The three project States are also	they are really		
		32,000ha).	preparing management plans for all	conserving		
			MPCDAs in order to continue	GSMPs and		
			scientific management even after	would be		
			the project period.	sustainable in		
				the future.		
		Mid-way through	The project has contributed	The revised		HS
		the project and by	significantly to the revision of the	NFWPC.		
		the end of the	National Forest Working Plan Code			
Indicator	Baceline	Target	Results at project end	Sources of	Observatio	Ratin
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Indicator	Daseinie	Target	Results at project end	verification	n	<i>g</i>
		project, respectively, an additional 2,000,000 ha and 6,000,000 ha of forest will be under active management for sustainable use and maintenance of MAP diversity.	(NFWPC) which has been notified recently and made applicable from 1 April, 2014. Various provisions related to resource inventory, participative and sustainable management of the MAP resources would help to mainstream the concerns of MAPs in the forestry sector in most of India's 77 million hectare forest area managed by the Forest Departments. This is much higher than the envisaged 6 million			
			Hectares under the project.			
NumbersofSFDofficersactivelyapplyingtheirtraininginconservationmanagementofMAPs.	0. Criteria for measuring this to be developed by Yr 2/Q2 at same time as when training module being developed.	To be established of Yr 2/Q3	Course curriculum and material has been prepared for frontline staff of Forest Departments of the three project states and training to new recruits has commenced.	Course curriculum and training materials		HS
Ha of community	Minimal, Indicators to be	Capacity gaps of communities,	Village Botanist course was carried out twice in each state. The Village	Course materials and		HS

Indicator	Bacolino	Target	Results at project end	Sources of	Observatio	Ratin
Indicator	Dasenne	Target		verification	n	g
forest actively	established in Yr 1	such as those for	Botanist course was used to train	stakeholder		
managed for	along with criteria	management and	105 local community and frontline	interactions		
sustainable use	for what	monitoring to be	forest department staff.			
of MAPs and	constitutes 'active	established by				
maintenance of	management to	end of Yr 1.				
MAP diversity.	favor sustainable	Subsequently				
	use &	developing				
	maintenance of	monitoring				
	MAP diversity	protocols and				
	including suitable	management				
	ecological	practices.				
	indicators.					
Number of MAP	0	5 GSMPs per year	Sustainable collection protocols have	The		HS
species,		from the Yr 3	been developed for 10 medicinal	sustainable		
including		onwards	plant species by FRLHT in co-	harvest		
GSMP, for			operation with the local communities	protocols		
which			and are being practiced by the	developed		
sustainable			community.	under the		
harvesting			Cinnamomum tamala, Dioscorea	project are		
techniques			hispida, Andrographis paniculata,	case studies of		
developed			Terminalia arjuna, Semecarpus	good		
			anacardium, Embelia tsjeriam-	practices.		
			cottam,Celastrus paniculatus, Rubia			

Indicator	Baseline	Target	Results at project end	Sources of verification	Observatio n	Ratin g
			cordifolia, Illicium griffithi and			
			<i>Swertia chirayta</i> are being			
			sustainably harvested using the			
			protocols developed by the project.			
Number of MAP	0	75% of MAP	Sustainable Harvest sites have been	The		HS
collectors and		collectors and all	identified in the project States where	sustainable		
other groups		JFM groups	the local community members are	harvest		
practicing		practice	harvesting Cinnamomum tamala,	protocols		
sustainable		sustainable	Dioscorea hispida, Andrographis	developed		
harvesting.		harvesting in	paniculata, Terminalia arjuna,	under the		
		forest divisions	Semecarpus anacardium, Embelia	project are		
		for which	tsjeriam-cottam, Celastrus	case studies of		
		sustainable	paniculatus, Rubia cordifolia, Illicium	good		
		harvesting	griffithi and Swertia chirayta.	practices.		
		protocols have				
		been developed				
		for target GSMPs				
		by Yr 6.				

Indicator	Baseline	Target	Pesults at project and	Sources of	Observatio	Ratin
Indicator	Dasenne	Target		verification	n	g
Extent of	Documentation is	Target values for	Training imparted on preparation of	PBRs prepared		HS
documentation	minimal	mid and end of	Peoples Biodiversity Registers (PBR)	under the		
of Traditional		project to be	for SMPB staff, community	project		
Knowledge on		determined	representatives (Biodiversity			
MAPs.		during Yr 1.	Management Committees) and			
			Forest Department staff.			
			Sixteen BMCs established and 16			
			PBRs prepared in three project			
			states.			
Improved	Documentation is	Target values for	The legal rights and obligations of	BCPs prepared		HS
knowledge	minimal	mid and end of	the communities related to MAPs are	under the		
among MAP		project to be	enshrined in Bio-Cultural Community	project		
collectors and		determined	Protocols (BCPs). The Danus and			
community		during Yr 1.	Takulis of Jhuni in Uttarakhand, the			
forest			Baigas Traditional Healers'			
users/manager			Community of Tatidhar,			
s about MAPs			Chhattisgarh, and the Monpas of			
generally and			Arunachal Pradesh prepared BCPs			
about their			that were released at the 2nd			
legal rights,			meeting of the Intergovernmental			
obligations and			Committee on the Nagoya Protocol			
the			(ICNP 2) held in New Delhi on 2 July			
requirements			2012. After ICNP-II, seven BCP's			

Indicator	Baseline	Target	Results at project end	Sources of verification	Observatio n	Ratin g
for maintaining MAP diversity and abundance.			each were prepared in Uttarakhand and Arunachal Pradesh.			
Outcome 4: Mate	erials and methods across other sites in	developed for replic the three states, and	cating the successful models of conse d more broadly.	rvation and susta	ainable use of	
Knowledge products developed under the project shared with various stakeholders.		Targets to be determined	The project has developed more than 100 knowledge products including Brochures/booklets, Films, Jingles, Radio programmes, Mascots, Websites, Twitter account and puppet shows). Besides being distributed and showcased locally i.e. within the project States, these were also disseminated in more than 10 national and 05 international workshops, training programmes and conferences.	Knowledge products developed. The communicatio n strategy is available for Chhattisgarh and Uttarakhand.		HS

Indicator	Baceline	Target			Pecults at project and	Sources	of	Observatio	Ratin
Indicator	Daseiiile	Taryet			Results at project end	verificat	ion	n	g
Regional and		Targets	to	be	The project studies were presented	Project			HS
national level		determine	ed		at the 2 nd India Biodiversity	results,			
workshops					Congress.	lessons l	earnt		
organized on					The third Sustainable Mountain	and	good		
medicinal					Summit was organised at Kohima,	practices	were		
plants					Nagaland from September 25 to 27,	shared	at		
conservation					2013. The project staff participated	numerous	5		
and sustainable					as resource persons for the Youth	national	and		
use in order to					Summit and Main Summit. SMPB,	internatio	nal		
exchange					Arunachal Pradesh showcased	fora.			
ideas, best					project learnings and achievements				
practices and					through an Exhibition.				
sharing lessons					Sub-regional Capacity-building				
across the					Workshop on the Nagoya Protocol				
country					for East, South and South-East Asia				
including					was held in Chennai from December				
South-South					03 to 06, 2013. The project				
countries.					organized a one day long field trip				
					for participants to a MPCA, near				
					Chennai. Preceding the field trip the				
					project also shared its achievements				
					and learning's with the delegates.				

Indicator	Baseline	Target	Results at project end	Sources of verification	Observatio n	Ratin g
Indicator	Baseline	Target	Results at project end The project achievements and results were shared at the third meeting of Intergovernmental Committee for the Nagoya Protocol (ICNP-3) on Access and Benefit Sharing (ABS) of the Convention on Biological Diversity (CBD) held from February 24-28, 2014 in Pyeonchang, Gangwon, Republic of Korea. Members of Monpa community from Arunachal Pradesh visited Bhutan	verification	n	g
			and shared their experience in developing Bio-cultural community protocol. The lessons and results of the Project were also shared at the World Parks Congress in Sydney in November 2014.			

