

Mid-Term Review

Integrated Land and Ecosystem Management to Combat Land Degradation and Deforestation in Madhya Pradesh (MP SLEM)

**Madhya Pradesh Forestry Department (MP FD)
United Nations Development Programme (UNDP)
Global Environment Facility (GEF)**

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Prepared by:

**Eugenia Katsigris, Principal, Parnon Group
Pradeep Khanna, Former Principal Chief Conservator of Forests
and Head of Forest Force, Gujarat State**

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Acronyms and Abbreviations

APCCFs – Additional Principal Chief Conservators of Forests: Within India’s state forest department hierarchies, high-level positions just below level of the PCCF, the head of a state forest department.

APR – Annual Project Review: Annual report submitted by UNDP-GEF projects.

Atlas: Enterprise Resources Planning (ERP) system used by UNDP and other UN agencies to manage projects, finances, human resources, inventory, and procurement.

bamboo beneficiary: In this report, refers to person or household that is rehabilitating bamboo forest land and protecting forest under project in return for monthly payments for four years and right to future bamboo profits.

bamboo overlapping: One of the type of work areas defined by the MP FD in its work plan. Distinct from RDBF areas, which are the focus of bamboo work in the project.

bamboo rehab or rehabilitation: In this report, refers to work in improving degraded bamboo areas by cutting crooked and overcrowded culms and making land works to improve water retention.

BG – beat guard: Working level FD staff person in India who works at village level. Area of responsibility may include from one to several villages.

BPL – below poverty line: In India a certain classification associated with income level that may entitle one to ration cards for purchasing discount food supplies.

CDRs - combined delivery report: UNDP financial reports that include official project expenditures.

CCFs – Chief Conservators of Forests: Within India’s state forest department hierarchies, these positions are one level below APCCF. In MP, CCFs work at the state level in Bhopal (the capital) and in the field. In the field, they are responsible for areas known as “circles” which contain a number of forest divisions.

CFC – community forest center: Rural center in India providing opportunities for work and training related to forests and forest products.

chindi broom: broom made from natural forest products.

clump: a group of bamboo stalks (or “culms”) that grow from a single rhizome or root.

CPI: consumer price index. When compared from year to year, can show inflation levels.

culm: an individual bamboo stalk. Several “culms” growing from the same rhizome or root make up a “clump.”

discount rate: a factor used to compare amounts of money at different points in time. Future amounts are generally “discounted” (multiplied by discount rate) to compute present values. Discount rates may take inflation and/or interest rates into consideration.

Dept. – department.

DFO – division forest officer: Within India’s state forest hierarchy, responsible for overseeing forest activities in a division. Reports to circle CCF.

EC or E. Chhindwara or E. Chhind. – East Chhindwara, one of the project’s nine divisions.

EK – Eugenia Katsigris: One of the authors of this report and Principal of Parnon Group.

FAO- United Nations Food and Agriculture Organization.

FD – Madhya Pradesh Forest Department: not a standard abbreviation, but used for convenience at times in this report.

FRA – Forest Rights Act: Key piece of legislation passed in India in 2006 concerning the rights of forest dwelling communities to land and other resources previously denied to them.

GEF- Global Environment Facility.

GEF Operational Focal Point: government official designated by country receiving GEF funding to be responsible for operational aspects of GEF activities, such as endorsing project proposals to affirm they are consistent with national plans and priorities and facilitating GEF coordination and consultation at country level.

ha: hectares

HH: household

gram sabha: village council, which consists of all adults in a community and has legal standing.

JFM – joint forest management: program for participatory management of forests in India

JFMC – joint forest management committee: the governing body at the village-level for community forest use rights and duties. All interested adults in a village can join. JFM Cell in MP Forest Department is the group that handles issues related to JFMCs.

JSDF – Japan Social Development Fund: Operates through the World Bank. MP SLEM project’s TNA and SME work was designed based on work done under a JSDF project in MP forest areas.

ICFRE – Indian Council of Forestry Research and Education: based in Dehradun, conducts forestry research and provides forestry training. ICFRE is the agency implementing the SLEM TFO project in India, which is responsible for helping to disseminate results of other SLEM projects.

IIFM – Indian Institute of Forest Management: Located in Bhopal, IIFM is a teaching and research organization. IIFM has completed a TNA contract with the project and holds an active contract with the project for SME development.

INR: code for India’s currency, the rupee. Oct. 2013 exchange rate roughly 62.5 INR to USD.

IP- implementing partner. For UNDP-GEF project, government agency that is responsible for project implementation.

L – liter.

lac: a resinous secretion of certain species of insects, which has value for the production of shellac, which can serve as a tough natural primer or sealant. “Brood lac” are tree branches used to propagate lac.

lantana: an alien invasive species occurring in MP forest areas that grows to a height of five or six meters. In project livelihood efforts, used to make furniture.

LPG – liquid petroleum gas. In project, we learned three bamboo beneficiaries are using payments to purchase LPG as replacement for fuel wood used in cooking.

m – meter.

mahua: non-timber forest product collected in many of project’s forest areas for sale.

M&E: monitoring and evaluation

MoEF – Ministry of Environment and Forests: GEF focal point is housed in this ministry as are focal points for UNFCCC, UNCBD, and UNCCD.

MP – Madhya Pradesh: State in central India that is home to large tribal population. Capital is Bhopal.

MP FD or MPFD – Madhya Pradesh Forest Department: not the official abbreviation, but used at times for convenience in this report.

MP SLEM – Madhya Pradesh Sustainable Land and Ecosystem Management Project: used to refer to the UNDP-GEF project that is the subject of this mid-term review.

MPVS – Madhya Pradesh Vigyan Sabha: company retained to carry out project SME work in three divisions in Chhindwara. Has its own NTFP processing technologies.

MTR – mid-term review.

NA – not applicable or not available.

NB or N. Betul – North Betul, one of the project’s nine divisions.

non-bamboo beneficiary: used in this report to refer to villagers who are not a part of the project’s bamboo rehabilitation work and thus do not receive monthly payments from the project. Most often used to refer to those living in the same village as bamboo beneficiaries.

non-bamboo village or non-project bamboo village: used in this report to refer to villages that do not have project bamboo beneficiaries.

NPC – National Project Coordinator: Responsible for coordinating day-to-day activities of project; oversees PMU.

NPD– National Project Director: For UNDP-GEF projects, the government appointed head of the project. In the case of this project, the position is held at the APCCF level of the MP FD.

NREGA or NREGS: National Rural Employment Guarantee Act or Scheme: Refers to policy and work program in India whereby rural adults willing to work are guaranteed at least 100 days per year of work.

NTFP – non-timber forest product.

OBC – Other Backward Classes: A set of castes in India recognized for being socially and educationally disadvantaged in order to extend benefits and promote their development.

PCCF – principal chief conservator of forest. Heads forest department at state level in India.

PDF - Project Development Funds: Former framework through which GEF disbursed project preparatory funds. PDF A grants were relatively small (e.g. USD25,000), while PDF B and PDF C grants were larger (in the hundreds of thousands of USD).

PESA – Panchayats (Extension to Scheduled Areas) Act, 1996: provisions enacted to cover the “scheduled areas,” enabling *gram sabhas* to self-govern their natural resources.

PIR – project implementation report. Annual reporting mechanism for UNDP-GEF projects. Includes project ratings and comments for both implementation and progress towards objectives, given by UNDP Country Office, UNDP Regional Technical Advisor, and Implementing Partner.

PK – Pradeep Khanna: One of the co-authors of this report and former PCCF of Gujarat State, India.

PMU – project management unit. The team responsible for day-to-day running of the project. Team members are generally paid by the project.

ProDoc – Project document.

PSC - Project Steering Committee: High-level committee with membership drawn from relevant government departments. Responsible for oversight of project.

PS Forests – Principal Secretary of Forests: Representative of state government responsible for forest issues.

RDBF – rehabilitated degraded bamboo forest: Refers to forest areas in India that have degraded bamboo forest that needs to be or has been rehabilitated. The project’s bamboo areas are all defined as RDBF areas.

RDF: One of the type of work areas defined by the MP FD in its work plan. Distinct from RDBF areas, which are the focus of bamboo work in the project.

REDD+ - reducing emissions from deforestation and forest degradation in developing countries and also including conservation, sustainable management, and enhancement of forest carbon stocks. It refers to a mechanism designed to use market incentives to reduce greenhouse gas emissions from forest degradation.

RFO or RO – range forest officer or range officer: Forest officer in India responsible for overseeing activities in a forest range. Reports to SDO (sub-division officer). (Note: Outside MP and this report, RO is more typically used to indicate “round officer” who reports to the range forest officer and oversees two to four beats. Two to three rounds constitute a range. In MP, we found the round officers referred to as “foresters” or “assistant range officers.”

Rs – Rupees: India’s currency. Also indicated by INR.

SB or S. Betul – South Betul, one of nine project divisions.

SC or S. Chhindwara or S. Chhind. – South Chhindwara, one of nine project divisions.

SCI: One of the type of work areas defined by the MP FD in its work plan. Distinct from RDBF areas, which are the focus of bamboo work in the project.

sisal fiber: a stiff NTFP fiber used in making various products include rope and bags.

SDO – sub-division officer. Forest officer in India responsible for overseeing activities in forest sub-division. Reports to DFO (division forest officer).

SLEM –sustainable land and ecosystem management: Refers to initiatives that cut across the areas of land degradation, biodiversity, and climate change. In India, the GEF SLEM Program consists of six active SLEM projects.

SME – small or medium-sized enterprise.

TNA – training needs assessment: In the case of the project, two consultancies were hired to carry out TNAs of villagers in the project divisions.

TFO – technical facilitation organization: refers to role of ICFRE in India’s SLEM program. The TFO project calls for ICFRE to perform cross-cutting SLEM duties including national dissemination of results of other SLEM projects.

TOR – terms of reference (often used to outline consulting assignments).

TOT – training of trainers.

UNCBD – United Nations Convention on Biodiversity.

UNCCD – United Nations Convention to Combat Desertification.

UNDP – United Nations Development Program.

UNFCCC – United Nations Framework Convention on Climate Change.

VLO – village-level organization

WB or W. Betul – West Betul, one of nine project divisions.

WC or W. Chhindwara or W. Chhind – West Chhindwara, one of nine project divisions.

Notes on interviewee references in tables in this document:

Villagers: In tables with multiple references to villager comments, we may distinguish villagers by noting the division in which they are located and by adding a “villager number” for that division. When the villager is a woman, we indicate that in the tables as well. When there is no indication in the table, the reader can assume the villager is a man.

DFOs and other staff: In tables with multiple references to DFO or other FD staff comments, we may refer to these by indicating position and a “number”. The numbers indicated may not correspond to the same person from table to table and are merely meant to distinguish between forest staff making comments that are listed in the same table.

Executive Summary

Preview

- The Madhya Pradesh (MP) SLEM project has achieved excellent, exciting, and innovative results in the field. Going forward, the project should: (1) Increase focus on impacts desired (not just tasks achieved) and clarify geographic scope (which, in view of targeted impacts, may need to be refined to specific forest areas rather than complete milli-watersheds). (2) Undertake state-level aggregation of results and state and national-level activities to get the word out about results and convince others of the efficacy of the project's models (namely, (i) individual use rights bamboo model, (ii) enhanced cooperation between Forest Department and people, and (iii) multi-pronged, integrated conservation and livelihoods model).

Background

- MP Forest and Mixed Bamboo Areas: MP's forest areas are 30 percent of its total area. MP ranks second in India in bamboo resources. Of MP's 1.3 million ha of bamboo areas, 75 percent is degraded.
- Current management model: MP forests are managed by the MP Forest Department according to ten to twenty-year working plans. Seventy percent of MP's forest area (excluding wildlife protected areas) is associated with JFMC rights and duties. That is, the local community participates in forest protection and management and shares in profits. In the case of bamboo, the worker harvesting is entitled to 100 percent of profits plus wages. In the case of timber, the JFMC as a group is entitled to 10 percent of profits. Compensation, but not profits, is provided to workers involved in forest rehabilitation work. Protection is the responsibility of the JFMC; and compensation to the JFMC as a group is sometimes provided for protection work.
- People in MP: MP is one of the most food insecure states in India; and poverty rates are highest in forest areas. Twenty percent of MP's population is tribal. Tribal populations live mainly in and around forest areas; and tend to be among MP's poorest and most marginalized.

Project Description

- Project models and scope: The MTR team found the project to be focusing on demonstration of three models, the first two of which are embedded in the third:
 - *Individual use rights bamboo model*: Each selected family receives monthly payments for four years in return for bamboo rehabilitation work and protection of bamboo and surrounding forest area. Each family is entitled to 80 to 100 percent of profit from harvest on their assigned bamboo area. (The rest goes to the JFMC). This model is the most developed aspect of the project and has received the largest amount of funding.
 - *Enhanced cooperation between Forest Department and people*: The project emphasizes close cooperation between Forest Department (FD) staff and local

people. Villagers have gone from “running away” from FD staff to seeking them out. Some FD staff are very enthusiastic about replicating this cooperative model.

- *Multi-pronged integrated conservation and livelihoods model*: In addition to bamboo rehab and use rights, the project includes fodder plantations, energy plantations, watershed management work, and livelihoods work (both agriculture-related and SMEs). Livelihoods work and the several types of conservation work are meant to be integrated to achieve stronger, more sustainable conservation results.
- Broader efforts: There is some discussion of the project pursuing broader efforts (beyond the three aforementioned models) in assessing land degradation status across MP.
- Project’s targeted physical area for impact: We recommend the project’s physical scope be narrowed to areas in which measurable ecological impact can be achieved. Site selection for SMEs and other activities should be based on areas targeted for impact. As such, the project’s bamboo areas and surrounding forest are more appropriate for delineation of project physical scope than are full milli-watersheds. (The latter were the originally intended scope.)
- Three targeted project outcomes in ProDoc: The three outcomes in the ProDoc are: (1) creation of enabling environment for SLEM through capacity building and impact on policy, plans, and programs; (2) demos; and (3) monitoring of demos and communication of results to facilitate replication. Outcome 2 has received the bulk of attention to date and is already overspent. Targeted allocations for Outcomes 1 and 3 are each only about 13 percent spent.
- Project close date and extension: The official project close date is Jan. 2015. We recommend the project submit formal application for extension to Dec. 2015. Approval should be contingent on submission of a satisfactory action plan for 2014/2015 that includes specific activities for facilitating replication.
- Project institutional set-up: The MP Forest Department is the project implementing partner (IP). Extensive involvement of FD staff at local level is an impressive aspect of the project. At the state level, an APCCF leads the project as National Project Director (NPD) and is supported by a CCF. The PMU is led by the NPC and has two additional persons at the state level and up to five based in the districts. PMU salaries are paid by the project. UNDP is the implementing agency (IA). The Project Steering Committee (PSC), led by MP’s PS of Forests, and the Empowerment Committee, led by MP’s Chief Secretary, handle major decisions facing the project. The project is being carried out in nine divisions across five districts.

MTR Methodology

- Purposes of MTR: The purposes of the MTR are: (1) transparency, (2) identification of lessons learned that may be applied to this project and others, and (3) recommendation of course correction to ensure project is on track for achieving outcomes and, eventually, its objective.
- MTR methodology: This MTR’s methodology emphasizes face-to-face interviews. Of nine project divisions, seven were visited and multiple persons from each of eight were

interviewed. Interviews were also carried out at the national level in Delhi and at the state-level in Bhopal. Altogether, 47 in-depth interviews were conducted. In addition, 26 briefier villager interviews and several focus groups were conducted. The team carried out numerous site visits covering bamboo rehab, fodder plantation, energy plantation, and village livelihood efforts. The MTR methodology also includes review of project-related documents and data provided by the PMU in response to information requests.

Big Picture: Overall Impression and Key Impacts

- **Suitability and alignment**: The project is highly suitable to the bamboo rehab, forest conservation, and livelihood needs of MP. It is well aligned with national priorities (e.g. UNCCD, UNCBD, and UNFCCC), state priorities (high enthusiasm for bamboo development in MP FD), and local needs (e.g. need for improved forest protection, desire for livelihood options close to home). As designed, the project is also well-aligned with UNDP comparative advantages. Yet, these advantages are not fully leveraged due to the absence of much needed capacity building, dissemination, and “convincing” at state and national levels.
- **Innovation**: The project’s individual (or small group) bamboo use rights model is innovative. Individuals get long-term benefits; and forest protection extends beyond bamboo areas. MP (and India generally) have had a limited number of cases of individual use rights in forest conservation before, but the duration or extent of these was limited; and there have been no real successes to date. The integration of multiple sub-components, particularly livelihoods, in a conservation project is also innovative. NTFP SMEs, another interesting aspect of the project, have been undertaken previously, but have not been as closely integrated with conservation. Finally, the new and highly enhanced working relationship between the MP FD and villagers is also innovative.
- **Key changes from the baseline**: Substantial changes from the baseline (situation at project start) have been achieved in demo areas, particularly with rehab of bamboo (44 percent of degraded area at baseline in the nine divisions is now rehabilitated) and introduction of the individual use model, which is now poised for success. Out-migration among beneficiaries has gone down; and incomes have increased. The relationship of villagers with the FD has changed from one of avoidance to one of cooperation. At the state level, there have been few activities and, also, few changes from the baseline, aside from likely revision of the state’s JFMC policy to mention the individual-use model.
- **Overall Impressions**: *Impression of local level stakeholders*: Local stakeholders generally expressed very positive impressions of the project. Most conveyed that the project has introduced a bamboo rehab model that is superior to the “standard model.” They find the model improves protection and connects beneficiaries to the forest. Most believe this bamboo model is not expensive compared to the “standard model” and that enough results have been obtained to inform a decision to replicate it. *Impression of state-level stakeholders*: In contrast, most state-level stakeholders, while acknowledging promising results, believe more time and results are needed before replication can be considered. *National-level stakeholders*: National-level stakeholders lack information on the project. They express a need for more communication. One key national-level stakeholder noted

the project is interesting, but that SMEs, which have been delayed, will be critical to its success.

Big Picture: Major Concerns

- Weak communication of results: The project has achieved excellent results, but it is difficult for someone who has not visited the field to get a good view of these. We recommend aggregation of results across sites to better convey achievements and strengths of the project's model. Further, case studies at the village and forest area level, rather than at the household level, are recommended.
- Indicators: Currently, project results are being conveyed at the state level simply in terms of hectares rehabilitated or planted. The project needs indicators showing real impact or quality of results. Ecological indicators (e.g. soil moisture content, simple biodiversity index, forest density index) may be considered. Data on culms per clump (bamboo), survival rates (energy plantation), and amounts harvested (fodder plantation) are being collected at the local level. These results can be grouped together at the state level and shown across sites to illustrate trends in project results. Socio-economic indicators present special challenges, but forecasts of bamboo revenue, comparison of before-and-after out-migration rates, and comparison of household incomes to those in similar, non-beneficiary villages may be of interest.
- Over-emphasis on field and neglect of state-level initiatives: While emphasis on the field in the first phase of the project is reasonable, lack of specific plans for dissemination and facilitation of replication are concerning. If promotion of the project's models is not pursued before project end, valuable experience gained through the demos may be lost. We recommend the project develop an action plan for "getting the word out" and "convincing others." The project needs to develop a strategy of how it will now set groundwork for replication.
- Project handover strategy: The project needs a plan to determine who will take over work after completion. How will bamboo work and fodder and energy plantations be incorporated institutionally into the FD's work? Also, how will sustainable operation of the SMEs started during the project be ensured?
- Sustainability of socio-economic and conservation results: The project needs to assess potential income from bamboo harvest and integrate SME work as needed to assure that beneficiary income is continuous. If beneficiaries need to out-migrate again, conservation results will not be sustainable. In addition, given that beneficiaries generally protect a larger forest area than their allotted bamboo area alone, the project may wish to look for a way to institutionalize this benefit, such as through the JFMC-beneficiary agreement.
- Lack of systematic integration of livelihoods work with rest of model: The project's SME work has a much broader geographic scope than its conservation work. As such, the SMEs being planned may not include very many persons from the project's bamboo beneficiary villages. We recommend the project re-visit its strategies for SME site selection and consider the numbers of persons that will be involved from bamboo beneficiary villages. In order to achieve an integrated model, targeted conservation results should guide strategies for SME site selection and beneficiary involvement.

- Bamboo market and harvesting plans: Price expectations for the bamboo (once harvested) vary widely across divisions. Most divisions lack experience selling bamboo on the open market. The project should take steps to ensure FD staff have a clear understanding of the bamboo market and sales plans across divisions. Plans for harvesting the bamboo and associated profit-sharing also require some clarification. Staff in some forest divisions plan for each beneficiary family to receive bamboo profits according to the bamboo harvested on the 20 ha allocated to the family. This was the original intention of the model. Yet, staff in other forest divisions plan to pool profits across plots associated with a number of families (e.g. perhaps all beneficiaries in a village, range, or division) and to divide profits equally among beneficiary families regardless of results on their own plots. Thus, there is variation from division to division; and the range of variation includes profits based on the land allocated to an individual, sharing of profits among beneficiaries from a village, sharing among beneficiaries from a range, or sharing among beneficiaries from a division. In some cases, such plans may be further clarified and beneficiary knowledge on these plans enhanced. Finally, most locales are planning four-year rotation harvests. Yet, there is some controversy as to whether annual harvests yield better results and thus a faster path to socio-economic sustainability. We recommend the project hold roundtable discussion on harvest cycle and profit-sharing to move these issues forward.
- Lessons learned from failure of a very similar program in the past: In 2000 to 2001, the MPFD implemented a project “Sustained Employment through RDBF” that appears to have been designed with some remarkable similarities to the bamboo rehab aspects of the SLEM project. The earlier program failed, possibly because of discontinuation of funding. For the purpose of sustainability of the model introduced by the project, it will be important to understand the true reasons for the earlier program’s failure/funding discontinuation and to take steps to avoid a similar fate of plans for replication of the SLEM project.

Outcome 1: Policy and Capacity Building

- MP JFMC policy adjustment: The project’s recommendation for the state JFMC policy to recognize individual use rights is likely to be adopted. While not required legally, this should strengthen certainty on the ground and could enhance replication efforts.
- Other policy initiatives: Project proponents suggest there is no other area in which the project might have an impact on regulations. The project should scan relevant policy areas to confirm: (a) no important opportunities for impact are being missed; and (b) replication of the individual use model will face no policy barriers. Areas to consider in this scan are: (1) support for MP Bamboo Mission’s drafting of bamboo guidelines; (2) JFMC issues such as (i) method for calculating profits due, (ii) adjustments to “standard model” for sharing bamboo profits, (iii) rules for using subsidized versus market prices, (iv) scope of protection indicated in JFMC-beneficiary agreement, (v) harvesting cycle requirements; and (3) adherence of project model to FRA.
- State-level capacity building priorities: State-level workshops and analyses promoting the project model for inclusion in government plans and programs should be a priority post-MTR. So far, no specific activities of this type are planned or proposed. Departments

with strongly funded programs should be invited to attend workshops. Workshops involving other states and national-level stakeholders can be held as a second step.

- Other state-level capacity building plans and possibilities: Some other state-level capacity building activities are planned or proposed by project proponents: (1) A national-level bamboo workshop is planned. It will include dissemination of the project's model. (2) An analytic study on land degradation in MP has been proposed. The motivation is to improve India's UNCCD reporting. The TOR is not yet prepared. Some suggest the work address the need of developing ecological indicators, though SLEM TFO indicates it has recently prepared SLEM indicators for all projects. (3) Capacity building for the MP FD in carbon assessments has been proposed by some. Yet, we recommend the greatest focus in this project be placed on land degradation indicators rather than on climate change aspects.
- Local-level capacity building progress and issues: Training, exposure visits, and workshops for villagers have been driven by the local-level FD teams. Typically, ten or more events per division have been conducted over three years. Trips have built the confidence of beneficiaries. Women are under-represented in these activities. The project's two TNA (technical needs assessment) consultancies were delayed, but recently completed. There are no clear plans for use of trainings designed via the TNA consultancies. Also, targeted areas (20 JFMCs per division) for the TNA work were much broader than the project's RDBF areas.
- Local-level capacity building next steps: A decision should be made whether and how to implement training agendas developed by IIFM and Access (the firms conducting the TNAs). If the training is to be implemented, the project should increase integration with rest of model through strategic selection of (a) villages and trainees to be included and (b) training content. Consideration should be given as to whether to adopt Access' focus on income generation training or IIFM's more general approach. Given enthusiasm for the project's model of enhanced cooperation between the FD and villagers, the project may wish to consider a proposal from line staff that they be trained to be trainers. The project should make greater efforts to include women in training, including out-of-town exposure visits, and target at least 50 percent of person-trainings to be of women.

Outcome 2 – Part A: Individual (or Small Group) Use Rights Bamboo Rehab Model

- Project centerpiece: Outcome 2 (demos) has received the bulk of project funding and attention. Within Outcome 2, the individual (or small group) use rights bamboo rehab model has received the most attention and funding.
- Set-up of bamboo model: The project bamboo model includes the following aspects: Selected families receive four years of payments of Rs 3,500 per month (raised in 2012 from Rs 2,500 per month) for rehab and protection work. One person from the family signs a written agreement with the JFMC regarding responsibilities and share of profits from harvesting. The total investment per hectare over the four years (Rs 8,400) is not considered high compared to the FD's "standard model," particularly because protection is much better in the project model and goes on indefinitely. Beneficiaries generally work together on protection and protect a larger area than the sum of their bamboo areas alone.