Indicator	Bacolino	Target		Results at project end	Sources of	Observatio	Ratin	
Indicator	Daseiiiie	Taryer			Results at project end	verification	n	<i>g</i>
Proposals		Targets	to	be	Chhattisgarh SMPB has received		NMPB would	HS
developed for		determine	ed		funding of INR.73.6 million from SFD		provide	
project States					under CAMPA for replicating project		core/nucleus	
to replicate best					activities in new sites. Arunachal		funds for the	
practices and					Pradesh and Uttarakhand SMPBs		SMPBs and	
sharing lessons					have submitted similar proposals for		the project	
from the					funding under CAMPA.		has built	
project.							staff capacity	
					NMPB is also providing core/nucleus		of AP, CG	
					funds to SMPBs. Due to capacity		and UK	
					building and project interventions		SMPBs to	
					the three SMPBs are now very		function	
					active.		better.	
OUTPUT LEVEL								
Outcome 1: An enabling environment at the national level for mainstreaming the conservation and sustainable use of MAPs								
into forest management policies and practices.								
<i>Output 1.6 :</i> Str	rategy and protocols	developed	l for th	rea	t assessment and monitoring conserva	tion status of M	NPs	

Indicator	Baseline	Target	Pesults at project and	Sources of	Observatio	Ratin
Indicator	Daseinie	Target		verification	n	g
Threat	Currently	Scientifically	Long Term Strategy for Threat	The strategy	The strategy	HS
assessment &	methods for	developed and	Assessment and Monitoring	has been	needs to be	
conservation	generating field	field tested threat	Conservation Status of Medicinal	prepared by	implemented	
status	information for	assessment	Plants in India has been attempted	FRLHT.	by	
monitoring	assessment of	protocol for MAPs	by FRLHT.		concerned	
strategy and	threat and	developed			departments	
protocols	conservation	(building on	Threat status of 46 endemic		and	
	status of MAPs,	existing rapid	medicinal plants species is uploaded		ministries.	
	including GSMPS	threat	in IUCN – SIS system.			
	do not exist.	assessment				
		methods) and	A manuscript on profile of 100 red			
		published by Yr 4	listed medicinal plants prepared			
		together with				
		overall MAP	A ToT module on Threat Assessment			
		monitoring	& CAMP methodology prepared			
		strategy. Strategy				
		and protocols				
		adopted by the				
		project state				
		governments in				
		the management				
		of MAPs by Yr 5.				
Output 1.7: Co	urse module on the c	conservation & susta	inable use of MAPs developed for the I	ndian Forest Serv	rice curriculum	

Indicator	Baseline	Target	Results at project end	Sources of verification	Observatio n	Ratin g		
A course module on conservation and sustainable use of MAPs	Currently the syllabus for Indian Forest Service curriculum does not include a module on conservation and sustainable use of MAPs.	To develop the module by year 2 and have it included in the syllabus by year 5.	A module on conservation and management of MAPs has been developed and introduced in the course curriculum of Indian Forest Service Officers training at IGNFA	Course curriculum and training materials		HS		
Outcome 2: Forest management policies in the three project states that promote and support the conservation								
Output 2 2' Rev	vised state forest pol	icies that support co	nservation & sustainable use of MAPs	_	_			
Revised state forest policies	No specific focus on MAPs in forest policies of these three states	Revised forest policies that favour sustainable use and conservation of MAPs formulated and adopted by the Publication of the revised forest policies in the	All three project states have separately engaged consultants to review the National and State Forest Policies and Laws so as to mainstream conservation and sustainable use of medicinal plant species. In Arunachal Pradesh, the recommendations of the study in the form of a Policy document for	Reports and internal documents of the States	Assumed that the other two states also get state government approval on the policy.	HS		

Indicator	Baseline	Target	Results at project end	Sources of verification	Observatio n	Ratin g
		three states. 93	Medicinal Plants has been endorsed			
		MAPs three	by the State Government. Arunachal			
		project states by	Pradesh is the first State in India to			
		year 4.	have a policy for Medicinal Plants.			
<i>Output 2.8:</i> Corproject states.	mprehensive baseline	and M&E system de	eveloped for monitoring the status of m	edicinal plant res	ources in each	

Indicator	Baseline	Target	Results at project end	Sources of	Observatio	Ratin
Indicator	Dasenne	Target	Results at project end	verification	n	g
Scientifically	Currently none of	By year 5 the	In Arunachal Pradesh, a pilot study	Reports.		HS
compiled	the project states	project states will	created a database on population			
comprehensive	have a specific	have a dataset on	status for two GSMPS i.e. Panax sp.			
baseline on the	information on the	the status of	and Paris polyphylla in three forest			
status of MAPs	status of MAPs or	MAPs (i.e. species	divisions namely Hapoli, Daporijo			
in each of the	monitoring	wise quantitative	and Alang.			
project states.	protocols.	data on plant	In Uttarakhand, a database on the			
		density and	population status of medicinal plants			
		distribution in the	in Garhwal region covering seven			
		FGBs and state-	districts of the state was carried out			
		wide assessments	by Wildlife Institute of India during			
		of distribution and	the period 2008-12.			
		abundance) and	In Chhattisgarh, a study for			
		operational	assessing the medicinal plant			
		systems for MAP	resources covering the whole state			
		, monitoring.	was conducted by National Medicinal			
			Plants Board in 2006. Another study			
			conducted by CCD and MFP			
			federation established resource			
			levels of nine commercially			
			important species of the state.			

The overall attainment of **results as per Logical Framework is Highly Satisfactory.**

Ratings					
Likely (L)		There are no risks affecting this dimension of sustainability.			
Moderately	Likely	There are moderate risks that affect this dimension of			
(ML)		sustainability.			
Moderately	Unlikely	There are significant risks that affect this dimension of			
(MU)		sustainability.			
Unlikely (U)		There are severe risks that affect this dimension of			
		sustainability.			

3.4.2. Sustainability

Sustainability Factor	Rating	Comments
Financial Resources	L	The Government of India has sufficient budget for the Medicinal Plants sector. The project activities can be replicated and sustained with government funding. However, government funds are disbursed under schemes for which projects have to be submitted to concerned ministries/ departments. The project has built the capacity of staff of the three state SMPBs and now the SMPBs are fully functional. All three SMPBs are notified by their state governments and receiving funds from both centre and state. Further, the project has led to preparation of strategies for conservation and sustainable use of medicinal plants at the national and state levels. When implemented in spirit, the sector
Socioeconomic	L	Would benefit in the short, medium and long terms. Two of the four project Outcomes were aimed at revising policies at the national and state levels and mainstreaming conservation and sustainable use of medicinal plants in the forestry sector. The studies and works initiated under these outcomes, when implemented in letter and spirit, are likely to result in achieving the project objectives. Activities initiated under Outcome 3 were also satisfactorily implemented. There may be issues related to sustainability of MPCDAs for which a socio-economic and ecological study for all MPCDAs needs to be undertaken. The capacity building and activities related to documentation of Traditional

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		Knowledge under the ambit of the Biological Diversity		
		Act, 2002 may prove to be good steps towards		
		sustainability of the project objectives.		
Institutional	L	The project aims towards gap analysis and revision of		
Framework and		legal frameworks, policies, and governance structures		
Governance		and processes for conservation and sustainable use of		
		medicinal plants. When the recommendations of all		
		studies are implemented, the project would be		
		successful in ensuring the sustainability of the medicinal		
		plant resources in the wild. Strengthened capacity of		
		NMPB, SMPBS, State Forest Departments and local		
		communities through capacity building under the proje		
		provides the required platform for implementation of t		
		necessary policies.		
Environmental	L	There may be risks stemming from habitat		
		fragmentation, loss of pollinators and seed dispersers,		
		pollution and climate change affecting medicinal pla		
		species. But these were beyond the scope of the project.		

The **sustainability** of project outcomes is **likely**.

3.4.3. Relevance

Although the project was designed for implementation from 2002 to 2008, most of the envisaged challenges and interventions remained highly relevant. Convention on Biological Diversity (CBD) has three goals viz. conservation of biological diversity, sustainable use of its components, and fair and equitable sharing of benefits arising from genetic resources. The project is designed and adaptive management practices are used to address all the three goals of CBD. Though the project focuses on conservation and sustainable use of medicinal plants, local community interest was central in project design and adaptive management practices.