Rehab work is carried out either by individual families or by beneficiaries from the same village working as a group. Profits were originally intended to be based on each individual family's harvest. Some locations, however, are now planning profit pooling by group of beneficiaries in a village or range.

- *Clarification of protection responsibilities:* The project may wish to ensure the protection area and protection requirements of the model are institutionalized more clearly in the JFMC-beneficiary agreement. Protection of an area beyond the bamboo area alone is an important achievement in some locales, but may not be mentioned in these written agreements.
- *Clarification of work mode and plan for profit-sharing:* There has been some discussion as to whether beneficiaries should carry out rehabilitation jointly and whether profits should be shared. We suggest that the former decision be left to beneficiaries. If profit sharing is to be implemented, a method for preventing free ridership is needed. Most beneficiaries understand they will be entitled to the majority of harvest profits, but some are unclear. The project should ensure that all are aware of the plan for profits.
- *NTFPs:* Plans for access to NTFPs on allotted bamboo areas may differ by locale. The project may wish to investigate and ensure that local practices comply with policy.
- Design and scale: The project is being implemented in nine divisions over five districts. The total bamboo rehab area is 14,500 ha, with 725 beneficiary families involved. A significant proportion of the total degraded bamboo in each division has been rehabilitated through the project.
- Distribution of beneficiaries: The proportion of village households involved in the bamboo rehab aspect of the project varies widely by village. Examples include 40 out of 40 households in one village versus seven out of 300 households in another. Protection results are said to be better when a larger proportion of households are included. Replication efforts may wish to try and maximize this proportion.
- Conservation results (bamboo model): The project's forest protection results have been extremely positive: Fire incidence has dropped significantly in project areas. Forest has become substantially denser. Illicit felling is down. Many note an increase in wild animals. Development of a method for measuring and documenting these improvements is desirable. The bamboo rehab work was found by the MTR team to be generally acceptable at all sites. Estimated recruitment ranged from 1.7 new culms per clump per year to four or five per year, up to 15 in one case.
- Socio-economic results (bamboo model): The socio-economic results of the project's bamboo rehab sub-component are strong and obvious. If future bamboo profits can yield at least as much as current monthly payments, results may be sustainable. Project payments have resulted in both higher income (above and beyond inflation and general income growth trends) and ability not to out-migrate for work. Purchases with increased income are most often agriculture-related, leading to additional benefits. Education (especially sending children away to better schools), paying off loans, marriage expenses,

and basic needs (health and food) were also commonly mentioned by beneficiaries interviewed.

- **Participation:** The project is reaching the poorest of the poor via selection of bamboo beneficiaries. We asked extensively in the field and found no complaints in this regard.
- **Conflict:** While jealousy from non-beneficiaries is a concern, we found no problems more serious than jealous words. Most beneficiaries and non-beneficiaries alike confirm that conflict is not a problem, though more villagers hope for the opportunity to participate. One stakeholder mentioned that in Singrauli Division some villagers threatened to block the project if not granted permission to do agriculture in the forest. Yet, their motivation is thought to be driven more by a desire to be granted this permission than by jealousy of bamboo beneficiaries. In Sidhi, some complained to the FD that increased wildlife resulting from the project has damaged crops. We heard from others that these people may be disgruntled due to loss of cheap agricultural labor, as the bamboo beneficiaries are no longer available to fill this role.
- **Women:** Involvement of women in the bamboo rehab work is relatively low. There is some disagreement among stakeholders as to whether the work is suitable to women. (We found that a few women are leading their families in this work in South Chhindwara, but in most places, women do less of the work than men.) The project should confirm whether women can play a greater role in the bamboo work. If not, livelihood work should put greater emphasis on women.

Outcome 2 – Part B: Other Sub-Components of Multi-Pronged Model

- **Fodder Plantation:** The project's fodder plantation sub-component is an innovative approach addressing a key forest protection issue: It has introduced stall feeding into MP forest areas where it was previously nonexistent. The fodder is growing well at the sites visited. Yet, the scale of the fodder plantations and/or the use level are too small to have a large impact on overall fodder needs and on grazing in the forest. Overall, the project has a total of 200 ha of fodder plantation, which is an average of 22 ha per division. Some stakeholders recommend expanding the scale of these sites. Some sites do not correspond to the project's bamboo villages. Site selection should be driven by the targeted conservation areas in which the multi-pronged model intends to create a measurable impact. Currently, the fodder plantations have no harvest quota per household, but they do have specified days for collection. We recommend the project conduct a systematic mini-study across fodder plantation sites covering: annual amount harvested, proportion of village needs met, actual production compared to expected, management system/quotas, and strategic fit of site selection with project's targeted conservation areas.
- **Energy Plantation:** The project's energy plantation sub-component is a strong conceptual fit for the project, as cutting for fuel-wood is a major threat to the forest in project areas. The sub-component is innovative, but presents a challenge in that the length of time (ten to 15 years) before fuel wood will be available from the plantations is much longer than the five-year duration of the project. Plans should be put in place for follow-up monitoring and assessment, perhaps five to ten years after project close. At several sites, the focus on fuel wood species is not strictly adhered to in the energy plantations, though

fuel wood species are the majority of trees planted. Survival rates at the project's energy plantation sites were generally found to be very good. The sites are not always associated with the project's bamboo rehab villages. As such, the project runs the risk of becoming a set of mini-demonstrations of various sub-components, rather than demonstration of an integrated model for achieving conservation results in a certain area. We recommend the project conduct a mini-review across energy plantation sites including: forecast of annual harvest and corresponding proportion of village needs that could be met, management plans, and proportion of non-fuel wood trees. The MTR team received varying input on expected impact of the energy plantations on overall village fuel wood needs. Some suggested the energy plantation area needs to be expanded. Yet, data from a site in Umaria Division suggests a very substantial impact on the fuel wood needs of the small village with which it is associated.

- Other Alternative Energy: Though not a core sub-component of the project, some stakeholders are enthusiastic about pursuing energy alternatives that can reduce pressure on the forest faster than the project's fuel wood plantations. During the MTR, four types of such energy alternatives supported by the project and one occurring spontaneously were identified: (1) Distribution of fast-growing saplings (which take only five years to mature) to 436 families in Umaria Division could have a major impact on the fuel wood needs of villagers with land. (2) Energy efficient cook stoves distributed to 800 households in Sidhi reduce family fuel wood needs from five kg to two kg per day. (3) Biogas installed for 12 families in Sidhi virtually eliminate household fuel wood use. (4) Solar lanterns have less direct impact on fuel-wood needs, but may positively impact livelihoods (e.g. ability to work at home at night given access to light), thus with indirect benefits to the forest. They also provide benefits to quality of life. (5) While LPG was not supported directly by the project, five families in one division told us they purchased LPG equipment and fuel canisters with increased income from bamboo rehab work. Each family thus reduced fuel wood use from five to six kg per day to 1.5 to two kg per day. If funding is available, the project may wish to strengthen the energy prong of the multi-pronged approach through extension of some of these alternatives. If pursued, we recommend the targeted area of conservation be well-defined and drive energy initiative site selection.
- Watershed Management Work: While not a new type of work to project areas, the watershed management work is believed by some to have contributed to downstream improvements in agriculture. Due to limited funds, only 3,000 ha (as compared to 14,500 ha for bamboo rehab) were treated. The project may wish to provide a review across sites of how watershed management has strengthened project results. Such a review might provide comparison of those RDBF villages with watershed work to those without it. The review may also provide recommendations for design (e.g. density and placement) of watershed work within the larger multi-pronged model.
- Agriculture-Related Livelihoods: Project efforts in the area of agriculture have improved the relationship between the MP FD and villagers and have improved local livelihoods. The leverage of Agriculture Department funds in support of the multi-pronged model is a promising approach, but its application in the project has been limited and should be

expanded. The Agriculture Department is happy to support efforts in remote areas if the FD can leverage personnel to facilitate these efforts. In agriculture-related efforts supported directly by project funds, it seems these funds have sometimes been used to support efforts far beyond targeted conservation areas. Future efforts should ensure that location selection is relevant to the project's targeted conservation area. Beneficiaries should be strategically selected (e.g. bamboo beneficiaries versus non-beneficiaries) based on the local situation. Further, it is recommended documentation on agriculture-related aspects of the project be provided to: (1) assess, among the many types of agricultural initiatives, which types work well in which environments; (2) provide implementation advice for certain types of initiatives; (3) explain how the FD can leverage Agriculture Department Funds; and (4) describe how the FD and people can work together to improve livelihoods. Types of agriculture-related efforts observed as part of the project are discussed below:

- *Traditional Agriculture*: As part of the project, the MP FD has helped the Agriculture Department reach areas it does not normally reach with improved seeds, equipment, etc. Yet, efforts to support rain-fed agriculture have been limited and could be expanded. Biodynamic farming is an interesting development pursued by the project in some locales and could be expanded. Using cow dung, this method saves farmers a lot of money on fertilizer and improves soil and produce quality.
- *Home Garden*: The project has initiated "home garden" efforts (i.e. vegetables, fruit trees, etc. planted near house) in many locales. Very positive income increases have been achieved in some cases. Such efforts have been pursued extensively in some locations, involving many households. The main focus has been on vegetables and fruit trees. Less work has been done in the area of medicinal plants. We do have some concerns that site selection for project-funded home garden initiatives has spread far beyond area targeted by project for positive ecological impact. Thus, we suggest more strategic site selection in the future.
- *Animal Husbandry*: The project's efforts in animal husbandry are quite limited. Chicken raising is being supported in two locales visited. The MP FD, through the project, conducted limited cooperation with the Animal Husbandry Department on vaccinations, etc. This cooperation may be worth expanding in the future. Some villagers indicate that they are specifically interested in support in animal husbandry.
- *Fish Ponds*: The project has supported fish pond work in many locations. Positive income impacts have been achieved. Typically, fish ponds are run by self-help groups of ten persons. An expert retained by the project has helped to increase yields in pre-existing ponds. Some divisions focus their project fish pond work on project bamboo villages while others spread support much wider. We recommend that support is focused on pre-defined targeted conservation areas.
- **SMEs**: The project's SME work is modeled on JSDF (Japan Social Development Fund) bio-resource SME efforts in MP. All of the project's SME efforts to date have been initiated by division forest officers (DFOs) and their teams. Impressive and interesting results have been achieved. In some cases, strong income benefits have been achieved.

The project's emphasis on forest-product based SMEs is meant to strengthen villagers' connection with the forest, in contrast to the "wean away" approach of other projects that encourages them to stay away from the forest. In places, the project's livelihood work appears to move independently of the rest of project in terms of site selection (i.e. which villages are involved) or beneficiary selection (i.e. which persons within a particular village participate). We recommend the project either implement more strategic focus with SME site selection tied to areas in which the project targets to have a measurable conservation impact or improve communications to explain how all existing and proposed SME sites integrate with areas targeted for conservation. Beneficiary selection should also be strategic based on whether bamboo incomes will be low (provide SME opportunities to bamboo beneficiaries) or high (choose non-bamboo beneficiaries). Women should receive the greatest emphasis in the SME work, as their role in bamboo rehab work is limited. Work is needed to ensure SMEs run sustainably after project close. Lessons learned on how the FD works with local people to develop SMEs and how income of the poorest in tribal forest areas can be raised through SMEs should be documented. The types of SMEs with which the project has gained experience and the organizational approaches used should be included in documentation.

- Types of SMEs to date: The MTR team observed several types of project SMEs: (1) *Rope making*: The project has both cloth rope and fiber rope SME initiatives. It is mostly men that are involved in the project's rope SMEs. In cases observed, only a small increase in income had been achieved due to limited time commitment. (2) *Lantana furniture*: This type of SME uses lantana for furniture making. Lantana is an invasive alien species in the forest. Mostly men are involved in these efforts. They received training through the project in Dehradun. (3) *Lac cultivation*: Lac cultivation is a newly introduced livelihood alternative in the project areas in which it was observed. Villagers had limited interest at first, but now the opportunity has reduced out-migration in one locale visited. The economic benefits of lac cultivation are still to be proven in project villages where it has been introduced, but the numbers appear promising. Lac cultivation at an observed site mostly involves men, though they receive some support from women. (4) *Silk spinning*: A silk-spinning workshop supported by the project in West Betul is paying women Rs 2,000 to 6,000 per month, leading to substantial increases in income. Women are being trained in West Chhindwara (where the forest has appropriate vegetation for introducing silk cocoons). All involved are women. Feedback has been very positive. (5) *Incense sticks*: Incense stick SMEs have been developed extensively in some project areas. All involved are women. In Sidhi, 5,000 women in 61 villages are involved. (Sidhi has only ten project bamboo rehab villages, so this work has clearly spread far beyond those villages.) Workshops with incense stick cutting machines have been set up in two villages. Women work from home in other villages. Strong increases in income have been indicated – up to Rs 3,000 to 4,000 per month for those using machines in the workshops. For those working in the home, Rs 1,000 to 2,000 per month is typical. In one large village with a workshop, women's participation in selling fuel wood dropped dramatically due to this alternative opportunity. Women from some smaller nearby villages, in contrast, indicate they did not sell fuel wood before (and are still not doing so). (6) *Sisal fiber products*: This is a type of NTFP livelihood opportunity newly introduced in Sidhi by the

project and a local NGO. Both men and women are involved. Similar SMEs have been successfully promoted by a government project in another location. (7) *Chilak broom*: The chilak broom is also an NTFP product – it uses the chilak plant. Both men and women are involved, depending on the location. We found this type of SME had been introduced by the project in at least two locations. (8) *Bamboo products*: The MTR team found no project SMEs besides the incense sticks ones that were utilizing bamboo. The MP FD at its highest levels has very strong enthusiasm for bamboo-related enterprises, though the challenge of skill development is an issue. The project may wish to consider whether other types of bamboo-based enterprises are worth pursuing.

- **SME cooperation**: The project may wish to consider cooperation with the Minor Forest Products Federation. The Federation’s skills in marketing and potential support in processing/storage infrastructure and running SMEs may be helpful to the project and perhaps enable it to set up two 50-percent co-financed SMEs per division rather than one per division without co-financing.
- **SME consultancies**: The project’s SME consultancies got started late. Three consultancies (Access, MP Vigyan Sabha, and IIFM) are involved in SME business plan development for a total of nine divisions (20 business plans per division). Access’ and MPVS’s business plans have been completed. The project will support establishment of at least one business-plan based SME in each division, providing 100 percent of funds needed. The MTR team met Access and MP Vigyan Sabha and perceived careful, detailed work in assessing available resources and designing plans. SMEs selected for preliminary focus show Access’ plans to be more oriented towards agricultural products, while those of MPVS, which has NTFP processing technology, more oriented towards NTFPs. A major concern of the MTR team regards village selection and the potentially very limited scale of impact in project bamboo rehab villages. Both firms plan to develop SMEs for clusters of villages. Participants from bamboo rehab villages may be limited to a small handful, though some plans may raise NTFP collection income across all villagers. As currently envisioned, the main processing for an SME developed by these firms may occur in a “nodal” village, which likely will not be the project bamboo rehab village. We recommend that the village and beneficiary targeting strategy for this SME work be reconsidered or at least clearly explained in terms of achieving the project’s targeted conservation results in clearly defined areas. Consultants should be better briefed on the overall conservation aims and multi-pronged strategy of project.

Outcome 3: Monitoring, Dissemination, and Replication

- **Outcome 3 overall**: Outcome 3 is critical to realizing the true value of project’s results on the ground and potentially leveraging these at a much larger scale. It should receive strong attention post-MTR, with development of a specific Outcome 3 action plan and budget.
- **Monitoring**: Monitoring is critical to providing evidence that the project has led to land, ecosystem, and livelihood improvements. Data collected at the local level (such as new culms per clump of bamboo, bamboo clumps per ha, fire incidence, survival rates on energy plantations, or kg of fodder harvested on fodder plantations) has not been

aggregated and displayed in a fashion that allows viewers to easily understand project successes. At the state level, the project needs to move from reporting hectares worked to showing impact. Design of additional indicators (such as soil moisture content, forest density, simple biodiversity index, projected annual harvests, etc.) to convey the full impact of project is desirable. Ideally, such indicators would have been designed at project launch. If designed and measured very soon (perhaps through an independent technical study), however, the indicators can be re-measured at project end and beyond. Indicator development work should include review of SLEM indicators recently designed by the SLEM TFO project to see if this work can be leveraged in the MP SLEM project. Incorporation of the project into the MPFD's online system is a positive development. Aggregated data across sites should be incorporated into the online system. Analysis of before and after satellite photos of bamboo rehab sites and surrounding forest, as planned by the FD, should be conducted soon; and results should be documented and incorporated into project dissemination efforts.

- Dissemination: Strong documentation and communications is needed to “get the word out” about project results and “convince” others of the desirability of replication. The project needs to document results across sites, showing replicability and trends. Progress in bamboo growth should be used to make rough projections of harvests, which may be used in dissemination. Work should go beyond the case studies and eight short brochures prepared to date by providing a compilation of results across sites. We recommend the project prepare three or four very strong dissemination reports appropriate to policy makers (perhaps 20 pages each) and perhaps from the angle of the different project models (i.e. one on bamboo, one on the multi-pronged approach with indicator results, and one on the Forest Department working with villagers on conservation and livelihoods). We recommend workshops be held (perhaps three major state level workshops and a few national level ones) to promote project results.
- Replication: While the project itself may not carry out replication, it is critical during the project's lifetime to convince others of the value of project models, so that replication plans enter organizational pipelines. The project may design a replication strategy, identifying organizations that have strong potential to replicate. The project could then carry out focused liaison with such organizations and perhaps draft replication plans for them. While all three of project's models have replication potential, the individual (or small group) use rights bamboo rehab model is the most “ripe” for replication. Stakeholder comments varied by level, but overall suggest the bamboo model may be ready now for replication. At the division, sub-division, range and local level, most participants believe results are advanced enough for replication. At state level, participants are more cautious, suggesting more results are needed before replication can be suggested. Yet, from top leadership at this level, we heard the project's bamboo model can be replicated across MP. The MP FD's budget allocation will more than double next year; and other state programs may also be sources of funding. At both the state and lower levels, barriers to replication may be institutional. For example, many told us that the issue is not that the individual use rights model is too expensive. (“Not expensive” was their common refrain.) Instead, a key constraint is that budgets are typically allocated on an annual basis, so that having a guaranteed allocation for the four years in order to be

able to guarantee payment to beneficiaries is problematic. One DFO proposed extension of the model of the Forest Department and local people working together across forest types in his division as a new sort of demo.

Sustainability

- Sustainability of conservation and protection results of individual use model: Most believe conservation and protection results of the project's individual use model will be sustained if current bamboo beneficiary payment levels can be sustained or surpassed with bamboo profits once payments stop. There is some concern that beneficiaries may out-migrate again, but most plan not to do this. As long as the bamboo and forest provide viable income, access can be used as leverage to ensure continued protection work.
- Sustainability of socio-economic results of individual use model: Overall, local forest department staff and villagers presented a positive, though mixed, view on bamboo income once payments stop. In one division, beneficiaries were not well informed on the portion of profits they would receive, resulting in a pessimistic view of their future income. We recommend the project develop estimates on a village-by-village basis of expected annual income from bamboo profits for several years into the future. While this will be challenging, the "bamboo business" of the project should certainly receive the same or more attention than each of the proposed SMEs in the 180 business plans commissioned. (All of the SME plans appear to contain detailed projections.) As a starting point, we carried out two simplified approaches to estimating bamboo profits. In one, we made very rough estimates for eight ranges based on available data and find beneficiaries in four of these may have average incomes higher than current payments in 2015. In 2018, if a four-year harvesting cycle is used, there will be a substantial step up in incomes and beneficiaries in all eight ranges will have incomes higher than current payments. In the other approach, which does not project such high variation over time, beneficiaries in roughly half of 16 areas covered have future incomes higher than current payments, while the rest have incomes lower than current payments. Yet, better estimates are needed and will require more certainty of parameters used. The project should clarify uncertainties in pricing and marketing. It should also open the debate on an annual versus four-year harvesting cycle. The former may allow for incomes to increase more quickly and is claimed by some to improve bamboo quality and yield.
- Sustainability and other aspects of project: The project will also need to address sustainability of other sub-components of the multi-pronged model. In addition, it should ensure the project's livelihoods aspect supports sustainability of its bamboo aspect. For areas in which incomes of bamboo beneficiaries will drop, sustainable livelihood activities will be important. For areas in which beneficiaries will do well, sustainable livelihood opportunities for others in same villages may be important. For fodder and energy plantations, systems should be put in place so these areas will be sustainably harvested and used. The current system for fodder collection in which villagers can take as much as they want may need to be modified. For SMEs, a plan for ensuring sustainable management is needed. This bullet and the preceding two focus on sustainability of

demos on the ground. Sustainability of project efforts through replication of its model is also critical. This is addressed in the discussion of Outcome 3 above.

Expenditures and Cost Efficiency

- Overall and outcome-wise expenditures: Spending of GEF funds has been timely. By Dec. 17, 2013, USD4,367,013 (or 76 percent) of USD5,735,000 allocated had been spent. Outcome spending reflects strong emphasis on field work and limited activity at the state and national levels:
 - Outcome 2 (demos): USD3,546,040 has been spent, which is 93 percent of all outcome spending to date and 107 percent of the amount allocated to Outcome 2 in the ProDoc.
 - Outcome 1: USD113,655 has been spent, which is 13 percent of the allocated amount.
 - Outcome 3: USD144,678 has been spent, which is 13 percent of the allocated amount.
 - Management costs: USD321,446 has been spent, which is 61 percent of the allocated amount.
- Shifting outcome-wise allocations: Given that substantial additional monies will be needed to support Outcome 2, which is already overspent, excess spending needs to be justified in conjunction with specific assurances that Outcome 1 and 3 targets will not be overlooked. Justification should include a clear plan and budget for the neglected outcomes.
- Outcome 2 activity-wise expenditures: Based on PMU data, bamboo beneficiary payments account for 52 percent (INR 96.3 million) of Outcome 2 (demo) expenditures or 49 percent of outcome expenditures overall. Fodder plantation (9 percent of Outcome 2 expenditures to date), energy plantation (12 percent), and watershed management work (12 percent) have been completed, while livelihoods expenditures will continue. Expected total expenditures on SME consultancies are USD40,000 (2.5 million INR) per division or USD365,000 total. Investment for each of nine SMEs (one per division) will be up to one million INR (USD16,000) for a total of INR 9 million (USD144,000). In terms of the cost efficiency of SME work, we have two concerns expressed by the following questions: (1) Is SME consultancy work being spread too thinly among too many villages (20 per division) instead of focusing on bamboo rehab areas? (2) Will late launch of SME consultancies result in redundant work, as DFOs have already initiated SME work?
- Outcome 1 activity-wise expenditures: PMU-reported expenditures for Outcome 1 (policy and capacity building) are completely focused on capacity building at the local level. In addition to local-level training and exposure visits for villagers and workshops for villagers and local forest staff, two TNA consultancies focused on the JFMC level have been commissioned and completed. Policy work (likely to lead to an adjustment of the MP JFMC resolution) has not utilized GEF funds. PMU-reported expenditures for two TNA consultancies at INR6.22 million are much higher than indicated in contracts (INR1.21 million per contract or INR2.23 million total). In terms of cost efficiency of TNA work, we have two concerns: (1) TNA consultancies were delayed and only recently

completed. In the meantime, the divisions launched their own trainings. No specific plans to utilize output of the TNA consultancies have been made. If they are utilized, will there be redundancy of effort? (2) The TNAs covered about 20 JFMCs per division, much more than covered by the project's bamboo rehab work. Could increased focus result in more impact in physical areas targeted by the project? Another concern is that the PMU reported total for Outcome 1 expenditures is substantially higher than the UNDP reported amount, though this may be due to the reporting by the PMU of activities classified as Outcome 3 by UNDP as Outcome 1 activities.

- Outcome 3 activity-wise expenditures: PMU-reported expenditures for Outcome 3 (monitoring, dissemination, and replication) are only INR 88,600 or somewhere in the range of USD1,400 to USD2,000. This concurs with findings that documentation, dissemination, and replication work needs to be ramped up post-MTR. One concern that deserves attention post-MTR is that the PMU-reported Outcome 3 amount is drastically lower than the USD144,700 reported by UNDP. Explanations include: (a) possible reporting by the PMU under Outcome 1 of some activities classified by UNDP as Outcome 3 activities; and (b) corporate communications activities (such as USD17,000 for project video) paid for directly by UNDP. Yet, the PMU also may have overlooked some activities in the activity-wise expenditure information it supplied to the MTR team.
- Project management expenditures: Based on UNDP data, project management expenditures to date have been 7.3 percent of total expenditures, well within the GEF limit (at time of project formulation) of 10 percent. Management expenditures appear sporadic if viewed on an annual basis. Considerable cost-efficiency has been achieved by leveraging co-financing of MP FD staff salaries and of office space in the divisions and in Bhopal.
- Co-financing: Co-financing amounts provided by the PMU suggest total division-level co-financing amounts are 2.2 times total GEF expenditures to date. These reported amounts range from a low of Rs 375,000 for South Betul (6,000 USD at current exchange rates) to a high of Rs 134.5 million for Sidhi (over 2 million USD at current exchange rates). Experience gained in the project with “convergence” (i.e. the MP FD leveraging funds from other departments) is valuable. Such “co-co-financing” could probably be leveraged to a much greater extent. Apparently, other departments (especially the MP Department of Agriculture) are receptive to the help of the FD in reaching people in remote forest areas with their assistance. The project has also benefited greatly from leverage of MP FD human resources. Yet, the lack of MP FD cash co-financing is surprising. The project's top GEF fund expenditure area, payments for bamboo rehab (representing 49 percent of outcome expenditures to date), received no co-financing, even though the MP FD does have annual allocations for bamboo rehab. On the other hand, the project's model requires a budgetary commitment of four years, whereas the MP FD generally allocates funds on an annual basis. Similarly, no MP FD cash co-financing was found for any of the other sub-components of Outcome 2 (the demos). Further, the project plans to finance the nine SME (one per division) start-up costs with 100 percent GEF funds.