As per a supply chain study by FRLHT in 2006, both domestic and international markets for medicinal plant species continue to expand. This, along with habitat loss, is causing some medicinal plants to be threatened. India benefits from numerous experts and institutions, both government and non-government, which are sincerely concerned with conservation of medicinal plant species. The medicinal plants sector is very complex with numerous high impact/influence stakeholders working on different components within the sector such as conservation, cultivation, research and healthcare use. The efforts of these stakeholders often are random and not coordinated to reach a common goal. Accordingly, there is a need for strategic, policy, regulatory and institutional structures

to mainstream conservation into policies and practices both at national and state levels. The project's implementation approach and outcomes were well reasoned to address these challenges at national and state level by developing strategies, and revising policies and regulations so as to identify the conservation issues and align institutional responses. The project provides support for strategic implementation within the three pilot states and ultimate replication of successful models in other states of India. Any lacunae in design or changes in national/state circumstances were aptly addressed by project management through adaptive management practices.

The project is **highly relevant**.

3.4.4. Effectiveness

MoEFCC aptly describes the project as a process project. Process projects take time to mature and deliver the envisaged results. In process projects, before the project is implemented, the capacity of main stakeholders is very low, the issues are numerous and often treated in silos and there is very little understanding and prioritization of the issues. Thus, process projects such as this project need to build staff capacities, identify and prioritize issues, and then coordinate efforts in addressing the issues. SMPBs are the coordinating and nodal agencies for medicinal plants in the States. At the beginning of the project, the three SMPBs were not even notified and there was almost no full time staff and employees of state governments were holding additional charge. This project provided the much needed full time staff in the form of State Project Monitoring Unit and built the capacity of these staff. Now, due to the efforts of the project, the three SMPBs have been notified, receive core/nucleus funding from NMPB and are fully functional. To achieve these enormous and challenging tasks, additional resources viz., human, financial and technical were provided by the project through GEF grants and leveraging government co-financing.

The studies initiated under the project stand thoroughly reviewed and recommendations are being taken to a logical and fruitful end. Some of the major achievements of the project are as follows:

- 1. Inclusion of medicinal plants conservation and sustainable use in the National Forest Working Plan Codes.
- 2. Arunachal Pradesh notifying a medicinal plants conservation and sustainable use policy.
- 3. Formulation of national and state specific strategies for conservation and sustainable use of medicinal plants.
- 4. Identification of gaps and necessary recommendations for addressing the gaps in

national and state forest and traditional knowledge policies.

5. Inclusion of medicinal plants conservation and sustainable use in the training course curriculum of both IFS and front-line staff of the Forest Departments.

With the above backdrop, and due to other achievements of the project, the **Effectiveness of the project is rated as highly effective**.

3.4.5. Efficiency

As mentioned earlier, the management of project finances was the responsibility of UNDP. UNDP was also responsible for recruiting and contracting project personnel and consultant services, subcontracting, assisting with equipment procurement, and providing other assistance as and when required. UNDP incurred costs of more than US\$500,000 in 2012 under Outcome 4, which was more than 50% of the total outcome of the budget. There was a huge difference between the actual expenditure incurred and budgeted amount under every Outcome indicating that the project finances were not handled efficiently. While the expenditure incurred by the three project States were duly audited by Chartered Accountants every year, expenditure incurred by UNDP for the project is adjudged as **not efficient**.

Rough and conservative estimates put the co-finance leveraged by the project, anything between US\$9 million and US\$12 million. The coordination and timing in getting co-finance to the project by MoEFCC, PMU, FRLHT and three project states is commendable and highly efficient.

The project was extended twice with the approval of NPSC, GEF and Department of Economic Affairs, Ministry of Finance. An extension of eighteen months was also recommended by MTR. As stated earlier the project is a process driven project. Process projects take time to mature and deliver the envisaged results. In process projects, before the project is implemented, the capacity of main stakeholders is very low, the issues are numerous and often treated in silos and there is very little understanding and prioritization of the issues. Thus, process projects such as this project need to build staff capacities, identify and prioritize issues, and then coordinate efforts in addressing the issues. Accordingly, the project extensions are justified.

CHAPTER - 4.CONCLUSIONS, RECOMMENDATIONS & LESSONS CORRECTIVE ACTIONS FOR THE DESIGN, IMPLEMENTATION, MONITORING AND EVALUATION OF THE PROJECT

4.1. DESIGN

The project design in terms of management structure, planned stakeholder participation and lessons from other relevant projects are highly satisfactory. The initial replication approach has to be adapted to the needs of the project and the medicinal plants sector as a whole. However, the logical framework and the associated assumptions and risks are moderately unsatisfactory. Though the output level indicators tracked progress and achievements, the outcome and objective level indicators are repetitive. It is our recommendation that the logical framework of a project be revisited and revised, if necessary, at two stages during implementation: firstly, at project inception stage through stakeholder participatory approach and secondly, at mid-term review.

4.2. IMPLEMENTATION

Almost all project indicators and corresponding targets stand achieved. Operational implementation by MoEFCC and three project States is highly satisfactory. Co finance leveraged by the project was timely and admirable. Support provided by NPSC, SPSC and FRLHT is laudatory. While UNDP's role in quality assurance is highly satisfactory, its financial management of the project could have been more prudent. Studies such as MPCDA evaluation from socio-economic and ecological perspective needed to be undertaken.

4.3. MONITORING AND EVALUATION

As mentioned earlier, the project logical framework tracked progress and achievements at output levels. Though the logical framework was weak in terms of objective and outcome level indicators and targets, the efforts put into monitoring of project progress and attainment of results are highly satisfactory.

4.4. ACTIONS TO FOLLOW UP OR REINFORCE INITIAL BENEFITS FROM THE PROJECT

Action points, which would require follow up to ensure that the project objectives are met, are as follows:

- 1. Inter-sectoral strategies for conservation and sustainable use of medicinal plants formulated at both national and state level must be implemented in right spirit and earnest.
- 2. National and State level policies on Forests and Traditional Knowledge must be

revised as deemed appropriate so as to address the concerns of conservation and sustainable use of medicinal plants.

- 3. Course modules developed for IFS and frontline staff of the Forest Department must be included in the training course curriculum.
- 4. Chapter on NTFPs including medicinal plants must be referred to and implemented while revising Forest Divisional Working Plans.

4.5. PROPOSALS FOR FUTURE DIRECTIONS UNDERLINING MAIN OBJECTIVES

MoEFCC has rich experience of handling the following major projects on medicinal plants:

(i) DANIDA 1993-2004
(ii) CCF I 2000-2004
(iii) CCF II 2006-2010
(iv) GEF 2008-2015

There is a need to build on the learnings of the above mentioned completed projects, including the current project, and take up large scale projects in the states which have not been covered through the earlier projects/efforts. The objectives could include but not limited to the following:

- a) The present project has come out with an intersectoral national strategy on medicinal plants, which needs to be approved by the government and mainstreamed through implementation. Such implementation will improve the medicinal plant sector and give it a much needed boost.
- b) It has been estimated that more than 80% of the medicinal plant species being exploited for commercial purposes are obtained from the wild. A significant proportion of these wild medicinal plants are endemic to specific region/s of India and are of conservation concern. With this backdrop, we feel that there is a need for enhancing conservation and cultivation efforts by the concerned State Governments. Focused studies may be required to bring the medicinal plants in high volume trade into the fold of cultivation by developing appropriate species-specific and region-specific agrotechnologies, and to ensure the processing and market linkages in a cluster approach near the cultivation sites. Unless the farmers are assured reasonable economic returns, the cultivation of medicinal plants will not be an attractive and viable proposition.
- c) There is a need to undertake threat assessment of wild medicinal plants of conservation concern, especially the endemic ones, using IUCN Red List categories and criteria. Such assessments, undertaken over last 20 years, have resulted in inclusion of nearly 96 endemic medicinal plants of India into the IUCN Red List in June 2015. The Red Listed species of conservation concern need to be brought under conservation action.
- d) Discovery of new medicinal plant species.

- e) Bio-prospecting and drug development based on Ethno-botanical knowledge.
- f) GI and patents on process and products derived from medicinal and aromatic plants.
- g) Harmonized System (HS) codes for medicinal and aromatic plants.
- h) Overcoming cultivation, marketing, trade and buy-back barriers.
- i) Implementation of strategies developed under the present project.
- j) Organisation of outreach programmes at national and global levels for popularising the codified and non-codified Systems of Indian medicine.

4.6. BEST AND WORST PRACTICES IN ADDRESSING ISSUES RELATING TO RELEVANCE, PERFORMANCE AND SUCCESS

4.6.1. Best Practices

- a. The project stood monitored and studies reviewed at regular intervals by all the concerned stakeholders, which created a sense of ownership, ensured pragmatic and implementable recommendations, and communicated the results to stakeholders. This also led to leveraging of co-finance from all stakeholders. This endeavour of the project is noteworthy.
- b. Developing state specific communication strategies and tools helped garner the support and active involvement of the local communities for implementing the project.
- c. Establishing state project management units and constant capacity building of staff led to fully functional SMPBs.

4.6.2. Worst Practices

- a. UNDP should have developed a financial plan for the project and provided more prudent financial management. The expenditure incurred by UNDP should have also been audited.
- b. MPCDAs are an evolving conservation concept which needs to be evaluated for its socio-economic and ecological benefits. This study should have been carried out under the project.
- c. The project is based on the premise that there is a huge dependence of local communities on medicinal plants for primary health-care needs and threat status of medicinal plants is due to gaps in demand and supply. These assumptions need to be supported with scientific facts and figures.

ANNEXES

1. Annex – I

Composition and Terms of Reference of Terminal Evaluation Expert Group

2. Annex – II

Inception Report

3. Annex – III

Evaluation mission reports

4. Annex – IV

Code of Conduct Agreement Forms

5. Annex – V

References

ANNEX – I: COMPOSITION AND TERMS OF REFERENCE OF TERMINAL EVALUATION EXPERT GROUP

F. No. C-12029/1/08-CS.I

Ministry of Environment, Forest and Climate Change Government of India CS Division

> Indira Paryavaran Bhavan Jor Bagh Road New Delhi – 110 003

> > Dated: May 07, 2015

Subject: Constitution of Expert Group for conducting Terminal Evaluation of GEF-GoI-UNDP project entitled 'Mainstreaming Conservation and Sustainable Use of Medicinal Plants Diversity in Three Indian States' – reg.

A GEF-GoI-UNDP project entitled 'Mainstreaming Conservation and Sustainable Use of Medicinal Plants Diversity in Three Indian States' has been operational since 2008 in the States of Arunachal Pradesh, Chhattisgarh and Uttarakhand. The project has 4 Outcomes, 25 Outputs and numerous activities that aim to achieve the objective of mainstreaming conservation and sustainable use of Medicinal Plants at the national, state and local levels.

The project is now coming to an end and there is a need to conduct a Terminal Evaluation of the project. Terminal Evaluation by one or two international experts cannot do justice as the project is quite complex and multi-sectoral. The Ministry in consultation with UNDP has, therefore, decided to conduct the terminal evaluation through a group of Indian experts who have adequate experience in different sectors related to medicinal plants.

Accordingly, the Ministry has constituted the following Expert Group:

- 1. Director, Forest Research Institute or representative
- 2. Director, Botanical Survey of India or representative
- 3. Director, Wildlife Institute of India or representative
- 4. Director, ICAR-Directorate of Medicinal & Plant Research, Anand or representative

- 5. Director, TKDL or representative
- 6. Dr. T. S. Nayar, formerly Head, Division of Conservation Biology, JNTBGRI, Kerala
- 7. Prof. A. K. Bhatnagar, formerly Head of Botany Department, University of Delhi, Delhi

The following are the Terms of Reference:

- i. The members shall conduct terminal evaluation in team(s) at locations across the three project states, FRLHT, Bengaluru and offices of the partnering agencies in New Delhi. They will conduct required field visits to ascertain the project's achievement towards the envisaged Outcomes and Objective. For this purpose, the Group shall travel in team(s) and the duration of the same will be normally of 4 or 5 working days, including travel time.
- ii. The evaluation will at a minimum cover the criteria of: relevance, effectiveness, efficiency, sustainability and impact. The Group shall provide appropriate ratings with respect to five performance criteria viz., i) Monitoring and Evaluation; ii) Implementing Agency & Execution Agency (IA & EA) Execution; iii) Assessment of Outcomes; iv) Sustainability; and v) Impact.
- iii. The Group shall take presentations from the project implementation partners regarding both technical and administrative aspects of the project. They shall be provided with necessary documentary evidence by respective States/UNDP to demonstrate the project achievements.
- iv. The evaluators are expected to prepare the evaluation report using the criteria of relevance, effectiveness, efficiency, sustainability, and impact of the project activities. These shall be brought out clearly in the evaluation report.
- v. All relevant documents such as Project Document, the inception workshop report, the project log-frame and annual budgets, work plans, the annual Project Implementation Review, Project Steering Committee minutes, mid-term reports, Final Project Report and Technical report of the Technical Support Group (FRLHT) shall be provided to the Group.
- vi. The Evaluators will also assess the key financial aspects of the project, including the extent of co-financing planned and realized under the project. For this purpose, co- finance documentation shall be provided to the Group.
- vii. The Group is expected to submit its findings in the form of a terminal evaluation report in GEF format which shall be provided upon commencement of evaluation.
- viii. The terminal evaluation report shall also bring out key contributions of the project and also mention appropriate approaches, practices, activities etc. that need mainstreaming into the working of Government agencies involved in the sector. Follow up action required at the level of production, processing, trade and

consumption of medicinal plants should be clearly indicated.

ix. The Group shall also recommend appropriate thematic areas which can aid in preparation of another full scale GEF project in GEF-6 cycle.

Duration of Terminal Evaluation

The terminal evaluation is expected to commence in the month of May and complete before June 20, 2015. After completion of the field visits, the Expert Group shall firm up its report within 7 working days. The Group is purely technical in nature and is being constituted for Terminal Evaluation of project in question. The Group would stand dissolved once the Final Terminal Evaluation Report is accepted by GEF.

Expenditure

All expenditure incurred towards travel (i.e. economy class most direct route flight, rail and road), TA/DA and other incidental costs shall be met by UNDP as per its norms/rules and booked to the project. In addition, a token sitting fee of Rs.1000 per day shall be paid to each Group member during the terminal evaluation, both on-field and off-field.

The Group could also co-opt additional members or form Sub-Committees to address imminent scientific and technical issues, as and when required.

Without prejudice to the members, the Ministry reserves its right to dissolve the Group, or terminate membership at any point in time without assigning specific reasons for the same.

This issues with the approval of Competent Authority.

(Hem Pande) Additional Secretary

To:

- 1. All Members of the Expert Group; and
- 2. Country Director, UNDP

ANNEX – II: INCEPTION REPORT

The GEF-GoI-UNDP project entitled 'Mainstreaming Conservation and Sustainable Use of Medicinal Plants Diversity in Three Indian States' has been operational since 2008 in the States of Arunachal Pradesh, Chhattisgarh and Uttarakhand. The project is to operationally close on June 30, 2015 and, as per the norms of UNDP-supported, GEP financed projects, there is a need to conduct a Terminal Evaluation of the project.

The project is aimed at mainstreaming the long-term conservation, sustainable and equitable use of India's medicinal plant diversity into forest management policy and practice at the national, state and local levels in the above three states. The project has 4 Outcomes, 25 Outputs and numerous activities that aim to achieve the aforesaid objectives.

The Terminal Evaluation (TE) would provide an objective assessment of project implementation and impact, including achievement of global environmental benefits and lessons learned to guide future efforts. The TE will assess the extent to which the planned project outcomes and outputs were achieved, as well as the relevance, effectiveness and efficiency of the project as defined in the guidelines for Terminal Evaluation. The evaluation will also measure the strengths and weaknesses of project design, implementation, monitoring and adaptive management and sustainability of project outcomes, including the project exit strategy. The evaluation will cover the entire project, including non-GEF financed components. In addition, the terminal evaluation will also assess the key financial aspects of the project, including the extent of co-financing planned and realized under the project

KEY ISSUES THAT WILL BE ADDRESSED

The concept contained in the key issues that will be addressed below is as per the GEF Evaluation Document No. 3 (2008), Guidelines for GEF Agencies in Conducting Terminal Evaluations.