- Cost efficiency of the model - expenditures for sample villages/ forest areas: To assist policy makers in understanding how much full replication (not only of the bamboo work, but also of other model sub-components) will cost, we suggest the project conduct analysis of the full model's cost in sample villages or forest areas. Findings to date suggest the model's bamboo rehab costs are not expensive as compared to other options. It is expected that once data is obtained for full project costs in a sample village/forest area, results will show that bamboo rehab is the greatest expenditure and accounts for the majority of total funds spent. Thus, in assessing the feasibility of replication, consideration of the base cost of bamboo rehab payments may be useful.

Project Design, Implementation, and M&E

- Design: The project's innovative design brings together three different intersecting models for learning and replication. A few aspects of design could have been improved, providing lessons learned for future projects: (1) The scope and unifying theme of the sub-components of demo work could have been tighter. The targeted conservation area needs to be clearer. The milli-watershed scale (indicated to us as the physical scope of project work in various locales) is too large for measurable impact. The project's bamboo and nearby forest areas are a more appropriate target. (2) Design of non-demo activities could have been articulated in more detail in the ProDoc. Greater definition and greater consensus on Outcome 1 and Outcome 3 activities prior to project launch would have ensured they did not get left by the wayside.
- Implementation – Timeliness and Project Extension: Delays such as those between the project's PDF B approval and ProDoc signing and between its second ProDoc signing and inception workshop should be avoided in future projects. After implementation, the project's biggest delay has been the launching of the SME and TNA consultancies, creating the potential for redundancy of project work. Future projects may wish to flag critical consultancies that need to be launched as soon after project start as possible. And, future PMUs may wish to develop strategies to reach out to potential bidders and ensure bidding and selection is carried out in a timely fashion. Because of a nine-month delay in launching overall project activities, the five-year project hopes to extend duration to almost six years, extending its end date from Jan. 2015 to Dec. 2015. We recommend that formal application for extension be made. This application should include confirmation of plans and budget allocations for Outcomes 1 and 3 in 2014 and 2015, in particular conveying a firm plan for documentation, dissemination, and "convincing." The MTR team recommends extension be granted contingent on viable action plan.
- Implementation – Institutional Set-up and Issues:
 - PMU: The project's PMU is dedicated and capable. We recommend the project explore the possibility of hiring an in-house documentation expert and/or an SME expert for the project's post-MTR period.
 - IP: The MPFD, the project's implementing partner, has provided an impressive level of effort at both the state and division levels and actively involved an impressive number of staff members. Project progress is hampered by the department-wide practice of frequent transfers, though this also enables exposure

of a greater number of staff to project models. For future projects, the MP FD may want to consider the pros and cons of instituting more stability in staff working in project areas.

- PSC: Local membership of the Project Steering Committee enables meetings to be called quickly. Yet, as the project enters its dissemination phase, national-level representation may be good idea. The project may consider the addition of India's GEF focal point and/or ICFRE (given its SLEM TFO role) as members of its PSC.
- Village level: The JFMC plays a critical role in launching the bamboo beneficiary system associated with the project's model. The role of the JFMC Chair and time input required for continuing to organize and monitor beneficiaries may be investigated further. If work is required on a daily basis, a means of strengthening the JFMC chair's commitment may be explored.
- Implementation – Cooperation with other Forest Department Organizations: The project may wish to increase its cooperation with other departments and sister agencies of the MPFD. Integration with potential partners such as the Bamboo Mission and Minor Forest Products Federation could be pursued.
- Project M&E: Means for strengthening monitoring of ecological and other field results is included above in the discussion of Outcome 3. The project's log-frame indicators have been updated annually in its PIRs. We recommend improving the log frame with indicators showing impact rather than "hectares completed" only. Indicators may include new culms, forest density indicators, a simple biodiversity index, and an indicator reflecting profits earned from harvested bamboo. Another issue, though a challenging one, is to ensure that objective-level indicators reflect broader level impacts and are distinct from outcome-level indicators. In general, stronger project documentation will strengthen self-monitoring and adaptive management. The project put a lot of effort into organizing the MTR and ensured great access for the MTR consultants. The MTR team hopes that effort results in well thought-out course correction, ensuring the project's excellent field work achieved to date is both brought into sharper focus and disseminated to likely replicators.

PART I: PRELIMINARIES – PROJECT INTRODUCTION AND METHODOLOGY

1. Project Introduction

1.1 Background on Forest and Mixed Bamboo Areas in Madhya Pradesh

Resources: The State of Madhya Pradesh (MP), located in central India, contains the upper catchments of five major river systems. MP's forest areas constitute over 30 percent of the state's area and 12 percent of India's forest area. As with India as a whole, Madhya Pradesh is endowed with globally significant biodiversity resources. The state contains 34 protected areas.

Madhya Pradesh is rich in natural bamboo forest resources. The bamboo generally serves as the understory in mixed forest with tree species such as teak, saja, bija, lendia, and haldu, constituting the forest canopy. MP has 1.3 million ha of bamboo areas, over nine percent of India's total of 13.9 million ha. It ranks second among India's states in this regard. India, in turn, ranks second only to China among nations in bamboo forest resources. Bamboo forest areas under the MP Forest Department's working plan are spread over an area of 550,000 ha. The gap between this number and the full 1.3 million ha previously cited represents highly degraded bamboo forest area. In addition, of the 550,000 ha listed in the MP Forest Department's working plan, 42 percent is considered degraded. Thus, out of the full 1.3 million ha of bamboo areas in MP, 981,000 ha (or 75 percent) are considered degraded.

Land Management in Forest and Bamboo Areas: In India, the majority of forestlands are owned by the nation. Use rights (or ownership of the trees or other plants on that land) are accorded either to communities or to the nation, based both on location and on type of forest product. In MP, 70 percent of public forest land is associated with a participatory forest management program ("Joint Forest Management") that confers rights to the community of partial or full profits from forest products.¹ These rights are granted on the condition that certain duties are fulfilled by the community, foremost of which is active participation in forest protection. The governing bodies for these community use rights and duties are the village-level joint forest management committees (JFMCs). The JFMCs are constituted by all villagers in a given village that have an interest. In MP, there are 15,228 JFMCs, each having an average of 300 to 400 ha of forest area associated with it.

The share of benefits to which a community is entitled varies by forest product. For example, since the issuance of an amended resolution in 2001 in MP to operationalize national-level policy, *the JFMCs* (i.e. the communities) in the state have been given the right to ten percent of actual profit from timber harvesting. For bamboo, as of 2001 in MP, *the worker who*

¹ This figure, quoted to us by an MP Forest Department official, likely refers only to forest areas outside wildlife sanctuaries and national parks.

harvests the bamboo was entitled to 20 percent of harvest profits; and this was raised to 100 percent a few years ago. In the 2001 resolution, it is also stated that 100 percent of the value of forest product obtained from plantation or rehabilitation of degraded forest will go to the JFMC. This holds for both bamboo and timber, though stakeholders indicate in the case of bamboo rehabilitation, the 100 percent of profits still goes to the worker who harvests rather than the JFMC as whole. The worker is organized and paid by the MP Forest Department to harvest. Yet, it should be noted that a substantial proportion of bamboo in MP is sold at subsidized rates, which would reduce profits available to the harvesting worker.

The bamboo profits are associated only with the harvesting worker and not with the worker who rehabilitates or conducts other management or protection services. In the case of rehabilitation work, while there may be some pressure to ensure that the same JFMC members who do such work also get the right to harvest, there is no specific assignment of areas such that the worker who does the rehabilitation work on a certain plot also harvests that same plot. For both harvesting and rehabilitation work, the MP Forest Department generally pays a “job rate,” which represents the average time needed for the job and cannot be less than minimum wage associated with the average time requirement. For protection work, the MP Forest Department may have an allocation that is paid to the JFMCs, which then decide how to manage the money and work.

People in MP and in and around its Forest Areas: Madhya Pradesh has a population of 72.6 million, over 70 percent of which is rural. The proportion of rural inhabitants below the poverty line (BPL) is 53.6 percent.² Madhya Pradesh is considered one of the most food insecure states in India, falling into the “extremely alarming category” in this regard.³ Almost one-third of MP’s villages are in or near forest areas; and poverty ratios in such villages tend to be higher than for the state’s rural population as a whole. Villages located within forest areas, known as “Forest Villages,” are administered by the MP Forest Department. Villages located near forests, classified along with other non-forest villages as “Revenue Villages,” are under the purview of non-forest authorities. Yet, like Forest Villages, these villages may interact most frequently with Forest Department staff among all state departments, given its more extensive staffing and more active, deeper reach in such areas.

MP’s tribal population accounts for one-fifth of the state’s population and about 21 percent of India’s total tribal population.⁴ The tribal population mainly live in and around forest areas and tend to be among the state’s poorest and most marginalized peoples. Further, these tribal populations are often highly dependent on forest resources.

Links to Project Motivation: The extensive degradation of mixed bamboo forest areas in MP and the poor livelihood situation of many people living in such areas serve as motivations for this project. Together, these issues raise the question of whether an alternative model of

² *Tendulkar Committee Report 2009* as quoted by UNDP India in “UNDP in Madhya Pradesh” webpage: http://www.undp.org/content/india/en/home/operations/about_undp/undp-in-mp/about-mp/

³ UNDP India, “UNDP in Madhya Pradesh,” website as above.

⁴ *India Human Development Report 2011- Towards Social Inclusion*, quoted in op.cit., UNDP India.

forest management that integrates livelihoods with forest rehabilitation and protection is possible. The question motivates additional lines of inquiry: First, is there a forest management model more effective than that in which the “paid by the job” individual harvest worker receives bamboo profits and in which protection is provided by the full JFMC, sometimes for a separate fee? Second, can livelihoods be enhanced sustainably by such a model? Third, what other measures can be integrated with the rest of the model to reduce pressure on the forest and/or enhance land and forest quality?

1.2 Project Description and Status of Components

Project Goal and the SLEM Program: The *goal* of a project is considered the longer-term, higher-level objective to which the project, along with others, will contribute. The Government of India UNDP-GEF Project “Integrated Land and Ecosystem Management to Combat Land Degradation and Deforestation in Madhya Pradesh” (MP SLEM Project) has as its goal the objective of the broader GEF India Sustainable Land and Ecosystem Management (SLEM) Program of which it is a part. The SLEM Program in India currently consists of a portfolio of six projects associated with various GEF Implementing Agencies (i.e. World Bank, UNDP, and FAO) and domestic Implementing Partners. The goal of the MP SLEM Project, also the objective of the India SLEM Program, is given below. We do find that the scope of efforts of the project at the time of the Mid-Term Review (MTR) fits appropriately as contributing, along with other projects, to achieving this goal.

- *Project Goal:* To promote sustainable land management and use of biodiversity as well as maintain the capacity of ecosystems to deliver goods and services (benefiting all local livelihoods) while taking account of climate change.

Scope of Project and Project Objective: The *objective* of a project is the intended project impact, which answers the question of why we are doing the project. It is narrower than the goal, as it is something the project alone may achieve. The timeline for achievement, however, may extend beyond the life of the project. Ideally, the objective is worded so that the scope fits the project appropriately, being neither broader nor narrower than the intended impact of the project. Yet, in practice, this is challenging. The objective of the project as stated in the project document is as follows:

- *Project objective as stated in project document:* To promote community-driven sustainable land and ecosystem management at the landscape level through integration of watershed management, joint forest management, and sustainable livelihood development so as to balance ecological and livelihood needs.

By the time of the Mid-Term Review, we found the project had achieved greater specificity than the foregoing in what it is aiming to achieve. We thus recommend that project proponents now work together to find a more specific way to describe what the project is trying to do, as this will better facilitate dissemination of the project’s model(s). In this regard,

we find the project strongly oriented towards the following aim: to achieve sustainable land and ecosystem management in bamboo areas by developing a new bamboo management model and an associated multi-pronged conservation and livelihoods approach (including alternative fodder and energy, watershed work, and livelihoods sub-components). We further find that the project at the time of the mid-term review may be said to have developed three specific models, which overlap and, in a sense, provide “models-within-a-model.” We believe that the project’s aim from this point forward should be to continue to improve these models in the field, while at the same time documenting and communicating them to a wider audience that may begin to replicate them.

Exhibit 1: Project Scope - Three Models Developed by the Project

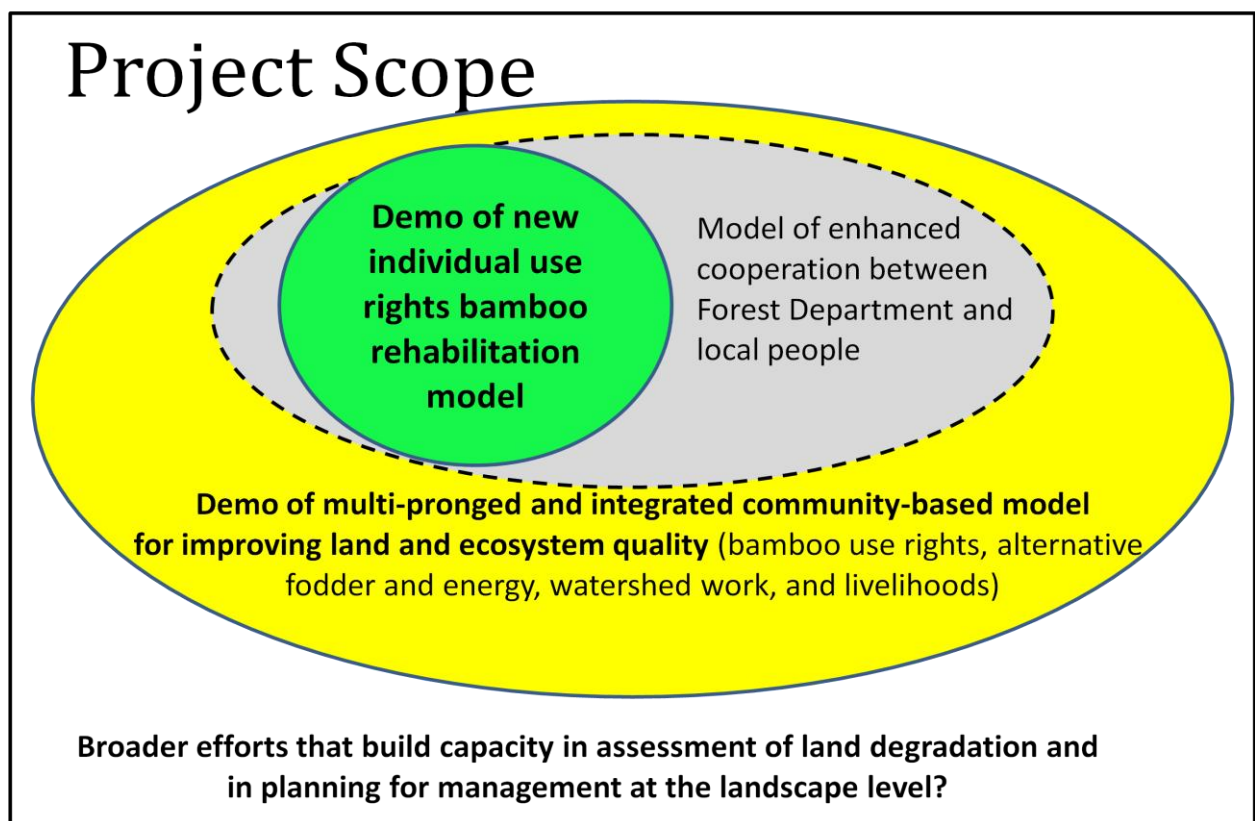


Exhibit 1-1 illustrates the three overlapping models that make up the project’s scope. The most prominent and well-developed of these is the individual or small group use rights model for bamboo rehabilitation. This model, which takes a relatively new approach to forest use rights, has received the greatest focus and resources from the project and is ripe for replication. It assigns bamboo rights to individual families (“bamboo beneficiaries”) who are responsible for (1) rehabilitation of the bamboo on their allotted area, (2) protection of both the mixed bamboo forest and surrounding forest areas, and (3) harvesting. In return, such families are accorded full or majority rights (80 to 100 percent) to the profit from the bamboo harvest on their allotted area.

This model is embedded in two other models. The first of these is the model of enhanced cooperation between the Forest Department and local people. This is a truly remarkable

aspect of the project that some stakeholders believe should be the focus of replication. Indeed, we learned that the relationship between the Forest Department and local people has changed dramatically through cooperation on various sub-components of this project. Beat guards (Forest Department staff operating at the village level) told us that villagers who used to run away from them now seek them out for advice.

The second model in which the bamboo use rights model is embedded may be considered the full model of the project. It is a multi-pronged approach that consists not only of the bamboo use rights model, but also of the following other sub-components: fodder plantation, energy plantation and other energy alternatives, watershed management work, and livelihoods initiatives (including both agriculture-related efforts and SMEs). Because these other sub-components have received less funding and attention, they are less well developed than the bamboo rehabilitation aspect of the project. Yet, these other “prongs,” particularly livelihood enhancement, are seen an important aspect of achieving sustainability of bamboo efforts. Livelihood work aims to enhance the livelihoods of both “bamboo beneficiaries” and “non-bamboo-beneficiaries” through a range of income-generating efforts beyond that of bamboo management and harvesting alone.

Based on the foregoing, we suggest one option for describing the true scope of the project at the time of the MTR as:

- *Scope of objective at the time of the Mid-Term Review:* To promote sustainable land and ecosystem management in and near bamboo (and possibly other) areas of Madhya Pradesh and India via demonstration and replication of all or parts of an innovative model that: (1) assigns individual bamboo use rights to families; (2) integrates multiple conservation and livelihood activities; and (3) enhances cooperation between the Forest Department and local people.

Yet, the project outcomes and outputs as described in the project document do convey a broader mandate. And, we understand that the project is now planning some activities post-MTR that would again broaden the scope. Thus, Exhibit 1 has the green, grey, and yellow areas of the three aforementioned models embedded in a possible broader white area: “broader efforts that build capacity in assessment of land degradation and in planning for management at the landscape level.” We recommend that now, with three years implementation experience, proponents agree on the precise scope of the project and that any broader post-MTR activities be designed to fit within that scope. As the three models will remain the centerpiece of the project, these should be included in the description of scope, even if there is broadening. A possible formulation in the case that broadening is pursued might be as follows:

- *Scope of objective highlighting both centerpiece models of project and broader activities possibly to be pursued post-MTR:* To promote sustainable land and ecosystem management in Madhya Pradesh and India via (1) demonstration and replication of an innovative model in and near bamboo areas that: (a) assigns bamboo use rights to

individual families, (b) integrates multiple conservation and livelihood activities in concerned villages, and (c) enhances cooperation between the Forest Department and local people; and via (2) broader efforts that build capacity in assessment of land degradation and in planning for management at the landscape level.

Targeted Physical Area for Impact: One issue that came up during MTR discussions is the targeted area in which the project aims to have a physical impact. We raised the question of how, aside from the bamboo rehabilitation sites, other sites (e.g. sites for fodder plantations, sites for energy plantations, and sites for livelihoods work) were selected so as to be a truly integrated part of the multi-pronged model. Initially, we understood that all activities were to take place in areas associated with the same villages as the bamboo rehabilitation work. Upon reaching the field we found that this was sometimes not the case for fodder and energy plantations and clearly not the plan for the SME consultancies being undertaken.

Exhibit 2: Targeted Area for Measurable Conservation Impact: Bamboo and Surrounding Forest versus Mill-Watersheds?

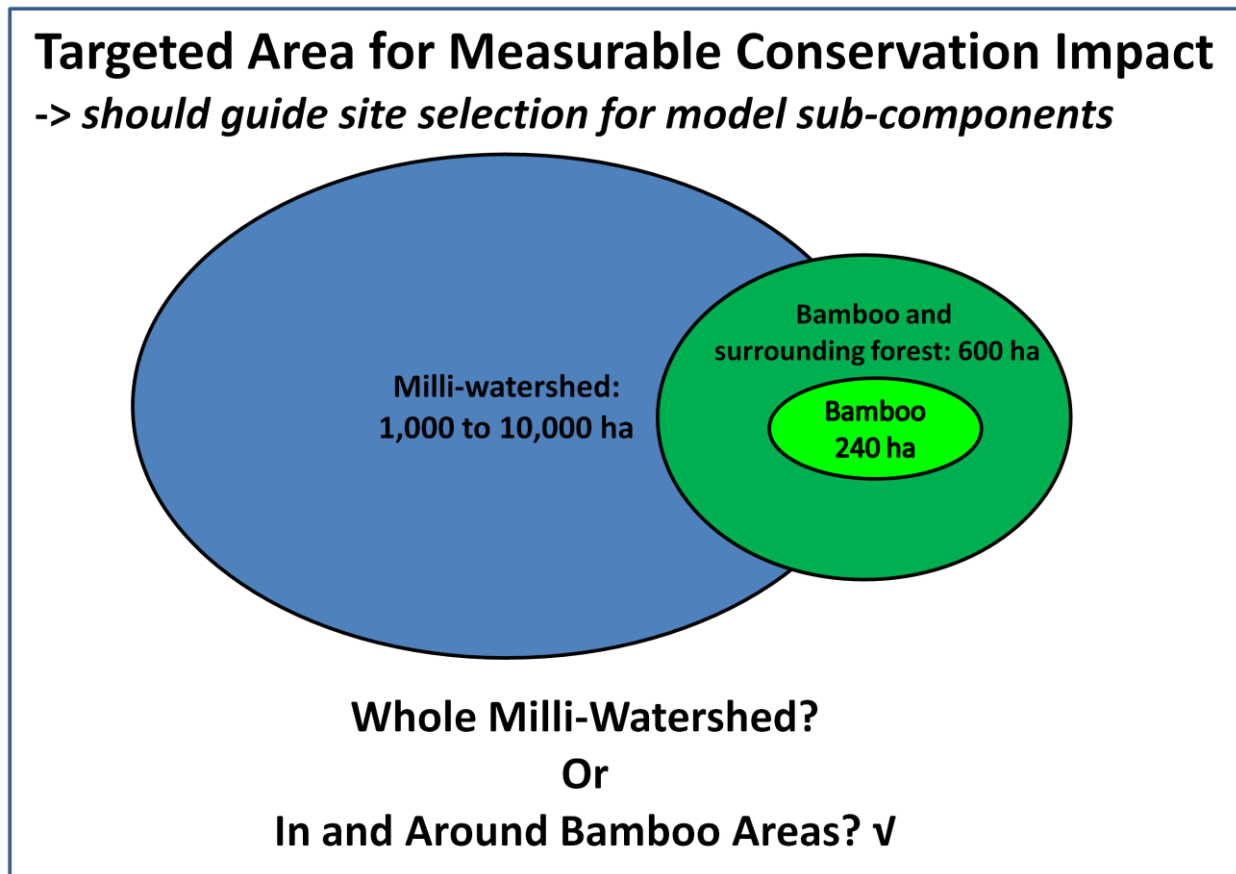


Exhibit 2 illustrates issues with regard to defining target areas, as raised by further discussion. During the project's initial design phase, "milli-watersheds" (which by definition range from

1,000 to 10,000 ha each) were taken as the boundaries for site selection.⁵ Yet, perhaps in part due to reductions in the scale of watershed management work, fodder plantation, and energy plantation, the project cannot hope to have measurable impacts across whole milli-watersheds. If we wish to measure ecological impacts, we were told, this should be done in and near the bamboo rehabilitation areas. As such, we recommend the project team refine site selection efforts to ensure that all sub-components focus on achievement of ecological results in these more narrowly defined areas. The bamboo areas and surrounding forest seem an appropriate scale of focus, as bamboo beneficiaries are protecting these areas in full, with positive results in reduction in fire incidence and increase in forest cover already achieved. Further, the bamboo work is likely to continue to be the centerpiece in early efforts to replicate the multi-pronged model.

Project Outcomes and Their Scope: The project has three outcomes. These are each described in turn below and summarized in Exhibit 1-3. A key issue that will be discussed in this report is that the project has thus far focused almost all efforts at the local level (villages, ranges, and divisions) rather than at the state or national level, although the project document intends both demonstration and higher level impacts. The post-MTR period represents an opportunity both to complete local level demonstrations and to pursue state and national level impact. For this, consensus will need to be reached among project proponents. At this point, it seems that some of the broader impacts sought will need to be adjusted to reflect current realities. For example, stakeholders suggest that policy impacts (if policy is defined as regulation) may not be practical targets, while impacts on government plans and programs may be more tenable.

In this introductory section, we offer for each of the three outcomes: a brief overview as described in the project document, work completed to date, and potential direction for the rest of the project. We also offer budget allocations for each outcome per the project document as well as official expenditures to date, given by UNDP's ATLAS system. In the text covering each outcome, we include the project document version of the outcome description, while in Exhibit 1-3, we adjust that description to reflect the current or expected reality of the project.

Outcome 1: Creation of an enabling environment for climate-resilient, sustainable land and ecosystem management: The project document states that the aim of Outcome 1 is to ensure sectoral policies take sustainable land management into consideration and that capacities are developed to effectively implement such policy modifications. The proposed outputs are two-fold: (1) state-level policies in various sectors and (2) capacity built among community organizations and government staff. In practice, we find that the project has undertaken substantial capacity building activities at the local level, but none at the state level. Further, consultancies to assess training needs assessment at the village level have been undertaken. The project has pursued a modification of state-level policy in support of the bamboo use rights model of the demos and is likely to achieve success in this regard. No other state-level

⁵ In India watershed may be classified depending on size as follows: macro watershed (>50,000 ha), sub-watershed (10,000 to 50,000 ha), milli-watershed (1,000 to 10,000 ha), micro-watershed (100 to 1,000 ha), and mini-watershed (1-100 ha)

initiatives have been undertaken, though a national-level bamboo workshop is planned and there is some discussion of developing a TOR for assessment of land degradation across MP. According to UNDP expenditure data, as of Dec. 17, 2013, only 13.4 percent of the project-document-indicated allocation for Outcome 1 has been spent. In our view, the top priority for Outcome 1 going forward will be capacity building in support of the replication referenced in Outcome 3. Such capacity building will be focused on impacting plans and programs for SLEM at the state level in MP and will also reach out to other states.

Exhibit 1-3: Summary of Project Outcomes based on MTR Findings

Note: Amounts in USD; Outcome descriptions revised to reflect findings

Outcome and Activities to Date	Project Document Aims and Current Situation or Suggestions on Scope	Status/Expenditures
Outcome 1: Creation of enabling environment for SLEM through capacity building and impact on planning and programs (emphasis on Outcome 2's models)	<i>Prodoc outputs:</i> State-level policies ; local level capacity building <i>Suggested adjustment to statement of outputs:</i> State-level SLEM capacity building and perhaps analysis to impact plans and programs; adjustment to state-level policy to facilitate promotion of project model; local level capacity building	State-level activity extremely limited; local level capacity building strong, but consultancies delayed Spent: 113,655 Budgeted: 850,000 Ratio: 13.4%
Outcome 2: Demonstration of “individual use rights” and “multi-pronged, integrated community” model for SLEM in and around mixed bamboo areas in five districts of MP	<i>Prodoc outputs:</i> Rehabilitation of degraded bamboo areas; fodder and fuel wood plantations; SMEs based on NTFPs; home gardens; improved water resources management; improved rain-fed agricultural practices <i>Outputs as implemented:</i> Similar to foregoing, but SMEs broader than NTFP-based; direct impact on agriculture limited	Demos making strong progress at division level, but state-level SME consultancies delayed Spent: 3,546,040 Budgeted: 3,300,000 Ratio: 107.5%
Outcome 3: Monitoring of demos and communication of results to facilitate replication	<i>Prodoc outputs:</i> community monitoring and external evaluation; documentation/dissemination/facilitation of replication <i>Suggested adjustments to statement of outputs:</i> As above, with addition of centralized templates for communicating monitoring results across divisions and with strong emphasis on facilitating replication.	Limited results aside from local monitoring; strong emphasis on facilitation of replication suggested post MTR Spent: 144,678 Budgeted: 1,088,000 Ratio: 13.3%
Project Management: Spent USD321,466 of USD525,000 budgeted (61.2%)		
Total: Spent USD4,367,013 of USD5,763,000 budgeted (75.8%)		

Outcome 2: Community-driven, climate-resilient approaches for sustainable land and ecosystem management are demonstrated in 4 micro-catchments: This outcome consists of demonstrations of the “individual use rights” and “multi-pronged conservation and livelihood” models for sustainable management of mixed bamboo forest and surrounding areas. Demonstrations have been developed in nine divisions across five districts in MP. In each division, multiple villages are involved. In addition to bamboo rehabilitation on plots assigned to individual families, systematic work has been undertaken in fodder and energy plantation development and watershed improvement. Agricultural improvement efforts have

been more limited and sporadic. Home garden efforts have been undertaken in some locales as have substantial SME efforts driven at the division level. Broader SME efforts involving consultancies at the state level are still in the early stages of business plan development and selection. As of Dec. 17, 2013, about 107 percent of the project-document-indicated allocation for Outcome 2 has been spent, with substantial additional expenses still in the pipeline.

Outcome 3: Capacities for adaptive management, learning, and replication of project lessons are developed. The original formulation of this component in the project document calls for (1) a community-based monitoring system and external evaluations, including an annual ecological performance audit; (2) documentation of lessons learned and facilitation of dissemination and replication. Preparation of a replication plan is also mentioned. In the MTR team's view, the most critical missing work of the project is related to "convincing" others to replicate the model. This may include documentation that brings together results in all divisions in an aggregate, easy-to-read fashion. It may include state-level and multi-state workshops, that may be classified as part of this outcome or as part of the capacity building in Outcome 1. And, it may include very targeted initiatives, such as proposals and work plans and "convincing" meetings held with agencies that may be able to finance replication. Further, the local monitoring system and indicators may need to be improved. So far, only about 13.3 percent of the funds allocated to this outcome have been spent.

1.3 Project Timeline and History

Exhibit 1-4 below shows the timeline for some of the project's major events, with red ellipses indicating delays. The first major delay was between the time the project concept was approved in 2005 (approval of project preparatory funds of USD340,000 for "PDF B" work) and the time the project document was prepared in 2009. While by current GEF policy, project preparatory work is limited to 18 months, the PMU indicates this work was at the time allowed two years and, in addition, they applied for a one-year extension. The project document was signed a first time in 2009 and then required adjustment to fit into India's SLEM Program. The project document was signed again in January 2010. Stakeholders indicate that after that there may have been some delays in the MP Forest Department getting the project incorporated into their system before the project could get started. The inception workshop was not held until August 2010; and implementation did not begin until about October 2010.

The project is designated a five-year project; and the current end date is January 2015, five years from project document signing. The IP wishes to extend the project until the end of 2015 due to the slow start after project document signing. Extension will require submission of a formal request by the project and approval from: (1) the GEF Focal Point for India, (2) the Department of Economic Affairs, Government of India, and (3) UNDP. The MTR team sees substantial benefit to extension if it can be confirmed that a strong emphasis will be put on facilitation of replication via documentation, capacity building, and more targeted

“convincing” during the ensuing two years. We recommend that extension be granted contingent on preparation of a complete and satisfactory action plan for 2014 and 2015 that includes clear plans for facilitating replication. One issue to be noted is that funds will need to be spent at a slower rate than previously in order for them to last until the end of 2015.

Finally, a last key delay issue is that, while field work for the demos began on a large scale in the fourth quarter of 2010, state-level consultancies related to this field work (training needs assessment and SME business plan development and implementation) were quite delayed due to procedural issues. The earliest of these consultancies were not launched until May 2012 with initial products not received until August 2013, almost 3 years after the initiation of field work. Causes of delays and lessons learned will be discussed further in Section 12, which covers implementation issues.

Exhibit 1-4: MP SLEM Project Timeline – Major Milestones and Project Close Date

Note: Major delays indicated by ellipses.

PDF B approved	ProDoc first signing	ProDoc second signing (after revision to fit into SLEM) – UNDP signing	Inception Workshop	Field work begins	First SME consultancy launched
2005	2009	Jan. 2010	August 2010	October 2010	May 2012
<i>Current project close date:</i> January 2015					
<i>Recommendation for extension:</i> Extension until December 2015 contingent on submission of clear and satisfactory Action Plan for 2014 and 2015 that includes activities for facilitating replication					

1.4 Project Institutional Set-up

Background to Institutional Set-up: As background, India’s forest administrative system at the state level is divided into regions (“circles”), which are further sub-divided into divisions. Divisions are then divided into sub-divisions, sub-divisions into ranges, ranges into two to three rounds, and rounds into three to four beats, which may each correspond to one or more villages. Outside of the forest administrative system, India’s states are administratively divided into districts. These may or may not correspond to divisions. In the case of more heavily forested areas, there is typically more than one division per district. The project’s demos are spread across five districts and nine forest divisions. Originally four districts were involved, but one was split into two districts, so now the demos spread across five districts.

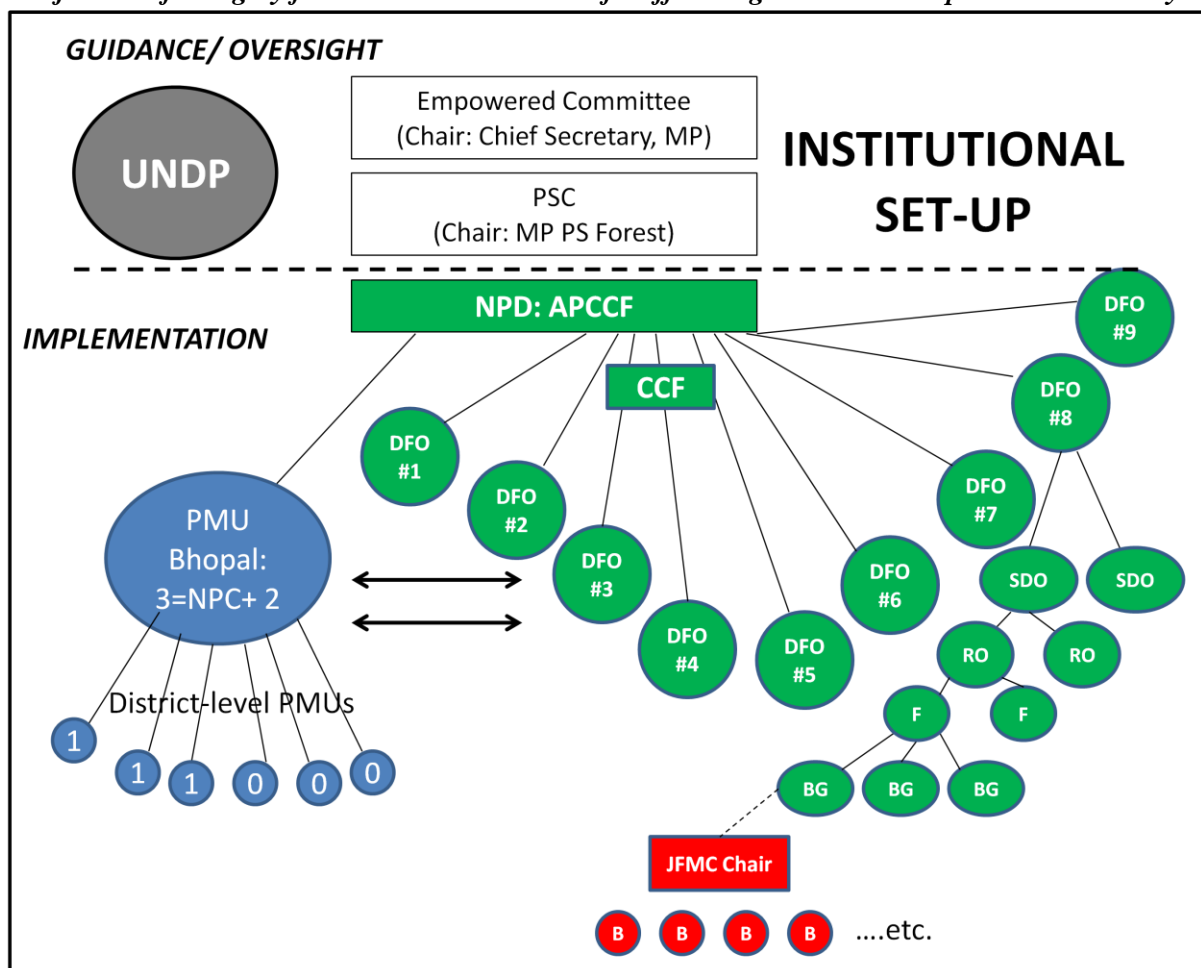
Within the MP Forest Department hierarchy, the top official is the Principal Chief Conservator of Forests (PCCF). At the next level are Additional Principal Chief Conservators of Forest (APCCFs), who are each responsible for different areas, such as protection, JFMCs, Bamboo Mission, etc. At the next level are Chief Conservators of Forest (CCFs), some of whom are based in Bhopal and some of whom head the regions or “circles.” At the next level are the Division Forest Officers (DFOs), who oversee forest divisions. They are supported by sub-division officers (SDOs), range officers, all the way down to beat guards, who may be responsible for the forest area around at least one and up to five or more villages. One DFO

involved in the project gave us a view of the total staff under his direction: three SDOs, under them five range officers, under them 32 deputy range officers (also known as “range officers”), and under them 146 beat guards, each responsible for one or more villages.

Institutional Set-up: The project’s institutional set-up is illustrated by Exhibit 1-5. The three main organizations involved in the project are the MP Forest Department, which is the Implementing Partner (IP), UNDP, which is the GEF implementing agency, and the Project Management Unit (PMU), which is based within the MP Forest Department. The PMU, led by the National Project Coordinator (NPC) is responsible for day-to-day implementation of the project and takes direction from the IP’s National Project Director (NPD), who is the APCCF for forest protection. A CCF based in Bhopal is also closely involved in promoting the project and resolving project issues. UNDP provides oversight, guidance, and backstopping as needed. While UNDP generally participates in recruitment and management of PMU staff, in this project, these functions are handled solely by the MP Forest Department.

Exhibit 1-5: Project Institutional Set-up

Project benefits highly from active involvement of staff throughout Forest Department hierarchy.



PMU: The PMU’s NPC is supported by two other PMU staff in Bhopal, who handle finance and administrative issues. He is also supported by up to five local PMU staff, one in each district, who sit within the local Forest Department offices and take direction both from the

NPC and the relevant DFOs. Some of district-based PMU posts, however, are currently vacant. The three Bhopal-based PMU staff and the up to five district based staff are the only staff whose salaries are paid with project funds. In terms of money flows, UNDP sends money to PMU (to an account with State Treasury), which then distributes funds to the nine divisions, where the bulk of the spending to date has occurred.

IP: Beyond the NPC and CCF, the project benefits highly from the active involvement of staff throughout the local Forest Department hierarchy, as illustrated in Exhibit 1-5. Division Forest Officers in each of the nine project divisions are active and highly conversant with regard to the project. Also, down the line, their sub-division officers, range officers, foresters, and on down to beat guards in project areas all play an active role in the project. In this way, the project is leveraging a lot of human resources. The beat guards, in turn, often directly interact with villagers. They attend the village’s joint forest management committee meetings, serving as secretary, and educate the villagers about the project. They also provide input on work in the field, such as bamboo rehabilitation work. As an example of the Forest Department human resources leveraged, one DFO indicated that, in his division, in addition to himself, 12 staff are directly involved in the project. These include forest guards, foresters, two range officers, and one sub-division officer. The DFOs are also critical to the effort of leveraging demo co-financing from other sectoral departments, such as agriculture. These funds typically flow at the district level and depend on the DFO’s ability to liaise with other departments. The forest divisions involved in the project demos are given in Exhibit 1-6, arranged by district. The districts of Betul and Chhindwara are in southern MP, while Sidhi, Singrauli, and Umaria are in eastern MP.

Exhibit 1-6: MP Forest Divisions with Project Demos

9 divisions in 5 districts

District	Divisions
Betul	(1) North Betul, (2) South Betul, (3) West Betul
Chhindwara	(1) South Chhindwara, (2) West Chhindwara, (3) East Chhindwara
Sidhi	(1) Sidhi
Singrauli	(1) Singrauli
Umaria	(1) Umaria

Village level: At the village level, the JFMC plays an important role in selecting villagers to participate in the project’s bamboo rehabilitation and individual use rights aspect. Forest Department staff provide guidance in this regard. Further, it is with the JFMC that selected villagers sign an agreement regarding bamboo use rights and associated forest protection responsibilities. JFMC chairs have in some cases been playing an important coordinating role for the project, but do not receive any compensation.

PSC and Empowered Committee: Like all UNDP-GEF projects, the MP SLEM project has a project steering committee (PSC). The PSC is headed by the MP Principal Secretary (PS) of Forests, who represents the State Government. Other members include: officers of the MP Forest Department and representatives from the Rajiv Gandhi Water Mission (Program under MP Department of Rural Development), Urja Vikas Nigam (renewable energy company

established by MP Government), MP Tribal Welfare Department, MP Animal Husbandry Department, and UNDP. In addition to the PSC, the MP SLEM Project also has an Empowered Committee chaired by the Chief Secretary of MP (who is the head of the civil service/bureaucracy of the state) and with six other members.⁶ The role of the Empowered Committee is to provide overall direction to the project and to the PSC and to delegate financial powers to the NPD for various aspects of the project.

2. Methodology

2.1 Purpose of Mid-Term Review

The Mid-Term Review Team (MTR Team) developed its methodology and approach based on the purpose of the MTR. The purpose of the MTR we see as three-fold:

(1) Transparency for accountability: The MTR's purpose in this regard is to provide accountability for funds spent. Namely, the purpose is (a) to let all know (i) what has been achieved so far and (ii) the strengths and shortcomings of the project; and (c) to give an assessment of whether funds are being well-spent.

(2) Lessons learned to benefit future projects as well as MP SLEM itself: The MTR's purpose in this regard is to provide insights for the (a) design and content, (b) implementation, (c) monitoring, etc. of future projects and initiatives based on what we learned from the strengths and weaknesses of this project. When possible, these lessons may also inform improvement of the project itself (as targeted in item 3 below).

(3) Course correction to ensure that project is on target for achieving its outcomes and, eventually, its objective: The MTR team's objective in this regard is to recommend adjustments both in project content and in the way that content is implemented. In this regard, the MTR team will consider the intentions of the project document, but also pursue insights on the most practical way to achieve outcomes and the project objective, considering lessons learned and developments to date. Course correction recommendations will also strongly consider steps that need to be taken to ensure that project results are sustainable after project closure.

In designing our MTR work, we also kept in mind key questions posed by UNDP to us regarding the project, which we believe cut across the above areas. These questions are: Is the work good? Is the work innovative? Is the work scalable? Is the work sustainable?

⁶ The six other members of the Empowered Committee are MP's: (1) Additional Chief Secretary of Forests, (2) PCCF, (3) Principal Secretary of Finance, (4) Principal Secretary of Rural Development, (5) NPD, and (6) NPC (as Secretary of the Committee).

2.2 Focus of MTR and Content of Analysis

The focus of our MTR work is informed by GEF and UNDP evaluation guidelines, which emphasize outcome-level impacts as a meaningful level of analysis for mid-term reviews and terminal evaluations. Outcomes are third in the logframe hierarchy of goal->objective->outcomes->outputs->activities. If designed properly, outcomes and their indicators provide a gauge of meaningful impacts being achieved, rather than simple completion of activities, which is more closely associated with the output level. At the same time, progress towards outcomes, which are expected to be achieved by end of project, tend to be more obvious at mid-term than progress toward the project objective, which may require time beyond project closure for achievement. Goals are broader and even longer term, with the project considered only one of many contributing factors. For the purpose of outcome assessment, we consider adjusted descriptions of the outcomes that reflect the current or expected reality of the project, such as those we suggest in Exhibit 1-3.

We begin our analysis with a focus on relevance (appropriateness) and results, before moving on to other key topics, such as sustainability, cost effectiveness, and design. Despite a greater focus on “outcomes” overall, we first begin the relevance and results analysis with the “big picture” view (Part II). We ask whether the project overall is appropriate to MP and to the local situation where the demos are carried out. In addition, we give considerable attention to the question of whether the project is innovative – doing something that has not been done before – and thus appropriate for GEF funding. We then move to a “big picture” discussion of project results, potential future impact, concerns, and ideas for course correction. This begins with a highlighting of changes from the baseline. It then presents a discussion of major results, impact, and overall impression of the project based largely on the “big picture” views offered by stakeholders we consulted.

Part III provides an in-depth look at the project’s three outcomes, considering achievements to date, relevance, and need for course correction. One section is devoted to each of Outcomes 1 and 3. Outcome 2, given its extensive content, is divided in to two sections, the first addressing its bamboo rehabilitation aspects, and the second addressing all other sub-components of the demo (i.e. fodder plantation, energy plantation, watershed management, agriculture-related aspects, and SMEs). The section on bamboo rehabilitation aspects also looks extensively at stakeholder input on conservation results and socio-economic results. In the review of project outcomes, we put strong emphasis on providing evidence and specific findings, rather than presenting unsubstantiated generalities. The reader may note, for example, that we often refer to specific input from various stakeholders in the field. We do so in recognition that evidence is a core feature of UNDP-GEF evaluation methodology.

Part IV covers a range of other key aspects of the project. In its first section, it covers sustainability of results, including both sustainability of conservation results and sustainability of socio-economic results. The next section examines expenditure issues, including status of GEF funds, outcome-wise expenditure issues, cost efficiency, project

management costs, and co-financing. The second section of Part IV looks at design, implementation, and monitoring and evaluation. Implementation aspects covered include timelines and institutional set-up. We have chosen to present design and implementation after examining project results because we find that examination of results is often a key means of identifying issues in design and implementation.

Part V discusses recommendations for course correction, aggregating relevant ideas presented in earlier parts of the document.

The report has three annexes. Annex 1 presents the MTR mission itinerary, between Dec. 12, 2013, and Jan. 10, 2014. Annex 2 presents a list of documents reviewed by the MTR team. Annex 3, prepared by one of us (PK), complements Sections 6 and 7 of the report by providing technical analysis on specific aspects of Outcome 2's project demos, namely: (1) bamboo rehabilitation, (2) fodder plantation, (3) energy plantation, (4) SMEs, (5) soil and water conservation, and (6) home garden.

2.3 Methods of Gathering and Analyzing Information and Data

Our key methods of gathering information for this report have been (a) in-depth face-to-face interviews with stakeholders at all levels (national level, state level, division-level and on down to forest guard and village-level), (b) briefer interviews focused on specific questions (mainly with villagers), (c) focus groups with villagers, (d) site visits (including to bamboo rehabilitation sites, fodder plantation sites, energy plantation sites, and villages and enterprise sites), (f) document review, and (g) preparation and submission of information request templates regarding conservation results and expenditure and co-financing data.

Altogether, we conducted over 47 in-depth face-to-face interviews in Delhi, Bhopal (capital of the State of Madhya Pradesh), and the divisions where the demos are being implemented. In addition, we conducted 26 briefer villager interviews and eleven villager focus groups. The breakdown of these interviews is summarized in exhibit 2-1. In addition to stays in New Delhi and Bhopal, we made two separate field trips, one to project divisions in the south of the state and one to project divisions in the east of the state. During these trips, we visited seven of nine divisions in which project demos are located and were able to conduct extensive interviews with stakeholders from eight of those nine divisions. This work also covered four of the five districts in which the project is being implemented. Site visits during the trips included visits to eight bamboo rehabilitation sites, six fodder plantation sites, two energy plantation site, and nine village and/or agriculture or SME livelihood sites. Divisions visited and site visits in these divisions are summarized in Exhibit 2-2. The itinerary of the MTR mission is given in Annex 1.

Prior to the mission, we designed a draft MTR report outline. Based on the information needs implied by the outline, we prepared a master interview template. In addition, we prepared a more focused interview template for villager interviews. Interviews, however, were to some

extent open-ended. That is, if an interviewee had more to say or more information on one topic than others, more attention would be given to that topic. In the evenings of the mission, we drafted detailed meeting notes from each interview, organizing these according to the draft MTR report outline we had prepared.

Exhibit 2-1: Stakeholder Consultations Conducted

I. MEETINGS IN NEW DELHI	
Government Ministries	UNDP and GEF
Ministry of Environment and Forests (MoEF)	UNDP Programme Officer responsible for project
Ministry of Tribal Affairs	Other UNDP Team Members
India GEF Coordinator, MoEF	
II. MEETINGS IN BHOPAL (STATE-LEVEL IN MADHYA PRADESH)	
Government Departments and PMU	Consultants to Project –SME and TNA
PCCF	Indian Institute of Forest Management (TNA)
NPD, CCF, and PMU (MP Forestry Dept.)	Access (SME and TNA)
APCCF responsible for JFMCs	MP Vigyan Sabha (SME)
APCCF responsible for MP Bamboo Mission	
Former NPD (design phase)	
III. INTERVIEWS IN THE DIVISIONS WITH PROJECT DEMOS	
Division Forest Officers (DFOs)	Other Forest Dept. Staff
North Betul DFO	West Betul: 2 SDOs and other line staff
South Betul DFO	South Chhindwara: Range Officer
West Betul DFO	East Chhindwara: Range Officer and Range Ass't.
South Chhindwara DFO	East Chhindwara: Forest Guard
West Chhindwara DFO	West Chhindwara: SDO and Range Officer
East Chhindwara DFO	Sidhi: Forester, Beat Guard (+JFMC Chair)
Sidhi DFO	Sidhi: SDO
	Umaria: 2 SDOs
In-Depth Villager Interviews	Brief Villager Interviews
North Betul: 2 Villagers	North Betul: 2 Villagers
South Betul: 3 Villagers	South Betul: 4 Villagers
West Betul: 2 Villagers	West Betul: 1 Villagers
South Chhindwara: 3 Villagers	South Chhindwara: 2 Villagers
West Chhindwara 2 Villagers	West Chhindwara: 5 Villagers
East Chhindwara 2 Villagers	Sidhi: 10 Villagers
Sidhi: 3 Villagers	Umaria: 2 Villagers
Umaria: 2 Villagers	
IV. VILLAGER FOCUS GROUPS	
North Betul, South Betul, West Betul	South Chhindwara, West Chhindwara
Sidhi	Umaria
V. TELEPHONE INTERVIEW	
ICFRE: Project Director for India SLEM TFO Project	
TOTAL NUMBER OF FACE-TO-FACE INTERVIEWS OF EACH TYPE	
Interviews with New Delhi-based organizations: 5	
Interviews at MP State level in Bhopal: 8	
Interviews with Forest Department officers and staff in the divisions:15	
In-depth villager interviews: 19 (of which 12 men, 6 women, 1 couple)	
Total Face-to-Face Interviews: 47 (not including 26 brief villager interviews: 18 women + 8 men; and 11 villager focus groups)	

Then, when a substantial portion of interviews had been completed, we began collating parts of various interviews according to each of the main topics and sub-topics in our MTR report outline. These topically-organized aggregations of stakeholder input, along with data and information gathered from documents, supplied rich content for our further analysis to support drafting of this report. In addition, technical findings during site visits provide an important basis of some of our analysis.