Relevance. Were the project's outcomes consistent with the focal areas/operational program strategies and country priorities?

Effectiveness. Were the actual project outcomes commensurate with the original or modified project objectives? If the original or modified expected results were merely outputs/inputs, the evaluators should assess if there were any real outcomes of the project and, if there were, determine whether these are commensurate with realistic expectations from such projects.

Efficiency. Was the project cost-effective? Was the project the least cost option? Was project implementation delayed, and, if it was, did that affect cost-effectiveness? Wherever possible, the evaluator should also compare the costs incurred and the time taken to achieve the outcomes with that for similar projects.

Sustainability: The GEF Monitoring and Evaluation Policy, minimum requirement 3, specifies that a terminal evaluation will assess, at minimum, the "likelihood of sustainability of outcomes at project termination, and provide a rating for this". Sustainability is understood as the likelihood of continued benefits after the GEF project ends. Given the uncertainties involved, it may be difficult to have a realistic a priori assessment of sustainability of outcomes. Therefore, assessment of sustainability of outcomes will give special attention to analysis of the risks that are likely to affect the persistence of project outcomes.

SCOPE & METHODOLOGY

Standard guidelines for conducting terminal evaluations of UNDP-supported, GEF financed projects and GEF guidelines will be used. The Group will split into three teams, one for each State: Dr. A. K. Sharma, Dr. Jitendra Kumar and Dr. T. S. Nayar for Arunachal Pradesh, Prof. A. K. Bhatnagar and Dr. Archana Sharma for Chhattisgarh and Dr. G. S. Rawat and Dr. S. K. Srivastava for Uttarakhand. The evaluation will be carried out in the three states through evaluation mission, review of documents and stakeholder consultations.

The evaluation will commence with a comprehensive desk review of all pertinent project documents. This will include identification of preliminary focus topics/priorities and finalising the mission itinerary in consultation with UNDP-India, MoEFCC and the three project States. The documents that will be reviewed are as follows:

- i. GEF Evaluation Document No. 3 (2008), Guidelines for GEF Agencies in Conducting Terminal Evaluations.
- ii. Document entitled 'Guidance for Conducting Terminal Evaluation of UNDPsupported, GEF-financed Projects'.
- iii. Project Document.
- iv. Project Implementation Review (2008 2014) submitted to GEF.
- v. Report of Midterm Evaluation and Management response to the same.
- vi. Minutes of National Project Steering Committee Meetings (1 8).
- vii. Annual Work Plans (2008 2015).
- viii. GEF Tracking Tools for Strategic Objective 1 and Strategic Objective 2
- ix. Financial Statements (Combined Delivery Reports) of the Project (2008 till date).
- x. Final Technical Reports of Arunachal Pradesh, Chhattisgarh and Uttarakhand.
- xi. Final Technical Report at national and state levels.

A briefing meeting is scheduled on June 17, 2015 at UNDP office in New Delhi where

background and objectives of the project will be discussed with MoEFCC, UNDP and PMU. The 'evaluation mission' given below will also be finalized the in terms of schedule of field visits and meetings with the stakeholders at the briefing meeting.

Day	Date	Activity			
		Team 1 for Arunachal Pradesh	Team 2 for Chhattisgarh	Team 3 for Uttarakhand	
TEEG members		Dr. T. S. Nayar, Dr. A. K. Sharma and Dr. Jitendra Kumar	Dr. A. K. Bhattnagar and Dr. Archana Sharma	Dr. Sunil Srivastav and WII representative	
State repre	esentative	Mr. Gapak	Ms. Lavena	Mr. Gusain	
PMU	/TSG	Shantanu	Dr. Kareem	Dr. J. Rao	
Tuesday	6/8/2015	Share project docun	hents		
Friday	6/12/2015	Assess project docu	Assess project documents		
Saturday	6/13/2015	Assess project docu	ments		
Sunday	6/14/2015	Assess project documents			
Monday	6/15/2015	Assess project documents			
Tuesday	6/16/2015	Assess project documents			
		Briefing meeting of	Terminal Evaluation G	Group members	
Wednesday	6/17/2015	Travel to Guhuwati by last flight and take night train to Itanagar	Travel to Raipur by last flight	Travel to Haldwani by night train	
Thursday	6/18/2015	Travel to Guhuwati by first flight and take taxi to Bomdila	Travel from Raipur to South Kondagaon	Travel from Haldwani to Bastiya by Taxi and visit MPCDA and Aromatic Plants Clusters	
Friday	6/19/2015	On way to Bomdila see herbal gardens	After seeing project activities travel from South Kondagaon to Dhamtari	Assess activities in Forest Training Institute at Haldwani	
Saturday	6/20/2015	Visit MPCA, sustainable harvest site and meet local community	Visit MPCA, Herbal Garden and other activity sites	Visit to sustainable harvest site, Bodmalla, via Ramnagar (around 3-4 hrs journey from Haldwani),	

PROVISIONAL EVALUATION MISSION

Day	Date	Activity			
		Team 1 for Arunachal Pradesh	Team 2 for Chhattisgarh	Team 3 for Uttarakhand	
				evaluator may also visit Mohan MPCA and return to Haldwani. Take night train/last train to Dehradun/Delhi	
Sunday	6/21/2015	Travel from Bomdilla to Itanagar	Assess activities in Forest Training Institute return to Raipur	prepare Draft Evaluation report	
Monday	6/22/2015	Meet SMPB, SFD& SBB and prepare draft report			
Tuesday	6/23/2015	Meet SMPB, SFD& SBB and prepare draft report	Meet SMPB, SFD& SBB and prepare draft report	SPSC meeting	
Wednesday	6/24/2015	Flight Guwahati to Delhi and Finalise State Level Report	Finalise State report	Finalise State report	
Thursday	6/25/2015	Assess national level activities Finalise State report		Finalise State report	
Friday	6/26/2015	Consolidate three state reports and prepare national level report			
Saturday	6/27/2015	Consolidate three state reports and prepare national level report			
Sunday	6/28/2015	Consolidate three state reports and prepare national level report			
Monday	6/29/2015	Share Terminal Evaluation Report with other TEEG members			
Tuesday	6/30/2015	Prepare Draft Termi	nal Evaluation Report		
Wednesday	7/1/2015	Submit draft Terminal Evaluation Report for Management Comments - Dr. T. S. Nayar and Dr. Ashok Bhatnagar			
Thursday	7/2/2015	Management Comments on the draft report			
Friday	7/3/2015	Management Comments on the draft report			
Monday	7/6/2015	Finalise Terminal Evaluation Report			
Tuesday	7/7/2015	National Project Steering Committee Meeting			
Wednesday	7/8/2015	Finalise Terminal Evaluation Report			

ANNEX – III: EVALUATION MISSION REPORTS

REPORT OF TEEG ON THEIR VISIT TO ARUNACHAL PRADESH (18-22 JUNE 2015)

-Dr. T. S. Nayar, Dr Jitendra Kumar and Dr A K Sharma

TEEG to Arunachal Pradesh consisted of Dr Jitendra Kumar, Dr A K Sharma and Dr T S Nayar. The Group reached Bhalukpong first and then at Tippi in Arunachal Pradesh on 18th June 2015 night, leaving New Delhi via Assam after a brief meeting and visit planning at UNDP office in New Delhi with UNDP and MoEFCC officials on 17th June 2015. Shri T Gapak, Dy Conservator of Forests, and Director, SMPB joined us at Bhalukpong along with his two associates and a few officials of the Forest Department. Shri Gapak and his two associates remained with us until we left Arunachal Pradesh on 22nd June. The intention of the visit was to evaluate the work carried out in Arunachal Pradesh under the UNDP project verifying records, and to visit at least one MPCA, one Sustainable Harvest Site, one Plantation or Nursery and one Herbal Garden nurtured under this project.