Exhibit 2-2 Summary of Divisions Visited and Site Visits

OVERALL: DIVISIONS VISITED (7 out of 9 in project; 8 interviewed)	
South Madhya Pradesh	
Betul District	Chhindwara District
1. North Betul Division 2. South Betul Division 3. West Betu Division	1. South Chhindwara Division 2. West Chhindwara Division (note: East Chhindwara Division stakeholders interviewed in Chhindwara town)
East Madhya Pradesh	
Sidhi District	Umaria District
1. Sidhi Division	1. Umaria Division
BAMBOO REHABILITATION SITES VISITED	
1. North Betul (near Tawa Dhana Village) 2. South Betul (near Ladi Village) 3. West Betul (near Khokrakhera Village) 4. South Chhindwara (near Borpani Village)	5. West Chhindwara (near Tamia Town) 6. Sidhi (Madwas Range, near Khajuria Village) 7. Sidhi (Maldeva Village, Churhat Range) 8. Umaria (Ghenghuti Range, Bijuari Village)
FODDER PLANTATION SITES VISITED	
1. South Betul 2. West Betul (Gadakhar Village – no bamboo)* 3. West Betul (Gawasen Village)	4. South Chhindwara 5. West Chhindwara (near Tamia; fish pond near) 6. Sidhi (Maldeva Village, Churhat Range)
ENERGY PLANTATION SITES VISITED	
1. South Betul	2. Sidhi (Madwas Range, near Khajuria Village)
VILLAGES AND ENTERPRISES/AGRICULTURAL EFFORTS VISITED	
1. North Betul: Tawa Dhana Village – vegetable garden, facilities for planned chicken rearing 2. South Betul: Ladi Village 3. West Betul: Gawasen Village – silk spinning 4. South Chhindwara: Borpani Village – fish pond 5. West Chhindwara: Tamia area Kunwabadla Village: Did not visit village, but visited site near village at which various enterprises had been temporarily set up as an exhibition. These included: silk spinning (villagers being trained), lantana furniture, rope made of cloth rags. Fish pond was seen near fodder site. 6. Sidhi: Madwas Range Khajuria Village: Lac Cultivation 7. Sidhi: Churhat Range, Koludi Village (non-RDBF village): incense sticks, efficient cook stove 8. Sidhi: Sidhi Range, Gandhigram Village (non-RDBF village): incense sticks, sisal rope/handicraft, cloth waste rope, fish farming, biodynamic farming (nearby village), biogas home (nearby village) 9. Umaria: Bijauri Village: Broom making (in training), home garden	

*In this village, fodder plantation sub-component was implemented, but there were no beneficiaries for bamboo rehabilitation in the village.

We supplemented interview and site visit findings with data provided in various documents, including presentations made by DFOs during the field trips. (A listing of documents reviewed is provided in Annex 2.) In addition, we submitted questionnaires on bamboo results and projections to the DFOs and a data request on expenditures to the PMU. We include expenditure information provided by the PMU in Section 10. We received a response

to just one of the DFO questionnaires prior to the drafting of this report and include information from that DFO where relevant.

Our methodology clearly has limitations. MP SLEM is a complex project with multiple sub-components at the demo level. It would be very difficult to thoroughly examine all aspects and all financial, conservation, and socio-economic data involved. By focusing on stakeholder interviews and focusing on the project's outcome level, we take what may be considered a somewhat higher level and impact level view of the project, at the expense of not being able to check on the details of all implemented activities, such as specific capacity building trips or specific SME initiatives.

Further, we note that most of our interviewees were directly involved in the project and many are also directly employed by the MP Forest Department. For this reason, interviewees may be less likely to comment on the shortcomings of the project and more likely to emphasize its strengths. At the Central (New Delhi) and State (Bhopal) levels, however, we did have discussions with interviewees not directly involved in the project. And, at the local level we made a special effort to speak with villagers from project villages that were not benefiting from the project ("non-beneficiaries").

As a further limitation of our methodology, almost all interviews were conducted in the presence of the PMU or Forest Department (both of which provided impressive assistance with all aspects of our meetings). This also may have contributed to biasing of some interviews towards a focus on the positive, while overlooking the negative. Yet, the support and facilitation provided by the PMU and Forest Department are believed to have far outweighed this drawback. Further, in-depth discussions prevented "glossing over" of problems.

Finally, our villager interviews may have in some cases been biased towards more enthusiastic participants or those selected by local Forest Department staff. At times, we did not have the opportunity to visit a village and, instead, stakeholders from multiple villages were brought together to speak with us. Yet, we also randomly selected interviewees at times and, even when village stakeholders were brought together outside of their villages, the group from which to select beneficiary interviewees was quite substantial.

PART II: BIG PICTURE – OVERALL IMPRESSION OF PROJECT, ITS IMPACT, AND MAJOR ISSUES

Part II offers a wide-angle-lens view of project relevance and results, before we delve into more detailed results on an outcome-by-outcome basis in Part III. Part II's "big picture" angle is much more than a summary of the outcome-by-outcome findings of Part II. Indeed, it includes cross-cutting aspects that may be missed in an outcome-by-outcome analysis. In Part II's first section (Section 3), we look at the project's overall relevance and appropriateness. In its second section (Section 4), in addition to providing a "change from the baseline analysis," we look at the project's overall impact, quality, and concerns raised. For these, we rely heavily on stakeholder feedback to "big picture" questions asked in interviews.

3. Overall Project Relevance

In this section on project relevance, we look at: (a) suitability of the project to the situation in MP; (b) alignment with national, state, and local priorities, and with UNDP comparative advantages; and (c) level of innovation and incremental value-add of the project. Our findings in all these areas are quite positive, with just some caveats. The project is highly suitable to the situation in MP, aside from the fact that integrating the project's model into the existing system for replication may pose difficulties. Further, the project is well aligned with national, state, and local priorities. It fits well with UNDP's comparative advantage, though this advantage is not being fully leveraged due to the absence of much needed capacity building, dissemination, and "convincing" work at the state and national levels. Innovation and incremental value-add are relatively strong. While there have been some previous efforts assigning individual use rights to bamboo or trees, these appear to have been either short-lived or quite limited in scope, and generally not successful. Further, the project's integration of this model with a multi-pronged conservation and livelihoods approach implemented by the MP Forest Department shows further innovation. The linking of livelihoods (and, particularly, NTFP livelihoods) and conservation is innovative, as is the close working relationship developed between the Forest Department and local people.

3.1 Suitability of Project and Alignment with National, State, and Local Priorities and with UNDP Comparative Advantage

Suitability: The MTR team finds the project highly suitable to the situation in Madhya Pradesh. As outlined in Section 1, Madhya Pradesh is rich in forest, bamboo, and biodiversity resources. With over 30 percent of its land classified as forest area and with substantial forest protection challenges, a project that presents a new, potentially more effective model of protection is highly appropriate.

Further, the project's focus on bamboo is also quite suitable to the situation in MP. First, while MP ranks second among India's states in bamboo area, degradation is substantial. For example, MP has by far the largest area of "hacked bamboo forest" (228,400 ha out of the total of 1.3 million ha) among all of India's states, as indicated in the 2011 *Forest Survey of India*. In addition, the emphasis on bamboo is appropriate due to its short period required until harvesting (e.g. around four years), which is hoped to enable sustainable incomes after closure of this five-year project. Finally, a number of stakeholders are enthusiastic about the potential of the market for MP-produced bamboo and bamboo products. They cite demand levels that far exceed supply and the potential to develop bamboo industries in MP, such as bamboo homes in rural areas, furniture, food processing, handicrafts, and even fabrics.

Lastly, the project is highly suitable in that it addresses livelihood concerns of some of the nation's poorest, most marginalized peoples. Project sites are largely in tribal areas and, as will be discussed later, villagers to be involved in bamboo rehabilitation and harvesting aspects of the project are chosen based on their low income levels. There is a strong need for alternative livelihood opportunities in these areas; and the project aims to provide such alternatives not only through bamboo rehabilitation but through other agricultural and SME pursuits. Further, these areas are rich in non-timber forest products (NTFPs); and the project has indicated an aim to promote local SMEs that leverage such resources.

National, State, and Local Alignment: the MTR team finds the project well-aligned with national, state, and local priorities, as well as with UNDP comparative advantages, though the project does face some challenges in getting its innovative model incorporated into government plans and programs. At the national level, India has developed a Sustainable Land and Ecosystem Management (SLEM) Program under GEF, which links six active GEF projects in the SLEM area. India is also a party to the United Nations Convention to Combat Desertification (UNCCD), the United Nations Convention on Biodiversity (UNCB), and the United Nations Framework Convention on Climate Change (UNFCCC). The project is relevant to all three of these conventions. It addresses land degradation in pursuing bamboo rehabilitation and improved forest protection, which in turn could lead to enhanced biodiversity in MP, particularly if replicated on a larger scale. Relevance to climate change issues is also clear, as the project will lead to increased uptake of carbon in biomass as well as to sustainable use of biomass resources. Further, people in project areas, some even cut off for long periods annually from the rest of the nation due to monsoon rains, have high levels of vulnerability to climate change, for which improved land management should be a mitigating factor.

In MP, we also found the project well-aligned with state priorities. We found a high level of enthusiasm both for the project and bamboo in our discussion with the State's PCCF, who leads the MP Forest Department. The PCCF expressed strong support for the model used in the project and for its replication across the state. He explained that the model was partly piloted in 2003-2004 and that he views the current project as the "demonstration phase." The MP Forest Department, through its Bamboo Mission, is actively pursuing opportunities to increase the state's value add to its bamboo. Partnerships with large companies, such as

IKEA, are being discussed. Further, the possibility of using bamboo for a program that will include the building of 1.0 million homes for rural people has been discussed with the MP Department of Rural Development. The State's Ecotourism Board has decided that all hostels and guest houses in serene environments will be made of bamboo. Finally, the state is planning on emphasizing education in bamboo, including artisanship, design, and technology. They have already sent a group of persons out for training, will be bringing some international experts in to provide training in design, and hope to eventually set up an online course related to bamboo artisanship and design.

Through our interviews in the divisions, we also found the project to be well-aligned with local priorities. For Forest Department staff in the divisions, the project provides an alternative and more effective model for achieving their high priority forest protection targets. As will be discussed, for example, forest fire incidences have dropped precipitously due to the new forest protection arrangements introduced by the project. Further, at the village level, we found the project to be well-aligned with local needs. Villagers often have limited income-generating activities and may out-migrate for work, but prefer the closer to home and more steady opportunities provided through bamboo rehabilitation and other livelihood initiatives introduced by the project.

Leveraging of UNDP Comparative Advantage: Finally, we find the project as designed well aligned with UNDP's comparative advantages as a GEF Implementing Agency. Yet, we believe that these comparative advantages have yet to be fully leveraged due to the project's strong focus to date on local demo activities alone. Thus, we urge proponents in the post-MTR phase to leverage UNDP strengths in (1) capacity building, (2) dissemination, and (3) "convincing" at the state and national levels to fully set the groundwork for replication of the project's "use rights" and "multi-pronged conservation and livelihoods" model. Other aspects of UNDP's comparative advantages reflected in project design are (4) testing out new, innovative models on a small scale, (5) flexibility for adjustment of those models and for adaptive learning in project strategy, and (6) strong stakeholder consultation in developing project initiatives.

3.2 Innovation and Need for the Project

For GEF projects (particularly demonstration-focused ones), an important aspect of relevance and appropriateness is the question of whether the project is doing something new or innovative – something that has not been done before and would not be done without the support of GEF funds. After consulting numerous stakeholders on this question, our conclusion is that the project does represent an innovative model. There may have been limited cases in MP or India of individual use rights pilots, but these have not been common and success has not been achieved. Further, it appears the project's multi-pronged approach, in integrating livelihoods work with conservation, is also innovative and represents a more comprehensive model than past efforts, with greater likelihood of success.

Stakeholders were not in complete agreement as to the innovativeness of the model and particularly with regard to the innovativeness of certain sub-components, but weighing our various findings, the conclusion of innovation meriting GEF incremental financing is strong. As one national-level stakeholder noted, “No project starts from a vacuum. Instead, projects build on other initiatives.” He appreciates the way the project built on things that had been learned in MP in the past. Others emphasized that while SMEs for people in forest areas may not be new, integrating them with conservation efforts is. Below, we discuss various aspect of innovation that came up in stakeholder interviews and also summarize findings, including a few quotes, in Exhibits 3-1 and 3-2.

Ongoing payments and eventual harvest benefits to the individual/family (or sub-group):

In the case of SLEM, one very common aspect of innovativeness raised by DFOs in divisions with project demos is that the ongoing monthly payments to individual families (planned for a period of four to five years) and associated long-term benefits are new. While it is true that Government payments to villagers for forestry work is common in India, this is usually in the form of daily wages or “job rates” for work done over a much shorter period than the term over which payments are to be made in the project. And, in the end, the worker who rehabilitates or protects the forest will have no specific individual rights to the harvest. We asked a number of villagers involved in the bamboo aspect of the project whether they had ever seen anything like this model before and all replied that they had not. As will be discussed in Section 6, some villagers worked together as sub-groups on bamboo rehabilitation and some localities plan to divide profits evenly among beneficiaries. Thus, while we refer to “individual use rights” as the innovation, in some situations, the model implemented may correspond more closely to “sub-group use rights”, where the sub-group is generally a small subset of households in a village.

To confirm the innovation thesis, we checked on the prevalent models being used in MP for bamboo rehabilitation. These are indeed quite different from the project’s model of monthly payments (originally Rs 2,500 per month, raised to Rs 3,500 per month) for four to five years followed by ongoing rights to the bamboo. In its current work plan, the MP FD has an allocation of Rs 3,000 per ha for bamboo rehabilitation. (This allocation is used to pay workers, but according to stakeholders is not enough to cover rehabilitation of the full area intended.) Under the MP FD’s current scheme, doing the rehabilitation work does not guarantee one will get to do the harvest work, though both jobs will be given to members of the JFMC associated with the forest area. As mentioned earlier, 100 percent of profits from the harvest will go to the worker who harvests. And, protection fees may be paid to the JFMC separately. The MP Bamboo Mission is implementing a higher paying scheme in which a total of Rs 16,000 per ha (recently raised to 20,000 per ha) is paid out over two years. Yet, this is only for rehabilitation and does not convey use rights. Additional information on these two models (the general MPFD model and the special Bamboo Mission model) is given in Annex 4. Comparison to the project’s model is also provided in Section 6.1 and Exhibit 6-2.

New working relationship between Forest Department and people; improved protection:

One DFO with extensive experience with the project made the case that, not only are the

ongoing monthly payments innovative, but they facilitate a new kind of relationship between the Forest Department and villagers. With monthly payments, “faith is built and people will follow directions” in areas such as forest protection. A model of the Forest Department and people working together is created. If extended, this could really change the paradigm of how the Forest Department operates and interacts with local people. With regard to protection, one APCCF consulted in Bhopal mentioned that there are problems with the JFMC model (e.g. issues of gazing, fuel wood, etc.) and that therefore new models, such as the project’s, that can enhance protection are of interest.

Family model: In addition to the ongoing payments and individual harvest benefits associated with rehabilitation and protection, some stakeholders point out that the family model is another innovation. That is, in daily wage work or pay-by-the-job, the work must be carried out by a specific individual. In the project’s model, the work can be carried out by different family members depending on their availability.

Counterexamples: Some experienced persons at the national, state, and division level did raise previous examples of individual use rights in forestry in India. Yet, these examples appear limited and unsuccessful. Indeed, one of the authors (PK) has seen this in Gujarat State for timber trees. The scheme did not work, because after 15 years, people expected the payments to continue. A national-level stakeholder indicated the model had been used before in some cases, but not for bamboo. In Bhopal, one state-level stakeholder mentioned efforts in the late 1990s that were derailed by a change in Government policy rather than failure of the scheme itself. And, one DFO interviewed had seen a similar scheme for plantations covering about eight to ten villages with perhaps 20 to 30 beneficiaries in each village. The scheme failed, however, and was different than the project model in that it lacked other livelihood activities to supplement the bamboo efforts. As mentioned, one stakeholder told us of a pilot scheme in 2002/2003 upon which this project is based.

Another stakeholder suggested that there have been several such experiments and all have failed due to sustainability factors. In particular, he mentioned one that paid beneficiaries Rs 1,250 per month for four years. He told us that participants out-migrated for work and did not continue to maintain the forest after the payments stopped. This specific program, implemented by the MPFD in 2000 to 2001 was called “Sustained Employment through RDBF” and targeted rehabilitation of a total of 40,000 ha of bamboo forest in Madhya Pradesh. Some aspects of this program are remarkably similar to the SLEM project. While we were unable to get detailed feedback on why the program failed, it appears that funding was discontinued. This discontinuation of funding in turn implies that the program did not have strong support from MPFD management, as normally funds for ongoing programs are only cut in the case of extreme scarcity. Details on the plan for this program are included in Annex 4. Given remarkable similarities to the SLEM project, post-MTR it may be a useful exercise to better understand why the project did not get continued funding and how this may inform sustainability and replication efforts of the SLEM Project.

Exhibit 3-1: Stakeholder Input on Question of Project’s Innovativeness
Part I: Individual (or Sub-group) Bamboo Use Rights

Monthly Payment over Extended Period and Individual Use Rights Afterwards
<p>-Several villagers, a forest guard, and a range officer who were asked all said they have never seen a project like this before.</p> <p>-Monthly remuneration of project is innovative. (Comment made separately by 4 DFOs)</p> <p>-“For the first time, the individual beneficiary is targeted. Under MP World Bank project, beneficiaries given a daily wage. . .did not get benefits of the result of their work.” (a Circle CCF)</p> <p>-Main model for bamboo rehabilitation in MP is payment by the job per ha; separate payment for harvesting and protection; harvesting entitles specific worker to profits of harvest. (confirmed through several interviews)</p> <p>-Individual use rights approach addressing poorest families may be preferable to full JFMC approach, as these poor families may not be dominant in the community.⁷ (Delhi-based stakeholder)</p> <p>-Project creates alternative model in which subset of families rather than full Gram Sabha (council of all adults in a village, which may be difficult to organize) has access. It creates strong sense of ownership among these families. (Delhi-based stakeholder)</p> <p>-“No project starts from a vacuum. Instead, a project builds on other initiatives. Project has built on previous work in Sidhi and Chhindwara. It has picked up on things learned in the past.” (Delhi-based stakeholder)</p>
Previous Examples of Individual Use Rights/Counterexamples to Innovation Thesis
<p>-Only other example seen in 30-year career was individual use rights bamboo plantation project in 8-10 villages in MP in 1990s. Project did not work out well; this one integrates more aspects. (a DFO)</p> <p>-“There have been experiments like this, but all have not been sustainable after payments stopped. . .One provided payments of Rs 1500 per year for four years.” (An APCCF)</p> <p>-Previous efforts in India with individual use rights, but not with Bamboo (Delhi based stakeholder)</p> <p>-Tried it in Gujarat, but problem when payments stopped after 14 or 15 years (people expected payments to continue); and there was also conflict with those not included. (One of the authors)</p> <p>-In 1997/1998 MP tried this with trees, giving each household 1 ha usufruct, but for political reasons it was stopped. There was no other cause of the failure. (Expert from academic institute)</p> <p>-MP Forest Dept. conducted pilot in 2003/2004 – project is demo based on this model. (MP PCCF)</p>
Improved Protection Achievable through Individual Model
<p>-With monthly income, beneficiaries more willing to follow directions on protection, etc. “Paying by the job is different than paying monthly income.” (a DFO)</p> <p>-Protection in standard model not always as good as FD would like, so interested in other models such as this project. (conveyed by an APCCF)</p>
Family Aspect
<p>-Under model, whole family can work together. This is different even than the 2003/2004 pilot. (Bhopal-based stakeholder)</p>

Livelihoods work: In addition to the private use rights model, we asked stakeholders whether the livelihoods aspect of the project is something new. Of course, a lot of livelihoods work has been done in rural India. Yet, a number of stakeholders believe there is something new here as well. Most importantly, they believe the integration of conservation and livelihoods in the same project is new. Some suggest involvement of the MP Forest Department this extensively in livelihoods is a new thing, while others note that the Forest Department has done livelihoods work before. Some suggested that the level of leverage of funding from

⁷ Under the project’s model, the poorest families are selected by the JFMC. The distinction here is that under the old/standard model, individuals from the JFMC may have had opportunities to harvest and the full JFMC may have handled protection, but there was no clear prioritization of poor families. Also, there was no linking of an individual family’s role in rehabilitation and protection with harvesting rights.

other departments for local livelihood efforts (often referred to as “convergence” by those whom we interviewed) is much higher than before. Finally, some emphasized that the NTFP focus of livelihoods work is new, while others suggest that NTFP-based livelihoods work has been carried out in project divisions and even by the MP Forest Department before. In particular, some bio-resource SMEs (including NTFP SMEs) were established under a previous bilateral project (Japanese funding), on which the livelihoods work of this project is modeled. Those that emphasize the newness of NTFP work argue that past efforts emphasized “weaning people away” from the forest, while NTFP based SMEs will bring them closer to the forest.

**Exhibit 3-2: Stakeholder Input on Question of Project’s Innovativeness
Part II: FD and People Working Together; Livelihoods**

Forest Department and People Working together/ Improved Relationship
-“There is now a connection between the Forest Department and the local people. There is faith between the two groups,” notes one DFO. He would like to continue along these lines in the FD’s other work in his division.
Livelihoods Integrated with Conservation (especially NTFP livelihoods)
-“Livelihoods work for MP Forest Dept. not entirely new.” (a DFO) -Assimilating many aspects under one project as with UNDP-GEF project is not common. (a DFO) -Usually, as part of FD, have not engaged in this type of work. (a Range Officer) -Before, FD did do livelihoods work and rehabilitation, but these aspects were not integrated as part of same effort. Co-financing with other departments is also something that’s new in this project. (an APCCF) -“What’s new is that project is focused very clearly on NTFPs and connected very closely with conservation. This project is focusing on a different way of working – working to reconnect the people with the forests and create a new dependence on the forest rather than wean them away. This improves peoples’ relationship with forests and makes them more likely to conserve.” (Delhi-based stakeholder) -MP MFP Federation and others doing this, so forest product based SMEs not new. What’s new is integration into larger bamboo use rights project. MP FD has been doing forest product based SMEs through the Federation for years. (synthesis of comments from two Bhopal-based stakeholders) -MP Forest Dept. unlikely to pursue livelihoods/SME work of project without project. NGOs have tried to do livelihoods work in forest areas, but lack access to forests without support of Forest Department. Strong focus on livelihoods is one aspect of innovation of this project. To date, there has not been very strong livelihoods work in tribal areas (Delhi-based stakeholder) -Forest departments in India have been doing livelihoods work in the past, but sustainable forest use livelihoods work is more rare. (one of the authors)

4. Overall Impact and Quality of Project

The aim of this section is to present overall impressions of the project, with a focus on project impact, project quality, and key issues and concerns. The section relies heavily on stakeholder input regarding their overall impression of the project, including both strengths and concerns. In sub-section 4.1, we examine changes from the baseline achieved by the project across its areas of activities. In sub-section 4.2, we present feedback from stakeholders regarding their overall impression of the project and what they believe are the key impacts. In the sub-section, we also present a number of key concerns regarding the

project's direction to date, including both stakeholder feedback on and our own analysis of the issues.

4.1 Changes from Baseline

A big picture overview of changes from the baseline makes it clear that MP SLEM has had significant impacts on the ground at demo sites. At the same time, impacts at the state level or national level in getting the message of these local-level impacts out has been extremely limited. Further, we have some concern that capacity building and SME consultancies will not achieve the level of impact desired due to delayed launch. Because of these late starts, the project decided to have division-level Forest Department staff initiate and lead villager capacity building and alternative livelihoods efforts on the ground, based on their own ideas. Thus, project capacity building and livelihood results to date are due to those local FD efforts rather than the project-commissioned consultancies.