An informal discussion on 18th night with Shri Gapak touched upon matters like the positive impact on local people of the lessons learnt from sustainable harvest, good attempts made in protecting and conserving GSMP species, interest of stake holders in end point benefits, locals not getting economic benefit out of MPCAs, lack of regular and timely flow of fund for project work, not having MPCA fencing and smuggling of medicinal plants from the state to China, among other matters.

There are seven MPCAs under this project in Arunachal Pradesh. On 19th morning, the Group visited Salari MPCA in West Kameng district. This MPCA occupies an area of approximately 1535 ha and holds about 53 medicinal plant species. More importantly, it harbors three GSMP species (*Illicium griffithii, Swertia chirayita* and *Zanthoxyllum armatum*) out of 23 species reported from Arunachal Pradesh. It is an almost undisturbed tropical rain forest with thick canopy trees spreading into the valley down with shrubs and herbs in partially open areas and outskirts of the forest. The Group entered about one kilometer into MPCA. A lion's view imparted the impression that it was a well maintained MPCA.

The Group visited an herbal garden on their way to Bomdila. The garden was developed under this project in a five acre land, that was earlier a dump yard of the Buddhist Vihar. It has now been encroached upon by weeds and thorny bushes. Coupled with zero maintenance, its present condition reminded its rich immediate past, though it now carries the look of an abandoned area. There was no fund to siphon for its development and maintenance towards the last phase of the project and so, its growth got stunted. The fact that must be underscored is that there should be attempts to ensure perennial flow of fund from a desired agency during the post project period, at least to maintain a developed garden, as otherwise, the manpower and money invested are bound to go waste.

Sustainable harvest site visited was at Morsing where interaction with local people also took place. There were some 20 people, young and old, two-third women, who came for interaction. It was felt, in general, that the locals had become well aware about the good and bad effects of sustainable and destructive harvests. They could sell dried plant materials of species like *Zanthoxyllum armatum* and *Swertia chirayita* for Rs 500/- per kg. As they do not have storage facility, their capability to sell the product directly and during off season in bulk as well as for higher price proved futile. They complained that there were occasions when middle men did not keep their promises of buying, incurring in loss of money and waste of their labor. They expressed the view that they would continue to adopt the sustainable harvest devices even after the termination of the project though they knew that by adopting sustainable harvest methods, they could produce only less amount of material than other people could, who practised indiscriminate harvesting devices. They spoke also about the advantage of animals to plants and vice versa, highlighting the importance of seed dispersal and pollination using their own terminology.

If they were not really convinced of and not satisfied with their income from sustainable harvest, equating the efforts they put in, it is likely that they may lose their faith in the philosophy of sustainable harvest and may adopt destructive harvest methods because of the simple reason that they harvest medicinal plants just for their livelihood. Nobody can blame them if conservation of medicinal plants takes a back seat in their struggle for existence. The entire matter is a very complex issue which does not appear to have a single or a simple solution. However, the project managers' future program to establish nurseries for about 66 species of medicinal plants in the state, it is hoped, may yield results.

On 20th evening, the Group reached Itanagar from Bomdila. The project was briefly and informally discussed with Senior Forest Officers over dinner on 21st and on 22nd, the Group devoted time mainly for the presentation made by Shri Gapak and for going through the documents and products generated through the project for Arunachal Pradesh.

Gapak's presentation took about one and half hours and interaction of the Group with Shri Gapak and Senior Forest Officers took about two hours. Presentation covered historically almost all aspects of the project but revolved around more on success and failures of aspects like establishment of BMCs and MPCAs, strategies involved in identifying and prioritising 66 medicinal plant species for propagation to avoid middlemen, training program on documentation of PBRs, preparation of stake holder specific legal literacy training manuals, revision of Forest Working Plans involving MAPs, tie up with the Forest Department, development of manual for MPCA management, population status of MAPs and GSMPs, sustainable harvest methods of MAP and GSMP species, trained experts leaving the program half way, development of collection protocol for three species (*Rubia cordifolia, Ilicium grifithii* and *Swertia chirota*) and exposure trips.

ELDF officials not directly interacting with Arunachal Pradesh project people, project people's ignorance about MTR, lack of regular flow of fund for executing the project work towards the last phase, non-availability of funds for the promised simple products of the project, non-revision of IDCG report, partial failure in marketing harvested plants due to high demand from middlemen, impractical decisions like target of raising 15 to 20 lakh GSMP trees and planting them, population status of MAP/GSMP species within and surrounding MPDA/MPCA complex etc.) of NPSC, degradation of the herbal garden, not establishing a nursery etc., as understood through this interaction, appear to be a few bad lessons; but the experience gained through these lessons, however bad they are, provides rare occasions of challenge for analytical minds to come forward with feasible solutions in future in similar contexts.

Really laudable are many of the project achievements. The cabinet getting convinced of and giving approval of a medicinal plant policy for the state, making the locals to conceive the concept and benefit of sustainable harvest methods, revision of Forest Working Plan giving equal importance to MAPs, establishment of BMCs, SMPB establishing legal right to buy medicinal plant material directly from growers, bringing out a number of products like 'Manual for Village Botanists', 'The Life Within' (a shadow puppet play on medicinal plants and traditional knowledge), 'Short Documentaries on Medicinal Plants' touching up on different aspects of this project, propagating 'Project Anthem', establishment of an excellent work relationship with the state Forest Department throughout the project duration etc. are only a few among them to cite. After perusing all the project documents made available to TEEG and after listening to the presentation made by Shri Gapak, it was felt that the project was executed, standing within the limit of available resources and infrastructure, in a highly satisfactory way.

Thanking Shri Gapak and his team for their whole hearted cooperation and support during the visit, TEEG left Itanagar for New Delhi on 22nd June 2015 night via Guwahati by rail and air.

REPORT OF TEEG ON THEIR VISIT TO CHHATTISGARH (21-23 JULY 2015)

-Dr. A. K. Bhatnagar

Chhattisgarh has a rich tribal culture, with a strong and vibrant tradition of herbal medicine. People have immense faith in healers (Vaids), who depend on locally available medicinal plants to offer cure for almost every disease of humans and domestic animals in rural as well as urban areas. Medicinal plants are also directly employed for healthcare in households, as knowledge of their use and faith in their efficacy are quite widespread. The Vaids collect medicinal plants from the wild, and even buy some from the market. However, in recent times, several medicinal species have become rare in their native habitats, and the price of genuine herbal materials has gone up drastically. The young generation finds their parental occupation of herbal medicine, non-lucrative, unattractive and unsustainable. The closely family-held information on applications, and precise methods of use, of herbal medicine is threatened by such generational changes. The threats to medicinal plants on account of urbanization, habitat loss, over-exploitation and climate change all over the developing world are well known.

The UNDP project on conservation and sustainable use of medicinal plants in Chhattisgarh was, therefore, a timely step at the right place in the desired direction.

On completion of its five year course, the project has been evaluated with the objective of assessing success of its implementation, participation and benefits accrued to stakeholders, sustainability, and to suggest/recommend a future course of action. To fulfill these objectives the group visited some of the project sites, and held discussions with the stakeholders, including the local people, Vaids, trained village botanists, an NGO and forest officials.

On 21st July, 2015 the group first visited the head office of the Chhattisgarh Medicinal Plants Boards (CMPB) at Raipur. The office complex has a compact medicinal plants garden with nearly 250 species for display. Settings of several species such as Shatavri, Bel, Geloa, Neem, Aloe, Tulsi, Keokamal, Safed Musli and Kali Musli were also available for distribution to the public. The garden receives visitors, specifically school children. Creation of awareness and distribution of saplings are undertaken by the enthusiastic, well informed staff. In addition to the other activities, the CMPB has brought out interesting publications on cultivation and use of various medicinal plants.