Exhibits 4-1a and 4-1b show our big picture assessment of changes from the baseline in various project-related domains. Exhibit 4-1a focuses on those impacts at the local and demo level, while Exhibit 4-1b focuses on state and national level issues. Correspondingly, we find some very positive results in the first table, but very limited impact in the second table. Perhaps most exciting at this point in time is that the “individual (or small group) use rights” aspect of the project's model, the bamboo rehabilitation work, is poised for success. The work has been well-carried out and initial indications are that, in at least some locales, the probability of sustaining incomes at the levels facilitated by the four years of monthly payments will be possible. We will examine variation from site to site later in this report. The fodder plantation and watershed work have both yielded positive results. In particular, the fodder plantation has introduced stall feeding in MP forest areas, something that was previously rare. At the same time, the area of the fodder plantations is small so that villagers can only meet a small portion of the needs of their livestock through the sites. Energy plantation work, due to the long time required for planted species to reach maturity, will not yield results until after project close. Projections suggest a substantial portion of fuel wood needs may be met at some sites. Yet, we find that at some sites full focus was not kept on fuel wood species, with cash crop species interspersed in the planting.

The initiatives of the DFOs and their staff in stimulating alternative livelihoods – up-scaling existing efforts or bringing in ideas from nearby locales – have had positive results. Yet, efforts are uneven among villages and it is not clear whether results are sufficient to have the impact intended. In those places where bamboo yields are lower, bamboo beneficiaries may need alternative livelihoods. And, generally, there is concern that non-beneficiaries may be discontent once harvest time comes if other livelihood efforts are not made available in the relevant villages. In general, the bamboo beneficiaries have found their incomes greatly enhanced by the monthly payments and have been able to stop out-migrating for work.

Exhibit 4-1a: Changes from the Baseline Related to MP SLEM Project

Part I: Impacts at and near Project Sites

Item	Oct. 2010	Dec. 2013	Due to Project?/ comment
<u>*Individual (or small group) use rights</u> for trees and bamboo in MP (and nationwide)	Previous examples: either short in duration or limited in scope – all said to be unsuccessful or stopped prematurely	Individual use right bamboo demo areas in 9 divisions; harvesting expected to begin Q4 2014; high potential for sustainability of incomes at some sites	Yes/ good results
<u>Degraded bamboo area</u> in project districts	Total of 26,020 ha in 5 project districts	With 11,390 ha rehabilitated in 5 project districts, degraded area has dropped 44% to 14,630 ha	Yes/ good progress
<u>*Fodder plantation</u> in MP forest areas	Stall feeding virtually nonexistent in MP forest areas	210 ha of fodder plantation: over 10 villages in MP forest areas now have partial stall feeding; positive effects on milk cows seen in some cases	Yes/ good results, but area limited
<u>Energy plantation</u> in MP forest areas	Concept not widely implemented before in MP forest areas	220 ha established; maturation period means no results before project close, but could have substantial impact on fuel wood use; in some cases focus not fully on fuel woods species	NA/could have big impact/ species focus a concern
<u>Watershed work</u> in MP forest areas	Substantial work done to date	Additional 3,000 ha treated in project areas: runoff reduced in bamboo areas; subsoil moisture improved; increased agricultural productivity noted in some villages	Yes/good results
<u>*Out-migration for work</u> in project areas; <u>incomes</u>	Out-migration common among poorest households for a few to several months per year	Out-migration has stopped for many involved in bamboo rehabilitation of project who have also seen substantial rise in incomes	Yes/ a good result
<u>Alternative livelihoods</u> in project villages and nearby areas	Activities such as home garden, fish farming, incense sticks, etc. existing in some areas	Activities scaled up and extended to new villages; in Sidhi, 5,000 women now newly involved in incense sticks; yet business plans of SME consultancies yet to be implemented	Yes/need to clarify site selection, delay of b-plans a concern
<u>Confidence and exposure of villagers</u> involved in project; capacity built	Villagers involved in rehabilitation work said to have lacked confidence and exposure to outside world	Exposure tours have broadened horizons of bamboo beneficiaries; people more comfortable with outsiders; yet results of training needs assessment consultancies lack implementation plan	Yes/ use of TNA work unclear
<u>*Villager relationship with FD</u> in project areas	In past, villager relationship with FD had elements of avoidance	Now FD and villagers work together in project areas; villagers sometimes seek out FD staff	Yes/good result
<u>Local FD staff exposed to project</u> model through direct involvement	None	Probably over 100 staff have been quite actively involved in project; turnover in positions increase breadth of exposure	Yes/good result

*Asterisks used to indicate what we believe to be most notable changes from baseline to date.

Other local-level changes from the baseline include increased confidence and exposure for bamboo beneficiaries, improved relationships between villagers and MP Forest Department staff, and exposure of numerous Forest Department staff to the project's model through direct involvement. Results of DFO spear-headed capacity building and exposure visits have been positive. One FD staff member commented that he feels this exposure and experience has been one of the most important aspects of the project, as it opens up more opportunities for the beneficiaries. Regarding improvement of relationships between FD staff and local people, this was mentioned by more than one stakeholder. One in particular told us that the local people used to "run away" when the Forest Department comes. "Now they seek us out," he said.

Finally, the project has exposed numerous Forest Department staff (probably over 100) to the project's model through active involvement. The number is larger than it otherwise might be, because of the practice of the Forest Department to move staff into new positions every three years or so. Now, with all DFO positions having undergone at least one transition, at least 18 persons at the DFO level have been actively involved in this project. While turnover may on the one hand be seen as a drawback in terms of lack of continuity, it certainly achieves wider exposure and dissemination for the project at the local level.

State-level impacts have been much more limited; and it is critical that efforts in this area be ramped up post-MTR. The main results to date at the state-level are the submission of a recommendation for a policy revision and the incorporation of project information into the MP Forest Department's online information system. While the policy change may not be required to make the project model viable, it may increase certainty on the ground and may even help in promoting replication. Essentially, if the recommendation is approved, "individual use rights" will be added to the resolution outlining JFMC rights and obligations in MP. We understand that this recommendation is very likely to be accepted.

In terms of the Forest Department online monitoring system, an application has been set up that enables entry of project information. Already, substantial information about some sites has been entered. Also, the application will enable Forest Department staff to view "before and after" satellite images of forest cover. The Forest Department is planning to do a comprehensive review of changes in the project's forest areas. The MTR team believes this work will make a very positive contribution to the project in verifying impact and providing evidence with which to convince others of the project model. Yet, monitoring overall appears to be one of the weaker areas of the project. While monitoring is being carried out at the local level, it is not being communicated and aggregated in an easy to review way at the state level. We believe that presentation of aggregate data for the project will be needed to convince others of the progress and potential success of the model.

Lastly, the biggest "blanks" in changes from the baseline are capacity building and dissemination to promote replication of the model at the state and national levels. Plans for replication are also absent. We are concerned that the very positive results of this project may

go largely unnoticed if strong action is not taken before project close to disseminate results and convince those who might replicate its model.

**Exhibit 4-1b: Changes from the Baseline Related to MP SLEM Project
Part II: Impacts at State and National Level**

Item	Oct. 2010	Dec. 2013	Due to Project?
<u>Policy supporting individual-use rights model</u>	Individual-use rights model legal under MP’s existing JFMC resolution and probably appropriate to FRA	Recommendations for additional wording to MP JFMC Resolution to mention individual use rights submitted by APCCF; likely to be approved soon; should offer greater certainty on the ground and more impetus for replication	Yes/good result
<u>Monitoring system for this and other projects</u>	MP FD has preexisting online system for monitoring projects.	Project incorporated into MP FD online monitoring system; can view before/after satellite data. On-the-ground monitoring of conservation results conducted but not centrally aggregated in easy to review fashion.	Yes, partly/ more work needed – critical to replication; need better indicators
<u>Promotion and dissemination of “individual use and multi-pronged” model at state and national level</u>	None/NA	No change	NA/ Critical for post-MTR
<u>State level capacity built with regard to project model</u>	None/NA	No change	NA/Critical for post-MTR
<u>Replication or plans for replication of project model in MP or other state</u>	None/NA	No change	NA/ Critical for post-MTR

4.2 Overall Impression, Impacts, and Concerns

Overall Impression and Key Impacts: The MTR team’s overall impression of the MP SLEM project is that quality work has been achieved in the field and an important model has been introduced at demonstration scale. The individual use rights bamboo rehabilitation model is the strongest aspect of the demos and is poised to have a wider impact beyond the demo sites alone. This result is truly meaningful. On the other hand, the approach for and efficacy of SME and other livelihood work, as well as local capacity building work, needs to be clarified and intensified. These aspects suffered from serious delays in launching sub-contracts, so that a decision was made to have each division pursue these aspects independently while waiting on the sub-contract work. Further, the project has for the most part ignored broader efforts at the state level. This raises the concern that a meaningful and potentially impactful model will go unnoticed until after project end, when there will be no more funds available for focused dissemination, capacity building, and “convincing” of those who may have the resources with which to replicate the model.

During the MTR mission, we asked stakeholders for their overall impression of the project and what they believed the most important impacts of the project to be. At the division level and lower, we generally received very positive input. It was not uncommon for Forest Department staff members at these levels to indicate to us that they believe the results to date are positive enough for extension of the project to other areas to be undertaken immediately. Indeed, some (probably focusing on the bamboo aspects) asserted that the model is essentially proven. One DFO emphasized that in the “standard model,” workers are detached from the forest, while this project creates an affinity between the villager and the bamboo. The result he has seen is much better rehabilitation work and better forest protection. At the local level, a substantial part of the enthusiasm of Forest Department staff is related to strongly improved forest protection results. One DFO is so enthusiastic about the results of the positive cooperation between the Forest Department staff and local people that he has proposed to the Department that his division be taken as a pilot for extending this cooperative approach division-wide.

At the state level, we found a more cautious assessment of the project. Those directly involved are enthusiastic about the positive results to date and believe income will be sustainably maintained after project, but most indicate it is still premature to pursue replication. They feel that the model is not yet proven, given that the payments to families have not yet been stopped and sustainability has not yet been verified. Others less familiar with the project also see the model as unproven; and some question sustainability.

At the central level in Delhi, similar concerns with sustainability were voiced and some frustration expressed that SME work, which should play a role in sustainability, is behind schedule. Stakeholders more familiar with the project conveyed a general impression of positive results in the field, but lack of broader promotion of those results. One noted that SLEM projects are difficult; and this project is doing well, but needs to improve its communication of results. In general, there is appreciation of the design of the project’s model.

One of the more interesting conversations we had with regard to the potential broader impact of the project’s model was with a DFO in one of the divisions with project demos. We noted the reluctance at the state level to pursue replication and asked whether, although the model is showing results, it is simply too expensive to be extended. The DFO strongly asserted that the bamboo rehab cost is not expensive, especially considering what is obtained. (Indeed, when we later calculated bamboo rehabilitation costs, we found that the model is not that expensive. In real 2013 rupees, we may estimate the project to cost Rs 8,400 (US134) per ha, including ongoing protection if sustainability is achieved.⁸ Currently, the Forest Department is allocating Rs 3,000 per ha plus perhaps Rs 500 per year for protection for five subsequent years or a total of Rs 5,500 per ha (US88), though the rehabilitation amount has been indicated to be inadequate.)

⁸ Costs of the model estimated on per family basis. Families paid Rs 3,500 per mo. for 4 years to rehabilitate and protect indefinitely 20 ha in return for rights to harvest. Thus, in real 2013 rupees, total cost of bamboo rehabilitation and protection only is: Rs 3,500x12 mo./year x 4 years = Rs 168,000 for 20 ha or Rs 8,400 per ha.

Exhibit 4-2: Comments on Overall Impression and Impacts of Project

Local Level Forest Department Staff
Division Forest Officers (DFOs)
<ul style="list-style-type: none"> -Model not expensive: for less than 1700 ha of project work, getting protection over 5000 to 6000 ha. -Good project. Beneficiaries working very hard and sincerely. Beneficiaries deeply involved in protection of forest. -Best part of project is focus on bamboo; bamboo getting wiped out in MP; will be great achievement if bamboo successfully rehabilitated in project areas in 5 years – confident this will be achieved. -One of most interesting impacts of project is that relationship between FD staff and villagers has completely changed. Before, villagers afraid of the forest staff; now they are glad to work together. -In the standard model, the workers are totally detached from their labor – there is no association or feeling of ownership. In the project, they are getting affinity for their bamboo. It's not employment; and it's family-based. If you compare the area with areas rehabilitated under standard model, it's totally different. It's both better work and better protection.
Other local-level Forest Department Staff
<ul style="list-style-type: none"> -Before, the staff had to approach the villagers, now the villagers come to the FD staff. -“In the past, when I went to the community, the villagers would run away. Now they tell me about their problems and are more interested in meeting.” -Villagers also helping to protect the forests – we have asked them to do it. Last year, no fire cases in our division. Year before that, there were 5 or 6 cases. The typical figure is 7 up to 10 or even 20. Project has contributed to this good result. -Project's method of forest protection better than method previously used. Project takes multi-pronged approach, integrating agricultural assets, fuel, fodder, livelihoods, and soil protection. -Identity of poor families has improved. Before they just listened to leaders of Village Council, but now they express their opinions. -Best project seen in 32 years of service. It is different because it focuses on families and pays monthly amount – approach is different. (Also participated in MP World Bank project, 1994-1998.) -The old bamboo rehab model is a pure labor relationship and there is no protection. With the project model, protection has improved. “We tell them it is their property and they have the right to the bamboo and grass.” The results are better and protection is very good. And, it's not expensive -- it is lower than the job rate. -Good impression of project because villagers think it's good, especially the RDBF. Villagers tell him the forest has improved a lot. The economic condition of the bamboo beneficiaries has improved a lot. They have better health and better foods and their children are in school. Replication will increase effectiveness of rehabilitation work in other locations. Project RDBF model not expensive in cases where there are relatively more clumps per hectare.
State Level Stakeholders
<ul style="list-style-type: none"> -Need more time and documentation before model proven and replication can be considered. Most impressive result provision of wages where people are living. Selection of families very important. Confident in success of bamboo rehab aspect of project/ sustainability of income once payments stop. -Previous efforts involving “individual use rights” model failed due to lack of sustainability once payments withdrawn.
National Level Stakeholders
<ul style="list-style-type: none"> -Concern that beneficiaries will start to see selves as part of salaried class. We cannot expect people who have been earning a monthly salary to transition easily to entrepreneurship. Need to develop market linkages and ensure livelihoods. -Model of individual use rights is interesting; and bamboo areas doing well. Yet, SME work of project has not yet been undertaken, so results not clear. -Project has had good achievement in the field, but has lacked efforts at the state-level. Ownership of communities is strong. -SLEM projects are not easy. Project doing well, but needs to be presented better.

The DFO, in making his point that the project model is not expensive, stressed the livelihood benefits as well as the superior conservation benefits being achieved. In his district, the project has invested in 1380 ha of bamboo rehabilitation, 20 ha of fodder plantation, 20 ha of energy plantation, and 275 ha of watershed work. That totals less than 1700 ha over four years. Yet, there is a broader impact on the 5,000 to 6,000 ha that are getting protected. “With a small area, we have made friends and gained the goodwill of the people. Loss from forest fire has been a big issue and it has been addressed.” As will be discussed later, a key aspect of the model is that beneficiaries in return for the payments and individual use rights are asked to protect not only the bamboo areas, but a significantly broader area of surrounding forest.

Forest staff below the DFO level also stressed the improved relationship between the Forest Department and staff and the shift away from a pure labor model. They indicate the project has led to improved protection results. In conveying his overall impression, one noted the increased sense of identity of the poor families involved.

Exhibit 4-2 above summarizes some of the key comments with regard to overall impression of the project made at the local level by Forest Department staff (i.e. DFO and below). It also includes a few comments on overall impression of the project as made by state-level (Bhopal-based) and central level (Delhi-based) stakeholders.

Views of Expected Future Impacts: Asked about their longer term vision of the future with regard to project impacts, stakeholders offered two views – one on long term impacts in project areas and one on potential long term impacts in MP overall. As for project areas, the majority consensus of stakeholders at all levels in the MP Forest Department (local and state-level) is that incomes from harvesting bamboo in the long-run will be more than the monthly payment. Some villagers were uncertain, while others felt that bamboo income would offer them sustainable incomes once the project has stopped. This issue is explored in more depth in Section 9, which covers issues related to sustainability.

As for potential long-term impacts in MP overall or even the nation as a whole, we found less vision than expected. One key stakeholder at a high level did tell us he thought the model would be extended to the rest of the state’s degraded bamboo areas. Yet, others were much more cautious, emphasizing the need for time before the model can be proven. A further barrier is the position that funding for large-scale expansion may need to come from outside the Forest Department. And, it is believed it may be difficult to convince other departments of the relevance of the model to their mandates.

Overall Concerns: Based on the input of stakeholders and our own assessment, we have identified a number of overall or “big picture” concerns with regard to the project. These fall into two groups, one associated with the project as a whole and the other focused specifically on the results of the model the project is aiming to demonstrate. Concerns with the project as a whole include: (1) weak communication of results, (2) method of assessing conservation and socioeconomic results and aggregating at state level, (3) over-emphasis on field and

neglect of state-level initiatives (including management of fund allocation between outcomes), (4) exit strategy, (5) implementation issues (including delays in launching consultancies and possible need for additional support in PMU). Concerns with the model being demonstrated in the field are: (6) sustainability of socio-economic and conservation results, (7) lack of strategic and systematic integration of livelihood approaches with rest of model, and (8) bamboo market and harvesting plans. Each of these concerns is discussed in turn below.

1. Weak communication of results: The project has good results in the field, but it is difficult for someone who has not visited the field to get a good view of these. From the outside, the project may seem a haphazard mix of initiatives and the cohesion of the model less obvious. As one stakeholder emphasized, “Communication cannot be taken lightly...And communication is not just a website and a newsletter. It’s a tool that can actually enhance the objective of the project. It’s knowledge management and not just outreach.” We strongly agree with this stakeholder. So far, the project has commissioned some case studies which are useful in giving the reader a view of snippets of the project. What is needed in addition is a more comprehensive view of the project, synthesizing results across sites. For this, the PMU or other party needs to be collecting analogous information from each site and demo village. Results from across sites should be displayed side by side to offer a full view of the project that may be analyzed. With easily intercomparable information from all the sites, project proponents will be better able to assess project progress and be better able to communicate achievements to state or national level stakeholders that may be interested in replication. As for case studies, while some cases on individuals or specific enterprises may be of interest, case studies that show results for an entire village or range and include data on each of the key model-subcomponents could be very useful in strengthening communication. With regard to ramping up project documentation and communication, one stakeholder suggests the PMU may wish to hire an in-house documentation and communication expert.

2. Method of assessing conservation and socio-economic results and aggregating at the state level: Related to the issue of communication of results is the methodology in assessing those results and the indicators used. At present, results are being conveyed simply in terms of hectares rehabilitated or hectares planted. More insightful indicators showing the real impact or quality of results are needed. Ecological indicators such as soil moisture content, simple biodiversity index, forest density index, etc. may be considered. In the field we learned that data is being collected on new culms growing annually per clump of bamboo.⁹ Data such as this, grouped together at the central level, perhaps showing results for each of the involved ranges or divisions, will provide greater insights. Additional indicators may also be considered. In the field, we also learned that for the energy plantations, records are being kept on survival rates. For the fodder plantations, data is being kept on amount of fodder harvested. This information grouped together at the state level and shown across all fodder plantation and energy plantation sites, respectively, may be of interest.

⁹ Bamboo in the project areas grows from underground stems, known as rhizomes. A collection of rhizomes below ground having biological linkage results in what is known as a “clump” of bamboo (that is, multiple stalks growing in a group). And, for well maintained clumps, new above-ground bamboo (for which each vertical above-ground stem or trunk is known as a “culm”) will sprout annually.

Socio-economic results present greater challenges in terms of collecting meaningful data. Incomes, for example, may be difficult to confirm. Also, growth in incomes may reflect overall trends in an area, such as inflation and real income growth across villages, rather than project impacts. Still, it is worthwhile to develop some socio-economic indicators and means of assessing them. In this regard, it may be useful for the project to retain a socio-economic expert to develop and assess indicators. Such an individual would need to have the expertise to design an effective study and disaggregate project socio-economic benefits from benefits due to other factors. Given the concerns with sustainability once payments stop, rough forecasts of bamboo income per beneficiary on a range by range (or village by village) basis and based on average amount of new culms per clump in a given range (or village) could be useful. These rough forecasts could be updated as new information is obtained and confirmed with actual bamboo income once harvesting and sale is achieved. Other indicators may include comparison of before and after-outmigration rates among bamboo beneficiaries and non-beneficiaries in project villages.

3. Over-emphasis on field and neglect of state-level initiatives (including management of fund allocation between outcomes): The project's most recent PIR expressed strong concern regarding complete focus on the field and neglect of broader level impacts. Some informed stakeholders in Delhi note that it may be normal for a SLEM project to focus on the field in the first part and then ramp up dissemination and replication efforts once results are achieved. Yet, we do not see evidence that the project is making preparations to ramp up broader dissemination efforts. If work is not pursued in communicating and promoting the model before project end, the valuable experience achieved through the demos may essentially be lost to the broader community of stakeholders. In this case, replication would remain unlikely. A much more serious commitment to "getting the word out" and "convincing others" needs to be seen.

As will be covered in more detail later in this report, expenditures to date for Outcome 1 and Outcome 3 are each only about 13 percent of the original allocation made in the project document, while Outcome 2 (the demos) is already overspent at 107 percent of the original allocation. Yet, the trend does not seem to be slowing down, at least for 2014. Payments to beneficiary families will continue to be made for the first ten months of the year, the work of the SME consultancies in designing and implementing business plans in the project areas is not fully paid, and significant additional funds will likely be devoted to the set-up of the SMEs designed. Further, two TNA needs assessment consultancies covering project villages have been completed, but the training programs designed have not been implemented. As for broader activities, a bamboo workshop is planned for the end of January 2014 and there is some discussion of a land degradation assessment for MP. Yet, no specific plans targeting dissemination and eventual replication of the project's model have been made.

Thus, while we conclude that delay in broader efforts is justifiable while building something on the ground and demonstrating results in the field, clear plans for leveraging the demos at a higher level should ideally be in place from the start of a project. As one stakeholder put it,

“Projects should be phased and emphasis should shift after some time – a major shift should be made based on achievement of indicators for the demo.” Obviously, this shift cannot occur after project end and therefore timing must be worked out correctly. Another stakeholder concurred that the project needed to focus on setting up the demos in its initial years, but that now that strong results are being seen, it is time to begin the stage of dissemination.

4. Exit strategy or project sustainability strategy: Another area related to some of the foregoing discussion is an “exit strategy,” or to put it in a more positive sense, “project sustainability strategy.” One stakeholder noted that such a strategy should really be worked out at the beginning of the project. MP will need to determine the agency that will take over this work and upscale it once the project is closed. As there is not a clear exit strategy for the project overall, this is something that should be developed with priority as soon as possible. The key questions will be: “How will the efforts of the project be sustained and leveraged after project close? How will replication occur and how will we set the groundwork for replication now?”

5. Implementation issues – delays and possible need for additional project management support: A further concern that has been referenced elsewhere has been excessive delays in implementation of certain project activities. With the inception workshop held in August 2010, rehabilitation of bamboo began in October 2010, but the first two of three SME consultancy contracts were not signed until May 2012 and the third was not signed until even more recently. The result is that a decision was made to ask the divisions to initiate their own livelihood activities and funds were allotted to the effort. Now, the first two consultancies have prepared business plans and allocations will need to be made to implement them. Similarly, the TNA consultancy contracts were not signed until mid-2012. Due to the delay, a decision was made to ask the divisions to initiate their own capacity building activities and funds were allotted for this. If the TNA results are to be used, additional funds will be needed to implement designed training programs.

There has been some discussion of additional staffing at the PMU to push things forward. Some stakeholders see the SME work undertaken by the consultancies as critical to the success of the model and therefore suggest the PMU have an additional staff person to push SME work forward. As mentioned previously, a documentation expert for the PMU has also been recommended by one stakeholder. Generally, PMU staffing with regard to project content appears to be thin. While there is financial and administrative support, there appears to be only one PMU member (the NPC) at the state level involved in pushing project activities and coordinating needed inputs. Of course, additional staffing of the PMU will also depend on remaining funding, which at present appears to be thin. In terms of funding, the documentation expert may be the more appropriate addition, given that Outcome 3 is far under-spent. Yet, success of the SME aspect of the demos is critical, so further support in this area may be discussed as well.

6. Sustainability of socio-economic and conservation results: Given past experience with forest use-rights models in which there are recurring payments that are eventually withdrawn,

stakeholders have strong concern about the sustainability of the project's socio-economic and conservation results. If the bamboo rehabilitation beneficiaries find, once payments stop, that they cannot sustain their incomes with bamboo harvest and other livelihoods initiatives introduced by the project, they may out-migrate to work. Improved protection of the forest achieved through the project would then be lost. There is much discussion of sustainability in Section 9 of this report. As a key overall concern of many stakeholders, it deserves special attention and the project should address the sustainability issue in any way it can. This may involve properly structuring the SME work (discussed below) and also ensuring that the bamboo harvesting and marketing is effectively handled (also discussed below).

Further, we found that bamboo beneficiaries are often protecting a substantially larger area than the allocated bamboo area alone. Forest protection results (e.g. reduction of forest fires) has been impressive. In order to ensure sustainability, should this role of protecting a larger area be confirmed through the JFMC-beneficiary agreement or by other means?