At Jahora, Dugli (Reserve Forests 250,251,307,308,309) the group visited the Medicinal Plants Conservation Area (MPCA, spread over 200 ha.) with a surrounding

buffer zone of Medicinal Plants Development Area (MPDA, 1400 ha.) According to the local tribal guide and other people, this area holds 300 species of medicinal plants (133 according to a Survey Report). The group was also told that the UNDP project has led to sustainable use, scientific harvesting and adequate availability of medicinal plants for personal use and trade. Several species that had become rare, have now regenerated. As many as 86 families of village Jahora are dependent on MPDA. People collect medicinal herbs, carry out some value addition (cleaning, drying etc.) and then the material is sent to the Processing Centre at Dugli (near Guest House). Curcuma angustifolia and Andrographis paniculata were growing in plenty. Desmodium gargelicum (selprone) and dioscorea tuberosa (whose rhizome serves as a famine food) were shown. Kali Musli collection is allowed, but not safed musli or meda chaal (TPs not given). Interestingly, we were shown the medicinal plants, and told their common and scientific names, along with uses, by a tribal young man named Sukhram Netam, who had received training under Village Botanist Programme of UNDP project. He is employed as a casual labour. Inside the MPCA, a Gene Pool of Medicinal Plants was created in 2011-12. Surrounded by barbed wire, the area is not approachable.

The idea of a three-level (gene pool, MPCA and MPDA) conservation of medicinal plants in nature is innovative. Such a repository of medicinal plants growing in nature, in a situation where they continue to reproduce and evolve deserves appreciation.

The Botany Course (on medicinal plants) organized for training village botanists has been very successful. It is clear that professional taxonomists are few, and would not be always available for identification of medicinal plants for mundane purposes. This expertise within communities is necessary for conservation and appropriate use of medicinal plants. Village botanists can have a career in sustainable harvesting and use of medicinal plants.

In the evening, the group met a local healer, named Dhasrath Dhruv (of Purani Basti, Village Dugli). He revealed that under the UNDP project the Vaids received training on season, scientific harvesting methods and sustainable use of medicinal plants. They collect from MPDA and also buy herbals from the markets to treat several diseases, including piles, malaria, paralysis, cancer, heart diseases and women meladies. The project also helped in correct identification of medicinal species which is essential for effective treatment. The vaid said that he treated diabetes with Gurmar, Jamun Seed, Neem Leaves and Kirajet Leaves. Sarpagandha (<u>Rauvolfia serpentina</u>) is used for high blood pressure, and <u>withania somnierum</u> for low blood pressure. The vaid said that he now feels assured that the medicinal plants that he needs shall continue to be available in future. The vaid said that he was paid Rs. 31,200 per year for his services, but that this amount was not enough.

The Processing Centre at Dugli produced utensils with mehul leaves, honey, amla candy, Arjuna churan, trikut, lemon grass oil, sisal role, Ashwagandha, bahera, harar, kalmegh and chawanprash. The place was full of activity. The products were available at nominal price at a small shop in the forest complex.

The group also met the Range Officer, Dugli Mr. Verma, SDO, Bulgurhi Mr. T.R. Soni, SDO, Nagri Mr. S.K. Srivastava and some other forest officials. They agreed that the UNDP project had created significant awareness, new ideas and technologies, and some infrastructure. Scientific harvesting, value addition and quality of material produced are now being given importance. The collectors get a better price in the market.

The forest officials were of the view that the UNDP project should continue, as it has the potential for high social impact that is as yet not fully realized. There is now need for cultivation/plantation of the species that are in high demand. Farmers are now growing Curcuma on the sides of their farms. There is plenty of scope for other species like sarpagandha and satavar. Lot of scope exists for new agro-technolgoies, and for value addition at farmer's level, particularly for lac, amla and gripe water.

On 22nd July, the group visited Makri (Bhatva), Forest Division South Kondagaon. Under UNDP Project here an MPCA has come up on 200 ha, (RF-390), and MPDA (RF397) in 1400 ha. Thirty two medicinal plants, including kikri kanle, gurmar, kali musli, safed musli, dron pushpin, bhoolan bela and gelaa were seen in the area. At Makri, an excellent nursery of medicinal plants was seen with trained women workers.

On 23rd July, the group visited at Dungriguda, South Kurdragaon, a herbal garden developed as a part of UNDP project. At this lovely location, near the town, several medicinal specieis were on display. However, only one or two individuals of each species were planted, not reproductive populations. We were told that this is because the purpose was limited to creation of awareness among people. Interestingly, some distance away, near a dam site, the group was also shown another medicinal plants garden, named Manav Van at Gangrel, Dharamtali Range. The place is well managed by a Van Prabandan/Forest Management Society. Here the medicinal plants are grown in an interesting pattern, and each species has reproductive population of several individuals.

At the head office in Raipur, the group met Mr. Pandey, the CEO of Chhattisgarh Medicinal Plants Board. In his opinion, the UNDP project had served a fruitful purpose. It has not only generated greater awareness, but also led to creation of new infrastructure, introduction of novel ideas and technologies, and opening up of fresh avenues for employment and income generation. He informed the group, in response to a query, that already steps have been initiated to sustain and carry forward the activities initiated under the UNDP project. For this purpose, an amount of Rs. 7.5 crores has been allocated under CAMPA. The Chhattisgarh Medicinal Plants Board was all set to distribute nine lakh saplings of medicinal plants, raised in 10 nurseries, to people in the state.

Mr Nirmal Awasthi, who heads an active NGO at Raipur, said that the project launched by UNDP was successful in its objectives, as Chhattisgarh has a rich tradition of herbal medicine and there are Vaids even in remote areas taking care of healthcare needs of the population. His NGO has trained several Vaids (about 1200) in identification, scientific harvesting and sustainable use of medicinal plants. In his opinion, the project should continue.

The visits to various sites and discussions with various stakeholders has given the group the impression that the UNDP project has been innovative and effective. The nurseries and conservation areas set up for medicinal plants are impressive. The project has created greater awareness among people, and enthusiasm among forest officials and other stakeholders. The Village Botanist Program has been a great success. It was felt by many that the concept of creating MPCA, MPDA and Gene Pool of medicinal plants in an integrated manner is very effective, and it should be introduced to other regions of Chhattisgarh. Another important achievement has been the training of Vaids in methods of scientific harvesting (season, part used, collection procedure, preservation etc.). The group came back with a high opinion of the achievements of the UNDP project in Chhattisgarh.

Recommendations

- 1. The concept of MPCA/MPDA/Gene Pool of medicinal plants should be extended to other parts of Chhattisgarh and to other states.
- Some of the trained Village Botanists should be employed by Forest Department as Multitasking Assistants or Attendants to look after the conservation areas and ensure sustainable extraction of medicinal herbs as per regeneration potential of species.
- 3. In order to meet the market demand, and to relieve pressure on nature, some of the medicinal plants in greater demand should be brought under cultivation in farmers' fields. To achieve this goal, stress should be laid on developing agrotechnologies for each species. Some incentives, risk assurance and a minimum support price should be offered to the farmers, so that cultivation of medicinal plants can be profitable like other conventional crops;

- 4. Forward and backward linkages should be strengthened to ensure availability of seed/planting material and agricultural inputs to the farmers, and purchase of his produce by the traders/manufactures. The focus should be on generation of employment opportunities, and higher income to the farmers.
- 5. Cluster analytical and packaging facilities should be set for quality assurance and delivery to the market after value addition.

REPORT OF TEEG ON THEIR VISIT TO UTTARAKHAND (18-23 JUNE 2015)

-Dr. S.K. Srivastava

The evaluator visited Forestry Training Academy (FTA), Haldwani and discussed with Forest Official regarding working Plans of different divisions particularly Champawat and Bageshwar specially where these MPCA have been established. While going through the plan it was found that MPCAs have not been dealt separately. However, MAPs have been mentioned under the chapter on NTFPs of the working Plan. FTA has brought out several publications on various aspects of MAPs of Uttarakhand. In addition, two training courses for village botanists (11 nos.) from different MPCAs have been organized on the techniques of collection of plant material, identification, distribution, uses under the aegis of UNDP-GoI-GEF project. The curriculum of the village Botanists' course is quite comprehensive and well-structured which include theoretical and practical exercises. It includes practical sessions on techniques of plant collection, preparation of herbarium along with their field notes. This training is very useful in creating awareness and sensitizing local people through village botanists about conservation and sustainable use of medicinal plant diversity in different areas.

A nursery located at FTA Haldwani was visited where nearly 100 medicinal plant species with each 300-500 propagating materials were displayed. All the species are of medicinal and aromatic significance and are known to occur in different eco-climatic zones of Uttarakhand. Another nursery at Lalkuan was visited which harbours more than two thousand saplings of various medicinal and aromatic plants. Besides, a collection of *ca* 40 spp. of live *Ficus* plants are also displayed.

Field visit to Bastiya MPCA in Champawat

The Bastiya MPCA in Champawat was established in 2011 aiming to conserve medicinal plant species under *in-situ* conservation. Nearly 200 ha has been earmarked where several species grow naturally. Nearly fifty plant species have been recorded

from this area which are of medicinal potential. Among the common tree species are Shorea robusta, Terminalia chebula, Terminalia bellerica, Tectona grandis, Mallotus philippensis, Holarrhena pubescens, Aegle marmelos, Anogeissus latifolia, Haldinia cordifolia, Holoptelia integrifolia, few individuals of Pterocarpus marsupium, Embelica officinalis, Schleichera oleosa, Syzigium cumini, and Cassia fistula. Among the common shrubby plants Adhatoda zeylanica, Colebrookia oppositifolia, Carissa spinosa and herbaceous elements are

Lepidagathis cuspidata, Boerhavia diffusa, Rumex obtusifolius, and Achyranthes aspera were seen. Amongthe climber the Bauhinia vahlii is widely spread along with Pueraria tuberosa, Tinospora sinensis and Millettia auriculata. Besides MPCA, ca 20 ha land has been developed under MPDA adjacent to MPCA where in selected medicinal plants from forest nurseries as well the seedlings from MPCAs have been planted in clusters. Tree species are Cinnamomum tamala, Terminalia chebula, Terminalia bellerica, Emblica officinalis, Uraria picta, Pterocarpus marsupium etc. Efforts have been initiated for mass cultivation and propagation of the medicinal plants in large scale for sustainable collection practices.

Field visit to Mohan MPCA in Almora

Mohan MPCA in Almora is also spread over an area of *ca* 200 ha. The most significant and important species here are *Ougeinia oojeinensis* along with *Shorea robusta, Schleichera oleosa, Haldinia cordifolia, Terminalia bellerica, Terminalia chebula, Emblica officinalis, Aegle marmelos, Syzygium cumini, Mallotus philippensis, Grewia elastic, Ficus glomerata, Cassia fistula, Holarrhena pubescens, Flacourtia indica, Thespesia lampas. Murraya koengii, Cordia dichotoma, Dendrocalamus strictus, Pueraria tuberosa, Abrus precatorius* are some shrubs and climbers. Among the herbaceous elements *Achyranthes aspera, Sida cordata, Phyllanthus amarus, Desmodium gangeticum, Canscora diffusa, Barleria cristata,* etc were seen. These MPCAs and MPDAs are the centre of education for researchers and students those working on the plant Diversity. Once MPCAs and MPDA are developed they must be attached with BMCS for future conservation of medicinal plants and will also support in preparing and updating PBRs.

Visit to Bodmalla village

Bodmalla Van Panchayat has been selected and developed as one of the site for large scale cultivation of Tej Patta (*Cinnamomum tamala*) through community forest management. This is an *ex-situ* conservation approach that includes conservation,
management and sustainable use of MAP diversity of GSMP in Uttarakhand State. The local people of village Panchayat cultivate Tej Patta at large scale and harvest through traditional method and selling in the local market. In this process the female workers support in collecting the leaves of *C. tamala.* During the interaction with the collectors it was brought to our notice that they are not getting desired quantity of Tej Patta due to faulty drying practices. Shades are required at the site of collection which will avoid spoiling of the materials. There is a need to improve the drying techniques (shade drying). The collectors were concerned that direct selling of the product in market is not allowed and getting transit pass from concerned DFO needs to be facilitated. Owing to delay in getting permission at times the material has to be dumped in the trucks/trolleys or godowns for 2 or more days which affects the quality of the material.

ANNEX – IV: EVALUATION CONSULTANT CODE OF CONDUCT AGREEMENT FORM

EVALUATION CONSULTANT CODE OF CONDUCT AND AGREEMENT FORM

(To be annexed to the TE report)

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 imitations, findings and recommendations.
- 7. Should reflect sound accounting procedures and be prudent in using the resources of the evaluation.

	Evaluation Cor	sultant Agreement Fo	orm ¹
Agreement to abide by	he Code of Conduct f	or Evaluation in the U	N System
Name of Consultant:	DR. A.L	K. SHARM	A
Name of Consultancy O	ganization (where rel	evant): F. R. I.,	ZEHRADUN
I confirm that I have rec	ived and understood	and will abide by the	United Nations Code of Conduct
for Evaluation.		^	~
Signed at UNDP New	Dellii 17706[.	2015 Juph	anne
Signature:		Ada -	

¹www.unevaluation.org/unegcodeofconduct

(To be annexed to the TE report)

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.
- 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 imitations, findings and recommendations.
- 7. Should reflect sound accounting procedures and be prudent in using the resources of the evaluation.

Evaluation Consultant Agreement Form ¹
Agreement to abide by the Code of Conduct for Evaluation in the UN System
Name of Consultant: Dr. JITENDRA KUMAR, DIVECTOR
Name of Consultancy Organization (where relevant): Aromatic Plant Research, Borigh Anand, Guisrat, India
f confirm that I have received and understood and will abide by the United Nations Code of Conduct for Evaluation.
Signed at New Dellon June 17, 2015
Signature: Jiten Mg

(To be annexed to the TE report)

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Evaluation Consultant Agreement Form ¹
Agreement to abide by the Code of Conduct for Evaluation in the UN System
Name of Consultant: DK_TS_Nayas
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 2.00 pm on $17.6.2015$ Signature: $17.6.2015$

(To be annexed to the TE report)

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Evaluation Consultant Agreement Form ¹			
Agreement to abide by the Code of Conduct for Evaluation in the UN System			
Name of Consultant: A.K. BHATNAGAR			
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 MEW Delhi on 17-6-2015			
Signature:			

(To be annexed to the TE report)

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Evaluation Consultant Agreement Form ¹	
Agreement to abide by the Code of Conduct for Evaluation in the UN System	
Name of Consultant: Dr. G.S. Rawrat	
Name of Consultancy Organization (where relevant):	
I confirm that I have received and understood and will abide by the United Nations Code of Con for Evaluation.	nduct
Signed at <u>New</u> on <u>17-06-2015</u>	
Signature:	211

(To be annexed to the TE report)

Evaluators:

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- 7. Should reflect sound accounting procedures and be prudent in using the resources of the evaluation.

Evaluation Consultant Agreement Form ¹			
Agreement to abide by the Code of Conduct for Evaluation in the UN System			
Name of Consultant: Dr. S. I. SRIVASTAVA.			
Name of Consultancy Organization (where relevant): BOTAMICAL SVRVEY OF INDIA.			
I confirm that I have received and understood and will abide by the United Nations Code of Conduct for Evaluation.			
Signed at MEW DELHI on 17.06.2015			
Signature:			

ANNEX – V: REFERENCES

- Global Environment Facility Evaluation Office (2008). Evaluation Document 2008, No. 3: Guidelines for GEF Agencies in Conducting Terminal Evaluations. Washington, DC. P 32.
- 2. Global Environment Facility Evaluation Office (2011). Evaluation Document November 2010, No. 4: The GEF Monitoring and Evaluation Policy 2010. Washington, DC. ISBN-10: 1-933992-33-6. ISBN-13: 978-1-933992-33-4. P 42.
- 3. United Nations Development Programme Evaluation Office, 2012. PROJECT-LEVEL EVALUATION: Guidance for Conducting Terminal Evaluations of UNDP-Supported, GEF-Financed Projects. P 58.
- 4. Mark Johnstad and Ram Prasad (2012). Mid-Term Evaluation: Mainstreaming Conservation and Sustainable Use of Medicinal Plant Diversity in Three Indian States. UNDP India (New Delhi). P 92.