7. Lack of strategic and systematic integration of livelihood approaches with rest of model:

While the MTR team found the bamboo rehabilitation and payment part of the project quite clear and well-organized, livelihood work, including currently in-progress SME business plan work, seems more haphazard and less strategic. Of course, this is due in large part to the nature of the work. Yet, we think it is important in the design of livelihood work to carefully consider the objective and targeted outcomes of the project in selecting sites and encouraging involvement. If the target is to ensure that the bamboo beneficiaries will continue to protect both their plots and the broader forest, should the SME work be targeting those beneficiaries? Or, if problems of conflict within a village of beneficiaries and non-beneficiaries is of greatest concern and bamboo harvest income will be enough to ensure livelihoods of beneficiary families, should non-beneficiaries, or generally the full village be targeted? What about neighboring villages? Should the project for purposes of the demo focus its resources on project villages or spread them to neighboring villages? In part, these questions overlap with issues raised in Section 1 on the intended area of measurable ecological impact of the project.

When the MTR team met with one of the SME consultancies (and, similarly, two of the TNA consulting organizations), it appeared these organizations may not have had a good overall view of the project's objectives and targeted results. Particularly with the SME consultancies, we found their strategies suggest a coverage of many villages, but perhaps as few as four involved persons per bamboo beneficiary village. They may not be clear on the specific conservation results the project is trying to achieve. While SME work by nature may be less precise in its targeting of beneficiaries than the bamboo work, there needs to be a more strategic plan to guide the work, particularly the selection of villages, targeted numbers involved in each, and strategy for outreach to specific types of participants.

8. Bamboo market and harvesting plans: Many stakeholders have told us that the bamboo market is no problem, emphasizing that demand far surpasses supply. Yet, this is an important area that seems not to have received much attention in the project. There is some

confusion as to whether the bamboo harvested would need to be sold at subsidized prices (in which case the beneficiaries will have less income than projected), though the consensus appears to be that it would not. And, generally, price expectations vary widely. As the divisions will need to organize the harvesting and sale of the bamboo, their capabilities in this area will be important. One DFO with whom we spoke, though bullish on the eventual income results for beneficiaries, did concede that his one concern is selling the bamboo. In his division and probably most of the project divisions, the Forest Department has not been selling bamboo on the open market, so does not have a lot of experience in organizing auctions and getting the word out to buyers who will make the auction a success. Further, if there is a lot of small diameter bamboo in some areas, those may have no takers beyond the bamboo pulp market, which is a large market but offers a much lower price. Can the project do something to ensure a clear picture and plan for sale is achieved across divisions?

We also found that the divisions' plans for harvesting and profit-sharing are not entirely clear at this point and therefore urge that these be clarified. Some locales plan to share profits among beneficiaries (providing an "average" profit to each), while some have not decided what to do yet. The original intention was that profits would be provided to each beneficiary based on the bamboo harvested from his or her land. A further issue is harvesting plan. Most areas appear to be planning a four year rotational plan, so that five ha of each beneficiary's 20 ha is harvested each year. This will cut down on labor intensity and perhaps reduce damage to other culms. Yet, given their high discount rate and a possible drop in income in the early years of harvesting, in some locations beneficiaries may be interested in harvesting all appropriate culms on all 20 ha each year. One stakeholder suggested to us that annual harvesting is a superior management method. In sum, there is disagreement on this topic and clarification and planning is needed. As a first step, we recommend a roundtable discussion or even experiment be conducted on harvesting strategy.

PART III: OUTCOMES – ACHIEVEMENT, RELEVANCE, AND NEXT STEPS

Part III takes a close look at each of the project's three outcomes as designed and implemented. The focus is on results achieved, appropriateness of the interventions, and next steps. Section 5 covers Outcome 1, which is focused on policy and capacity building. Sections 6 and 7 cover Outcome 2, which is focused on demonstration of the project's multi-pronged conservation model. Because the project has focused primarily on Outcome 2 and the content is extensive, the discussion is divided between two sections. Section 6 covers the individual (or small group) use rights bamboo rehabilitation model. Section 7 covers all other sub-components of the model including fodder plantation, energy plantation, watershed management work, agriculture related livelihoods work, and SMEs. Section 8 covers Outcome 3, which is focused on monitoring, dissemination, and facilitation of replication.

5. Outcome 1: Enabling Environment – Policy and Capacity Building

Outcome 1 in our interpretation targets the creation of an enabling environment for SLEM through capacity building and impact on planning and programs, with emphasis on but not limited to the model demonstrated in Outcome 2. The project document indicates two outputs: state-level policies and local-level capacity building. We recommend adjustment to these outputs so that collectively Outcome 1 outputs corresponding to the following: State-level SLEM capacity building and perhaps analysis to impact plans and programs; adjustment to state-level policy to facilitate promotion of project model (underway); and local level capacity building (underway). Budgetary allocation for Outcome 1 in the project document is US\$850,000. Of this, only 13.4 percent (US\$113,655) had been spent as of Dec. 17, 2013.

5.1 Policy Results and Needs

The project appears poised to achieve a positive adjustment to policy that recognizes individual use rights of beneficiaries and thus strengthens the stage for replication. At the same time, project proponents indicate there is not a lot of other relevant policy work to be done and that, if by policy we mean regulations, it will be difficult for the project to achieve anything else policy-wise. In this section, we include further information on the likely policy achievement and probe the question of whether there are further positive contributions the project can make in the policy arena. While we agree that the project at this point should focus its government influence work mostly on planning and programs so as to achieve replication, there may be a few areas of possible policy needs worth examining further.

JFMC Policy: According to the JFM Cell of the MP Forest Department, the project's model is in line with the current policy of the State, just so that: (1) the beneficiaries are members of

the JFMC and (2) the beneficiaries are selected by the JFMC. What is needed is a written agreement between the beneficiaries and the JFMC. Basically, the policy makes 100 percent of the value of the forest produce obtained from rehabilitation work available to the JFMC into eternity. According to the JFM Cell, if the JFMC reallocates these rights and associated duties to the individual beneficiaries of the project into eternity, this should be in compliance with the regulations. The APCCF responsible, however, has submitted a recommendation to include mention of the beneficiaries in the relevant resolution, as this will give more certainty and relieve doubt on the ground. He believes this adjustment is very likely to be approved soon. In MP, 70 percent of forest land (excluding protected areas) is considered JFMC use rights land. There are 15,228 JFMCs in MP and each has an average of 300 to 400 ha. Thus, the adjustment to the policy is quite meaningful. A few key relevant sections of the policy are included in Exhibit 5-1.

Exhibit 5-1: Selected Sections of the MP Resolution on JFMCs

Excerpts from Amended Resolution to Seek Cooperation of People in Protection and Development of Forests, Government of Madhya Pradesh, October 22, 2001
11.1 Rights, Section 4: In the open/degraded forest area allotted to the Village Forest Committee, 100% of the value of the forest produce obtained from the plantations/rehabilitation of degraded forests/pasture development works done in the area/final feeling of the planted area, after deducting the corresponding harvesting costs, would be made available to the committee. Calculation of the value would be made on the basis of the weighted average of the sale price of the timber/bamboo obtained in the concerned sale depot during the calendar year.
11.2 Duties, Section 1: The committee members shall protect forests from fire, illegal grazing, illicit felling, illegal transportation, illegal mining, encroachments and poaching and render all such co-operation to the Forest Department. To achieve this objective the committee, with the help if its members, will take necessary steps for the protection of forests.

The MTR team found the last sentence of 11.1-4 on calculation of value a bit concerning. The APCCF responsible noted that this was recognized as an issue as soon as he took up his current post. Thus, they are working on a supplemental notice that will more clearly define the method of calculation. It was not indicated that the project could play a supporting role in this regard, but clearly the project will want to ensure that the resulting notice is in line with the project’s intention to enable beneficiaries to receive market prices (minus any costs incurred by the Forest Department) for bamboo the Department helps them sell. Further, for areas allotting profits based on harvest from individual land, beneficiaries should also have the option of selling the bamboo themselves.

Related to the calculation of value, the MTR team also has some concerns about whether the bamboo can be sold at market prices or subject in some cases to sale at a subsidized rate which is common in the State. Both at the State level and the division level, we were assured that the full amount of bamboo to which the beneficiaries are entitled (80 to 100 percent, depending on the locale) will be sold at market rates. Yet, the project may also want to look into whether policy clarification is needed for this issue given the strong precedence of subsidized rates.

In general, it would be good to explore other potential ways to impact JFMC policy or planning. It does appear that the “standard JFMC model” is not achieving optimum protection in all areas and policy makers would be interested in alternative models that offer improvements in protection. Further, as introduced in Section 1, the “bonus” or “profits” from bamboo harvesting in the “standard model” are not as equitably spread out between those who rehabilitate, those who protect, and those who harvest, as in the case of the project’s beneficiary model. In the standard JFMC rehabilitation model, both those workers who rehabilitate and those who harvest should be paid at least the equivalent of minimum wage (or job rate based on minimum wage). Yet, the harvesting worker is entitled to the profits, in addition to his or her base pay, while the rehabilitating worker or the forest protector is not.

Another policy issue to be checked upon is the agreement between the beneficiaries and the JFMCs. Questions will be whether the agreements are all clearly protecting the ongoing rights of the beneficiaries and also clearly stating their responsibilities of ongoing forest protection in order to maintain those rights. As mentioned, we found in many cases beneficiaries’ protection work is not limited to their bamboo areas, but extends to surrounding areas. This had led to very positive protection results, but the extended area is probably not reflected in the agreements between beneficiaries and their JFMCs.

Finally, the bamboo harvesting schedule, as discussed earlier, may also be a possible JFMC policy issue for consideration. Some experts indicate that villagers with bamboo on their farmland have found that annual harvesting provides better results. Yet, the MP Forest Department strictly adheres to a four-year harvesting cycle. The project may wish to bring this issue to the table for discussion or for experimentation within the project.

Forest Rights Act: The Forest Rights Act (FRA), issued by the Ministry of Tribal Affairs, is another policy area that the project may wish to look into for policy needs or clarifications. One DFO, however, offered his view that the FRA is of no concern with regard to the bamboo use rights offered by the project. Another state-level stakeholder also offered comfort on this issue, asserting that the project is pro-FRA, meaning it goes in the direction of the FRA. Still, it may be interesting to pursue a mention of the model or beneficiaries in related legislation (perhaps at state level), both to raise confidence and to serve as leverage for potential replication of the model. Stakeholders have indicated the project is too small to achieve a major change in the FRA itself, but perhaps state-level liaison is an area to look into.

The FRA calls for rights for both individuals and communities based on historical use of the forest. With regard to individuals, those persons who did agriculture in the forest without owning the land prior to 2005 will gain rights to continue. As for the FRA’s community use rights, in the case of tribal communities, they must confirm use of forest products prior to 2005 (for others the time period is much longer). MP FD has indicated to us that FRA issues do not arise in project areas. To offer more background, the distinction between use for personal needs (e.g. for homes and agriculture) and sale of commercial products needs to be

made. It is likely that the historical personal use issues associated with bamboo in project areas were settled long ago (under the IFA of 1927) and before the FRA was promulgated in 2006. “Nistar rights,” which allow community access to bamboo at a concessional price and do occur in some project areas, are based on rights associated with prior personal use. The FRA has expanded rights to those associated with prior commercial use (e.g. harvesting of bamboo for sale). The DFO we consulted on this topic told us he doesn’t think anyone will confirm prior commercial use of the bamboo. Similarly, our impression is that the MP FD at the state level thinks it unlikely that anyone will claim prior harvesting of the bamboo for commercial sale --- and even if such a claim is made, that it is unlikely to be substantiated. Further, in terms of community rights, since the JFMC has bestowed rights on the beneficiaries, there should be no problem with those.

Yet, based on our discussion with the Ministry of Tribal affairs, there may be some technicalities worth investigation by the project. One technicality that should be noted is that the FRA bestows rights (if the communities apply) on the *gram sabha* (village council), which consists of all adults in a community and has legal standing, while the JFMC historically may have included only a subset of interested adults. One stakeholder from the Ministry of Tribal Affairs suggested it would be good to back the project with legitimate framework (e.g. written documents) from the beginning so that when harvesting begins, distribution of benefits is clear. The question that comes to mind is whether a written agreement needs to be made with the *gram sabha* instead of the JFMC or if dual agreements could be arranged. We learned that in MP, the problem may be eliminated in that the latest JFM Resolution calls for universal membership of the JFMC so that it is coterminous with the *gram sabha*. Yet, it may be important to make sure awareness and implementation in the field when JFMC meetings are held reflect this fact and that the beneficiary-JFMC agreements are in their written form indicated to be beneficiary-*gram sabha* agreements. At the same time, if the bamboo has not been traditionally harvested, then it is not subject to the FRA. Finally, other NTFPs in the project’s bamboo areas are likely to have been traditionally harvested and thus subject to FRA. In this case, the whole village would have access. Thus, if there are any traditional rights in the village, they may need to be settled first. This may be an area for investigation and clarification among JFMCs and beneficiaries. In the field, we found some different interpretations of NTFP rights on the allocated bamboo areas. Sometimes, it appeared NTFP rights (e.g. rights to harvesting NTFPs from individual trees) were assigned separately from bamboo land allocations.

Bamboo Policy and Bamboo Mission: MP has a State Bamboo Mission which receives funding from the national-level bamboo mission. The state-level mission, chaired by the State Minister (top political official in the State) is planning on setting policy guidelines. While this work may be broader than the project objectives, it may be worthwhile for the project to contribute to aspects of those guidelines pertaining to profits from harvesting, use rights, and sale price issues. One stakeholder suggests there should be a separate policy for bamboo at the national level and this may also be an area of input for the project. While it has been verbally recognized that the project and the State Bamboo Mission should meet to discuss potential common ground, no such meeting has been held. Further, it seems there is a lack of

coordination between the state-level mission and the project. At the end of December 2013 we learned both were planning bamboo workshops in Bhopal for the end of January 2014, but that the workshops were not being coordinated. In the end, the project decided to delay its workshop.

Highlights: Some overall highlights of the MTR Team’s findings on policy impacts and needs of the project are given in Exhibit 5-2 below. Overall, the finding is that the one likely policy achievement of the project is extremely promising. While it is acknowledged that achievement of other policy results may be very difficult, there are several other areas that the project may want to investigate as areas for policy support or investigation. At the same time, in this section we have stuck with a narrow definition of policy and see potential work to impact government programs and plans, as described in the next sub-section, as the more critical priority for the project’s post-MTR activities.

Exhibit 5-2: Policy Needs and Impacts at time of MTR

Note: Here “policy” defined narrowly; broader impact on plans and programs covered in next sub-section. Needs are in some cases raised through questions, as it is not clear these are areas for project work, but things the project may wish to look into and clarify.

JFMC
<ul style="list-style-type: none"> -Proposed adjustment to MP State JFMC policy to recognize individual use rights quite likely to be approved soon. Not necessary legally, but will enhance certainty on the ground and perhaps potential for replication of project model. -Calculation of pricing in State JFMC policy unclear. MP FD JFM Cell currently working on issue. Can project contribute and ensure outcome is positive for its model? -Should project be taking other action to ensure market rates for beneficiary bamboo? -Should project ensure that all village level agreements between JFMCs and beneficiaries ensure ongoing rights for the beneficiaries and predicate these rights on ongoing provision of protection services by the beneficiaries? Should protection of areas beyond bamboo area be included? -Are there other ways to impact JFMC policy or planning given that the beneficiary model does spread profits more evenly across functions of rehabilitation, protection, and harvesting than does current JFMC model which calls for all profits to go to worker who harvests?
Forest Rights Act
<ul style="list-style-type: none"> -Is there an opportunity for mention of the beneficiary model in state-level FRA legislation that could be achieved through the project? (Currently, FRA may lack provisions for states to make rules, so this may not be tenable.) -Should project confirm whether written universal membership of JFMCs is being implemented on the ground and whether agreements between beneficiaries and JFMCs specifically reference <i>gram sabha</i> (village council) instead of JFMC? Should replication ensure <i>gram sabha</i> involvement? -Are project demos properly handling NTFP access, given that FRA calls for community access for those traditionally accessed NTFPs? Should project look into proper handling of this issue?
Bamboo Mission and Bamboo Policy
<ul style="list-style-type: none"> -MP State Bamboo Mission will be developing bamboo policy guidelines. Will these guidelines be relevant to the project model or SLEM more generally? Is there a role that the project should play? (MTR team believes these guidelines may be particularly relevant for project involvement.) -It has been mentioned that there is need for a national-level bamboo policy. Should project play a role in parts of that policy that fit with its mandate? -In general, project should work to look for common interests with State Bamboo Mission. So far, the two have not been coordinating.

5.2 State-level SLEM Capacity Building and Analysis to Impact Plans and Programs

The MTR team believes that state-level capacity building (and perhaps analysis) to impact government plans and programs is an area of Outcome 1 that should receive some priority attention (and funding) in coming months. The most important priority is to set the stage for eventual replication of the project model and perhaps get the model incorporated into state-level plans and programs. This might be within the Forest Department itself, but given greater funding available under other programs, capacity building should include strong outreach to other departments. State-level capacity building workshops, along with exposure visits to project areas, to get the word out about the project's model will be a part of this work. The project may also hold workshops to pass the message on to other states and national level players. As an example of the possible scope of such outreach, we learned that nationally, at least five ministries are relevant to bamboo and it is likely the analogous departments at the state level are relevant as well. The ministries are: (1) Ministry of Environment and Forests, (2) Ministry of Agriculture, (3) Ministry of Science and Technology, (4) Ministry of Rural Development, and (5) Ministry of Tribal Affairs. There may be some overlap between these activities and the activities proposed under Outcome 3, since getting the word out, convincing others, and setting the stage for replication are common ends to be pursued.

So far, we have heard of no plans for capacity building workshops or analysis to specifically impact government plans and programs with regard to the project's conservation model. Yet, there are some related activities in the pipeline. As mentioned, the project is planning a national-level bamboo workshop; and the draft agenda does call for some dissemination of the project model. Further, it has been proposed that the project support analytical work in the broader area of land degradation across Madhya Pradesh. This would support the Government of India's capabilities in reporting to the United Nations Conference on Desertification, which are considered somewhat weak to date. The TOR for this work has not yet been developed. If there are any ways to link this work with the project's model, that may be desirable. Yet, the broader work may also afford opportunities for cross-cutting capacity building at which the findings of the analytic work as well as the results of the project demos are jointly presented and funneled into planning efforts.

Another area that has been proposed is capacity building for the MP Department of Forestry in the area of assessing carbon sequestration potentials and collecting appropriate data for those estimates. There is interest in recruiting a third-party expert for this effort and learning about REDD+. We see the potential for synergies with the rest of the project as being less clear in this case. Thus, the proposed activity may need to be fleshed out further to gain traction. We see a more appropriate fit in building MP Forest Department capacity to measure a range of ecological indicators, such as might be used to assess impact of the project's model. Recently, the TFO SLEM project has developed SLEM indicators for India. These may be applied to the MP project, but additional work may be needed to customize the indicators and set up a system for monitoring them. TFO indicators to be released soon. At

this point, it is unclear whether much additional work would be required to fit these indicators to assessment of the project’s model.

Regarding Government Plans, India does have a five year planning process and it would be a good thing to get the project’s model incorporated into the plan and thence have the potential to later incorporate it in more detail into programs. Yet, it is currently early in India’s five-year planning cycle, so it may be three or four years until the next cycle starts. Nevertheless, linking the model with the planning process may be an area to investigate.

Highlights of the MTR team’s findings with regard to needs for state level capacity building (and possibly analysis) to impact government plans and programs are summarized in Exhibit 5-3 below.

Exhibit 5-3: Needs for State-Level Capacity Building (and Possibly Analysis) to Impact Government Plans and Programs

Capacity Building Workshops or Analysis to Impact Government Plans and Programs with Regard to the Project’s Model
<ul style="list-style-type: none"> -State-level workshops and analyses targeted at impacting government plans and program with regard to promoting project model should be a top priority post-MTR. Various departments with strongly funded programs should be invited to attend workshops. So far, no specific activities planned or proposed. -Workshops involving other states and national level stakeholders can be held as a second step.
Pipeline Activities or Activities under Discussion
<ul style="list-style-type: none"> -Project bamboo workshop is the only activity in this area that is planned for certain. While workshop will be broader than project’s current focus on the individual-use and multi-pronged model, the workshop will also serve to “get the word out” about the model. -Analytic study on land degradation in MP State proposed, but TOR not prepared yet. Study would serve as model to support Government of India and other states in improving India’s communications to the UN Convention on Desertification. MTR team suggests links with project’s model be pursued if possible. If not, synergies may also be created if the model and the study are presented at the same workshops and jointly feed into the planning and program development process of the government. (E.g. The study would assess land degradation issues across the state and the model would show one way to address those issues in some cases, especially the case of degraded bamboo areas.) -Capacity building for MP Forest Department on methodology for carbon sequestration measurement and assessment has been proposed. So far, good link and synergies with project unclear. Capacity building in developing and monitoring ecological indicators showing impact of model may be more appropriate. SLEM TFO team in Dehradun has developed nation-wide SLEM indicators already. Unclear how much work would be needed to incorporate some of these in project.

5.3 Local-level Capacity Building Results and Plans

For Outcome 1, the area that has received the most effort and funding to date has been capacity building activities at the village level. There have also been some workshops and training that included local Forest Department staff. We discuss findings on each of these two areas in turn.

Training of villagers: As mentioned, training needs assessment (TNA) consultancies for villages in project areas was not initiated until mid-2012 (for one consultancy, Access) and July 2013 (for the other consultancy, IIFM). Thus, DFOs were asked to initiate capacity building exposure visits and trainings at the local level. From our villager interviews, we found that a good number of interviewees had travelled for such exposure visits or training, so that the coverage is probably pretty strong, at least among bamboo beneficiaries. We believe that most but not all of the beneficiaries involved in such training outside of their village are bamboo beneficiaries. As mentioned, one working level Forest Department staff emphasized how important these out-of-town visits have been in building confidence of the beneficiaries. It was also mentioned that this uncommon opportunity to travel was a source of mild jealousy for non-beneficiaries. Finally, when asked for recommendations for the project, of the two villagers that raised training, both mentioned bamboo. Exhibit 5-4 shows some of the feedback from villagers confirming involvement in training. Discussions with DFOs in some cases also confirmed substantial amount of training. These results do not come through in project reporting; and we suggest a log be kept at the PMU level listing all trainings and number of participants. Exhibit 5-5 shows trainings mentioned by the North Betul DFO and the estimated total number of trainings out of district or out of state mentioned by the South Betul DFO. Our findings indicate that all this training has so far been driven at the division level. One issue with regard to out-of-town training is that it has been heavily skewed towards male participants.

Exhibit 5-4: Feedback from Villagers Mentioning Involvement in Project Training

Male Villagers Mentioning Training in Interviews
-Training in Dehradun and Balaghat. Learned about making furniture from bamboo. Interested in making bamboo furniture in future. (East Chhindwara Villager 1, male)
-Trained in both Sidhi and Dehradun. Learned about making furniture from Lantana weeds and learned about organic farming (East Chhindwara Villager 2, male)
-Involved in cross-visit to Sarni (North Betul), saw silk spinning and bamboo rehabilitation (West Chhindwara Villager 2, male)
-Trained on eucalyptus plantation; also went to Dehradun and North Betul (project area) (West Chhindwara Villager 2, male)
-Learned lantana furniture making through project training (beneficiaries demonstrating lantana furniture production in West Chhindwara)
-Training on forest management and forest fire prevention. Cross visits to Sarni and Tawa Dhana (project areas in North Betul). From cross-training in Betul, learned about growing vegetables, but not sure whether water in his village is enough to do this (South Chhindwara, Villager 1, male)
-While no investment provided for fishery, training was provided. After the expert came, the harvest improved. (South Chhindwara, Villager 5, male, not a bamboo beneficiary)
-Went with other villagers for trainings including one on sericulture (West Betul Villager 3, male)
Female Villagers Mentioning Training in Interviews
-Participated in fisheries training (female villager, location probably West Chhindwara)
-Exposure visits to a big government sericulture center in Hoshangabad. Also went to village of Ralegaon Siddhi in Maharashtra regarding watershed conservation. (West Betul, Villager 2, female)
-Daughter-in-law has learned sewing through project training (South Betul, Villager 1, female)
Villager Recommendations on Training
-Some training on bamboo and also training for women, as women cannot always out-migrate for work due to need to care for children. (West Chhindwara Villager 2, male)
-Perhaps some training to improve their bamboo-related skills once harvesting starts (South Chhindwara, Villager 2)

Exhibit 5-5: Villager Trainings mentioned by North and South Betul DFOs

Trainings Mentioned by North Betul DFO in Presentation
-In 2010, visited India Grassland and Fodder Research Institute, located in Jhansi of neighboring state Uttar Pradesh, to see latest research; also visited one other place locally -In 2011, visited project sites in Chhindwara and 3 other places -In 2012, 4 trainings or visits (Chhindwara trip included 15 villagers from each of the two project villages) -In 2013, 2 trainings or visits (bamboo artisan training included 5 villagers from each of the two <u>project villages</u>) Total mentioned: 12 trainings or site visits
Trainings Mentioned by South Betul
-About 10 trainings or visits out of district or out of state during implementation so far -Planning to do more training on bamboo

The delay of the two TNA consultancies is a weakness of the project; and lack of strategic focus of those consultancies may also be a concern. We have heard of no plans for implementing the training plans developed. And, with funds already spent on exposure visits and training initiated at the division level, there may be some inefficiencies in “starting over.” A further issue is that the individuals targeted for training are somewhat unclear. The consulting organizations did not seem that well versed in the project and its targeted objective and outcomes. A clearer understanding on their part of what the project is trying to achieve may have helped in focusing their work. At the same time, we were impressed with the thoroughness of the work. Both firms interviewed over 1,000 individuals and prepared in-depth materials either documenting their work or suggesting content for training courses. Yet, the divergence of their presentations implies that the purpose of the work may have been a bit fuzzy. One of the organizations emphasized feedback from villagers on what type of income generating activities they would like to be trained in, while the other consultancy presented results in a broad fashion, with income-generating activities in general identified as one of the needs.

At this point, the two firms, IIFM and Access, have both completed their TNA work. IIFM’s TNA work covers Sidhi, Singrauli, and Umaria and Access’ covers the three districts of Betul and the three districts of Chhindwara. For both consultancies, the work had two main parts: (1) assessing the baseline and (2) coming up with training modules and an implementation plan. IIFM explained to us that the TOR had asked for TOT (community training of trainer approach). IIFM looked at needs in a variety of areas including documentation/record keeping, micro-plan preparation (according to the MP JFMC resolution, each JFMC should prepare a micro-plan), understanding of JFMC, income generating activities, etc. IIFM indicates that their work covered 20 JFMC in each of the three divisions (so 60 total). The coverage is much broader than the project’s RDBF work. Access covered 20 JFMCs in each of its assigned divisions, which is also much broader coverage than the project’s RDBF villages. Both consultancies appear to have focused on villagers in their interviews. IIFM mentioned interviewing forest staff as well and mentioned that they found NGOs to be negligible in the divisions they covered.

IIFM's findings emphasized NTFP opportunities more than Access' findings and it's possible that this is related to background and experience, with Access being more experienced in agriculture-based development work. Both consultancies believe implementation of the training designed will have a very positive impact. IIFM interviewees indicate that a year, or even three to six months of training may be enough to have an impact. It was noted that trainings such as these in other states have seen good results with the people moving to higher and higher levels as time goes on. A further recommendation made by IIFM is that a simplified version of the training designed should be prepared in Hindi. IIFM found low understanding of JFMCs among villagers and, indeed, this corresponds to our discussions with the JFM Cell of the Forest Department in which villager capacity building was identified as a need with regard to JFM policy.

As mentioned, Access focused more on preferences for training in income generation. Their results aggregated across Betul divisions shows villagers more interested in agricultural extension (31 percent), skill training (24 percent) and dairy (17 percent), than NTFPs. Chhindwara results were more evenly split among options, but dairy (14 percent) was the top pick, while forest protection made a significant showing (7 percent). Access showed a photo of a small, battery operated video projector (with cost of Rs 20,000), which they believe strongly enhances trainings.

Another aspect related to training that came up in stakeholder discussions is that there is strong interest at highest levels of the MP Forest Department and also within the MP Bamboo Mission for developing skills in areas related to bamboo. The Mission has set up bamboo work at a Common Facility Center (CFC) in Sidhi where there are 400 women involved. While it sounds like some of the Department and Mission work in this area is targeted at workers that already have some bamboo processing skills, it should be worthwhile for the project to look for synergies in bamboo processing training that may be leveraged.

Post-MTR it will be important for the project to decide where it would like to take the local-level villager capacity building efforts. Will specific use be made of the TNA work? Should the focus be on training villagers for specific income-generating activities (per Access' focus) or should it be broader (per IIFM's approach)? And, who exactly should be trained? In order to achieve project objectives, should the training be conducted only in villages with bamboo beneficiaries? And should the training focus on bamboo beneficiaries only or instead on non-beneficiaries or both? Finally, is there an opportunity to coordinate with the State Bamboo Mission with regard to bamboo-focused training?

Training of Forest Department Staff: The MTR team learned that working level staff of the Forest Department had been trained in project divisions or districts. And, staff from non-project areas in those divisions or districts had been involved in training workshops on the project. We think this is a positive development with regard to promoting the model throughout the ranks of the MP Forest Department. Yet, because clear records were not available, we are not sure how good the coverage of such workshops was across districts nor how frequently they took place. The one example we do have shows that participation of staff

not involved in the project is high (see Exhibit 5-5). Out of 145 staff in attendance at the Chhindwara District workshop, only 20 to 25 were said to be from project areas.

Exhibit 5-5: Sample of Forest Department Staff Exposure to Project Model through Capacity Building Workshop – Chhindwara District, Dec. 19, 2013

District Workshop Attendee Data (shows strong exposure for Forest Department staff from non-project areas)
Forest Department Officers from other areas: 6
Villagers from district, but not associated with project: 195
Project beneficiary villagers: 192
<u>Total staff: 145 (only 20 to 25 involved in project)</u>
Grand total attendees 538

Interviews with Forest Department staff at the local level offers additional insights on training to date and perceived needs. In a group discussion with SDOs and staff from West Betul, it was mentioned that there is joint community training for both villagers and staff. The staff are interested in training to improve their communication skills and may be interested in becoming master trainers so they can train villagers.

Highlights: Highlights of our findings and conclusions with regard to local level capacity building are summarized in Exhibit 5-6.

Exhibit 5-6: Local Level Capacity Building – Highlights of Findings and Conclusions

Activities to Date
<ul style="list-style-type: none"> -Training, exposure visits, and workshops for villagers, all driven by the local level Forest Department teams, have been substantial. We lack comprehensive information, but in the case of each of North and South Betul, there have been 10 to 12 such events over past three years. -Most bamboo beneficiaries we spoke to, if asked, would mention one or more trainings they had been involved with. -Trips are said not only to have built skills but also confidence. -Trainings appear to have a greater emphasis on bamboo beneficiaries, but information on this is incomplete. -Local level Forest Department staff are also getting trained. In Chiindwara, we found that over 100 staff from non-project areas attended a project workshop, thus increasing exposure to project model. Yet, we are not sure whether such exposure has occurred across districts. -Two consultancies on training needs assessment (TNA) have been completed, one by IIFM (Sidhi, Singrauli, and Umaria) and one by Access (3 Betul divisions, 3 Chhindwara divisions). It appears consultancies cover many more villages than project RDBF villages alone. Consultancies have prepared training plans.
Considerations for the Future
<ul style="list-style-type: none"> -No clear plans for implementing the training agenda designed by IIFM and Access are apparent. Project should assess potential of implementing these plans, in light of locally-driven capacity building that has already occurred. If the agenda is to be implemented, this work should begin soon. Parts of materials developed that will be used in training should be translated into Hindi. -TNA consulting organizations may not have had a detailed understanding of project and its objective and targeted outcomes. If they continue working for the project (or if other organizations take up the training work), a deeper understanding of project should be conveyed. Objective/targets of project should be considered in strategic delivery (i.e. site selection and beneficiary selection) of and adjustment in training. Decision should be made whether to focus on specialized income-generating training or to include other topics like record-keeping, JFM understanding, etc.

- Forest Dept. staff are keen for more training themselves and some may be interested in becoming master trainers. Given the enthusiasm for the project's model of enhanced cooperation between the FD and villagers, the idea of FD line staff as trainers is well-worth consideration.
- Large division-wide or district-wide workshops may be opportunities to expose large number of non-project area staff to the project model.
- PMU may wish to keep a log of all trainings division by division and total of persons trained each time, in order to better convey achievements and validate expenditures.
- Future projects should look for strategic ways to avoid excessive delays in launching consultancy contracts. Outreach should ensure enough bids are received.
- MP Bamboo Mission is also pursuing bamboo training and has 400 women involved in Sidhi CFC. Project may wish to look for synergies.
- Greater efforts to include women in training, including out-of-town exposure visits if possible, should be made. Project should target for 50 percent of person-trainings to be of women.

6. Outcome 2 – Part A: Demonstration of Individual (or Small Group) Bamboo Use Rights Model

Outcome 2 aims to demonstrate an “individual bamboo use rights and multi-pronged conservation and livelihoods” model for sustainable land and ecosystem management in and around mixed bamboo areas in five districts in MP. The model includes both individual use rights associated with bamboo rehabilitation and an integrated package of fuel and fodder plantation, watershed management, and various livelihood activities, including both agriculture-related initiatives and SMEs. As has been mentioned, Outcome 2 has received the bulk of the project's funding and attention over the past three years. Findings are substantial and we therefore split them into two sections. This one, Section 6, focuses on the individual (or small group) use rights model for bamboo rehabilitation. It covers the model and its set-up in practice, conservation results, socio-economic results, and related issues and concerns. Within Outcome 2, bamboo rehabilitation is at the centerpiece of the model, has received the majority of funding, and thus merits focused attention. The next section, Section 7, will cover all the other sub-components of Outcome 2, namely fodder plantations, alternative energy initiatives (foremost of which is fuel wood plantations), watershed management work, agriculture-related livelihood initiatives, and SME development.

6.1 Bamboo Rehabilitation and Use Rights – the Model and Set-up

Basic requirements and benefits: Exhibit 6-1 provides an overview of the project's individual use rights bamboo rehabilitation model. The basic design of this model calls for 20 ha of mixed bamboo forest area to be allocated to each involved beneficiary family.¹⁰ The family has the responsibility of rehabilitating five ha per year for four years. They also have the responsibility of protecting the bamboo area and surrounding forests with their co-beneficiaries. This responsibility is on-going beyond the period of rehabilitation. In addition,

¹⁰ Bamboo forest in the areas covered by the project are mostly areas in which bamboo is mixed with other species. The other species, often teak, generally make up the canopy while bamboo is the understory.

they are responsible for the ongoing harvest and maintenance of the bamboo once rehabilitation is completed. The benefits that beneficiaries receive in return are monthly payments for four years while rehabilitation is underway. These payments began in November 2010 and will continue until October 2014. Payments were originally Rs 2,500 per month per family and were raised in 2012 to Rs 3,500 per month. After payments stop, the families will be entitled to between 80 and 100 percent of profits from harvesting, but must continue protecting the bamboo forest and surrounding areas. A written agreement between the beneficiary and the village JFMC, which, according to Forest Department regulations, has the use rights and protection responsibilities, specifies the beneficiary's rights to profits and corresponding responsibilities.

Exhibit 6-1: Overview of Project's Individual Use Rights Bamboo Rehabilitation Model

PER INDIVIDUAL FAMILY	PROJECT OVERALL
20 ha mixed bamboo forest area per beneficiary	725 beneficiaries; 14,500 ha bamboo
<p>Requirements (per beneficiary)</p> <ul style="list-style-type: none"> -rehabilitate 5 ha per year for four years -protect bamboo area and surrounding forests with co-beneficiaries - ongoing -harvesting and maintenance of bamboo – ongoing <p>Note: above items can be carried out by any family member</p>	<p>Distribution of Beneficiaries</p> <ul style="list-style-type: none"> -Spread over 9 divisions, 17 ranges, 57 villages -Proportion of beneficiary households varies from village to village (examples range from 40 out of 40 households to 7 out of 300 households) -Once number of beneficiaries determined for village, poorest households selected
<p>Benefits (per beneficiary)</p> <ul style="list-style-type: none"> -monthly payments for four years (Nov. 2010 – Oct. 2014); originally Rs 2500/month, raised to Rs 3500 Rs/month in 2012 -profits (at market prices) from 80-100% bamboo harvest on allocated 20 ha -ongoing 	<p>Total Area Protected (estimate)</p> <p>Total protected area unknown, but may be two to four times bamboo rehab area in most locals. Estimating at three times bamboo rehab areas, we get: total area protected = 43,500 ha = 14,500 ha bamboo rehab area + 29,000 ha additional protected area</p>
<p>Comparison of project to standard model</p> <ul style="list-style-type: none"> -<u>standard model</u>: FD pays at least minimum wage to worker (JFMC member) for bamboo rehabilitation and harvest work. Harvest worker only gets profits (in addition to base wage). Payments for protection paid at times on per ha basis to JFMC as a group. -<u>project model</u>: Each beneficiary signs agreement with JFMC for individual use rights of bamboo (80-100% of profits) in return for rehab work, management/harvest work, and protection of bamboo and surrounding areas. 	<p>Group vs Individual Efforts/Profits</p> <ul style="list-style-type: none"> -Generally, beneficiaries work together to fulfill duty of protecting mixed bamboo forest and surrounding area -In some areas beneficiaries from the same village work together on rehab; in others they mainly work their own individual areas -Some divisions plan to have beneficiaries pool harvest by village or range and split profits evenly. Others may provide profits based on each beneficiary's specific 20 ha.

This model is quite different from the standard model in place in MP and in India as a whole. In the standard model, for forest areas to which a JFMC has use rights and responsibilities, the Forest Department generally pays individual workers for both bamboo rehabilitation and harvesting based on a job rate that at minimum corresponds to minimum wage. The worker who rehabilitates a certain bamboo area will not necessarily be the worker who harvests that area. Yet, individuals chosen to harvest will receive 100 percent of the profits of the bamboo

they harvest in addition to their wage. Protection is the responsibility of the JFMC as a whole. The Forest Department may provide some funds for this on a per hectare basis; and the JFMC can decide how to assign duties and allocate funds. Yet, in practice, no bamboo profits will be associated specifically with those who carry out the protection work, as these will go fully to the harvesting worker.

Exhibit 6-2 compares the bamboo rehabilitation and protection costs of the standard model and the project’s model, as well as the model being used by the State Bamboo Mission on a limited area. The estimates do not include additional livelihood related investments made by the project, so a question will be whether those efforts are required for sustainability and, if so, perhaps whether they can easily gain financing from other programs. As discussed in Section 4, feedback from Forest Department officers in the field is that the project’s bamboo rehabilitation model is not expensive. One DFO noted that Rs 8,400 per ha (project’s per ha costs) is on the lower side and, based on a wage rate approach, may cost Rs 20,000 per ha to handle properly. Currently, the FD is shifting to a per clump payment system for rehabilitation under its standard model.

Exhibit 6-2: Cost Comparison of Bamboo Rehabilitation Models

Model	Area covered	Cost per ha in 2013 Rs	Protected area
1. Project “use rights” model	14,500 ha total	(Rs 3500/mo x 12 mo/yr x 4 years) / 20 ha = Rs 8,400/ha	2 to 4 ha per ha invested; ongoing protection
2. Standard MP model under plan*	Several times project area	Rs 3,000/ha Rehab + Rs 500/ha protection/year x 5 years = Rs 5,500/ha	1 ha per 1 ha invested; protection for 5 yrs after rehab
3. MP Bamboo Mission model	1,000 ha/year	Rs 16,000/ha rehab + Rs 500/ha protection/year x 5 yrs = Rs 18,500/ha**	1 ha per 1 ha invested; protection for 5 yrs after rehab

*Currently, MP FD shifting from per ha to per clump payment system under its standard model.

**The Bamboo Mission has recently raised its rate per ha from Rs 16,000 over two years to Rs 20,000 over two years. Thus the new cost of rehab and five years of protection may have risen to around Rs 22,500/ha.

Protection in the Model: Protection duties are a critical part of the project’s bamboo model that sometimes get overlooked in cursory descriptions. Yet, for the monthly payments, beneficiaries may do only three months per year of rehabilitation work, with the other nine months of the year spent fulfilling their protection duties. The rehabilitation work is full-time work during the three or so months per year it is in progress, though we got varying feedback on whether the protection is also a full-time job. For example, two different villagers in South Betul told us protection is a full time job. One told us he goes to the forest daily for the full day, while another told us he goes at 9 am and returns at 6 pm. One DFO told us the villagers work full time except during the rainy season, when they still get paid. Another DFO suggested that the villagers take turns going to the forest so they do not have to go daily or go all day. In Umaria, two beneficiaries we interviewed together told us they spend different amounts of time on protection. One goes to the forest for five to six hours daily for protection work. The other, who has used his earnings to rent some agricultural land, spends less time in the forest. Yet, there is no difference in their compensation for this work.

While villagers may carry out their rehabilitation work separately, we found that often they work together in their protection work. Yet, some indicated going to the forest at different times. The unit of working together in some cases was indicated to be the group of beneficiaries from a particular village. In one case, it was mentioned that male villagers and female villagers (wives of beneficiaries) go in separate groups to protect the forest. In another, it was mentioned that beneficiaries may go to the forest in groups of five or six for protection work, while others can stay back to do work in the village.

The total area protected is in many cases significantly larger than the basic bamboo areas assigned to the beneficiaries. In one division, we found the ratio of total area protected to bamboo areas to be about four times. While we have not gotten the same data for all divisions, taking a somewhat lower ration of three times implies a total protected area of 43,500 ha corresponding to the project's total bamboo rehabilitation area of 14,500 ha. We learned later that this protection of additional area was not originally envisioned during project design. It is, however, a very interesting and promising result that deserves attention in refinement of the model and design of replication. It did seem most common among divisions visited that a significant additional area beyond the assigned bamboo areas is being protected. In Sidhi, however, we found this phenomenon to be more limited and were told that the JFMC as a whole may be helping with the broader protection.

One beat guard in a project area offered us additional insights on the protection aspect of the model. First, as did his DFO, he confirmed that the requirements for beneficiaries to protect the forest are mentioned in the written agreement with the JFMC.¹¹ He further added that the beneficiaries act as “local human resources for monitoring” the forest. In the past, he never used to get protection information so early, but now he gets a call if there is problem, so his response is faster. If there are problems and some families are not doing enough, the forest guard does take remedial action. There has been a problem with a few of the families in the beat guard's area. There is strong monitoring for the protection work; and the Forest Department asks the head of the village to report to them if some beneficiaries are not carrying out their protection work properly. In such cases, the Forest Department will talk to the family and tell them they will be taken out of the group if they don't work harder. The beat guard has the intention of carrying out the same approach to ensure protection continues once payments stop; and the project enters the harvesting phase.

Overall design and scale: The bamboo rehabilitation model of the project is being implemented in nine forest divisions across five districts. In each division, only a fraction of the ranges and villages are involved. For example, North Betul Division has a total of over 200 villages, but only two are involved in the project. As discussed below, the proportion of villagers from any one village involved varies widely. Exhibit 6-3 gives a view of the overall

¹¹ In the one agreement we viewed, “protection” was mentioned, but it was not specified that the beneficiary would be responsible for protecting a larger area than his or her bamboo allocation. In Sidhi (where we viewed the agreement) a beneficiary told us there was not agreement to protect the wider forest and that they do this, just because they feel motivated to do so.

design of the project among the nine districts, showing the number of ranges and villages involved in each district. Generally, the range appears an important unit. It may be the unit over which profit sharing (discussed below) from the bamboo is proposed or the unit over which SME work is carried out in a cluster of villages. At the same time, the village will be an important unit in estimating bamboo production (since conditions over the village's area may be similar, while varying within a range) and in presenting a possible scale on which individuals may work together in a group.

Exhibit 6-3: Extent of Project in Each Division

District	Division	Ranges included	Villages involved	Beneficiaries	Bamboo Rehab Area
Betul	North Betul	2	2	80	1600 ha
	South Betul	1	7	120	2400 ha
	West Betul	3	10	60	1200 ha
Chhindwara	South Chhindwara	1	7	60	1200 ha
	East Chhindwara	1	8	72	1440 ha
	West Chhindwara	2	6	60	1200 ha
Sidhi	Sidhi	4	10	120	2400 ha
Singrauli	Singrauli	3	8	82	1640 ha
Umaria	Umaria	2	3	71	1420 ha
Totals	----	19	61	725	14,500 ha

The project covers a significant portion of degraded bamboo areas in project divisions. In at least one case, all the degraded bamboo area in the division is being covered (e.g. South Betul), while in others it is a portion (e.g. North Betul) that is covered. Yet, even in the latter places, the portion is significant (e.g. 20 percent). Thus, we see that the project is having a significant impact on the overall status of degraded bamboo in the divisions in which it operates. Exhibit 6-4 shows, for some divisions, the proportion of degraded bamboo that has been rehabilitated by the project.

Exhibit 6-4: Proportion of Previously Un-rehabilitated Bamboo Rehabilitated by Project (for selected divisions)

Division	Area of bamboo rehab in project	Total area of degraded bamboo (prior to project)	% of degraded bamboo area covered by project
North Betul	2000 ha	10,000 ha	20%
South Betul	2,400 ha	2,400 ha	100%
East Chhindwara	1,440 ha	5,777 ha	25%
Sidhi	2,400 ha	7,400 ha	32%
Umaria	1,420	18,500	8%

Distribution of beneficiaries: One important aspect we found that varies among project divisions and villages is the proportion of village households that are beneficiaries of bamboo rehabilitation efforts. At the high end are villages in which the majority of households are beneficiaries, while at the low end are those large villages of hundreds of households in which just a handful of households are beneficiaries. The ratio may have implications for issues such as jealousy or conflict with other beneficiaries. And, it also has implications for

how livelihoods efforts spread across the village will contribute to the overall sustainability of the bamboo rehabilitation efforts. North Betul, which has only two beneficiary villages, appears to have the most concentrated distribution of beneficiaries overall (40 out of 40 households in one village and 40 out of 85 in another). One of East Chhindwara's villages had a ratio of 20 out of 25 households, but the others for which we have information had only a minority of households involved in the project's bamboo rehabilitation. Exhibit 6-5 shows some of ratios of beneficiaries to total households in village for some of the cases on which we gathered information.

During our interviews, it was not entirely clear why a few villages had such a high proportion of beneficiaries, while others had a very low proportion. It may either be tied to the geographic necessity determined by which bamboo areas correspond to which JFMCs (and associated villages) or a result of different strategies pursued in different divisions. If the model is extended further and if there is some degree of flexibility on this issue, some stakeholders suggest that having more concentration of beneficiaries village-wise rather than more dispersal is the more effective model.

In comparing bamboo beneficiaries to persons who participated in other livelihood activities of the project, we found different situations in different places. In some places, particularly West Chhindwara for example, there appears to be an emphasis on providing other livelihood activities to the families of the bamboo beneficiaries first. For example, bamboo beneficiaries were trained in lantana furniture making and then began to produce the furniture. Wives of beneficiaries in the same area are being targeted as the first trainees for silk spinning efforts. In other locales, the non-bamboo livelihood opportunities seem to have been spread out more broadly, even to other villages. In terms of the model, the question may be raised as to which approach is more effective.

**Exhibit 6-5: Examples of Dispersion of Bamboo Beneficiaries among Villages
(Beneficiaries out of Total number of Households – “HHs”)**

Information gathered mostly from villager interviews and focus groups; some numbers are best estimates

North Betul	West Betul	East Chhindwara
Tawadhana: 40 out of 40 HHs [†] Parsada: 40 out of 75 HHs	Gawasen: 15 out of 400 HHs Khokrakhera: 7 out of 300 HHs	Baghi Village: 12 out of 55 HHs Chilak Village: 12 out of 75 HHs
South Betul	South Chhindwara	West Chhindwara
Sunandehi: 20 out of 55 HHs Ladi: 20 out of 135 HHs	Dukerjila: 12 out of 95 HHs Borpani: 12 out of 75 HHs	Bodal Kachor: 20 out of 25 HHs Moyapani*: 8 out of 28 HHs
Sidhi		Umaria
Khajuria: 12 out of 800 HHs Barakadon: 10 out of 50 HHs Maldeva: 20 out of 100 HHs Parkun: 12 out of 300 HHs		Bijauri: 12 out of 65 HHs Chinki: 30 out of 50 HHs Jamari: 29 out of 65 HHs

[†]In Tawadhana, we found several HHs indicated they were not participating, including one that expressed interest in doing so. An explanation offered is that since the time of the initial land allocation, there have been marriages and thus new families formed.

*Moyapani is a small cluster of a larger village, Kunabadla

Beneficiary Awareness, Profit Sharing, and Joint Rehabilitation Work: In interviews with villagers, we often asked them about their understanding of the distribution of profits from the bamboo harvest. We had been told by project proponents that on the one hand, this distribution would be decided by the JFMC, but on the other that between 80 and 100 percent would go to the individual beneficiaries for bamboo harvested on the land they had rehabilitated. We found a mix of responses from beneficiaries, suggesting that some villages are using a model in which the beneficiary is entitled to 80 percent of profits (and the JFMC entitled to 20 percent); and others are using a model in which the beneficiary is entitled to 100 percent. Yet, we also found that two different villagers interviewed in West Betul thought they would be entitled to only 30 percent of profits. One was not optimistic about the sustainability of their incomes once monthly payments stopped, though the other was. In the same area, we found some forest staff may also have believed the beneficiaries would keep only 30 percent of profits. Upon discussion, the Forest Department cleared up this issue, indicating that the beneficiaries in all cases would be entitled to a more substantial share - either 70 to 100 percent or 80 to 100 percent -- and that effort would be made to educate everyone about this. In cases where there is a lack of clarity it will indeed be important to build awareness among beneficiaries and the JFMCs, as well as Forest Department staff. Overall, however, we found in most cases that beneficiaries were clear they will be able to keep the majority of profits.

Beneficiaries generally conveyed that the payments will last five years, or four years with a possible extension. The latter corresponds to the current plan of the project. Villagers often had special laminated cards indicating their role in bamboo rehabilitation. Also, payments are being deposited directly into their bank accounts and, with a fixed amount, are considered more reliable than payments for the National Rural Employment Guarantee Scheme (NREGS) in which, despite similar direct deposit, it appears intermediaries may skim off large portions.¹² One beneficiary mentioned that one time project payments were delayed and this did affect plans to buy things for their children at festival time. Yet, overall he seemed quite pleased, noting that no one in the middle can take any of the money away. We learned that in some remote areas of East Chhindwara, beneficiaries must travel 20 to 25 km to get their money out of the bank. One DFO pointed out that the land is more badly degraded in some areas than others, so that the work is more difficult. He suggested payments vary to reflect level of input needed.

Another issue regarding profit-sharing became clear when we were in Chhindwara District. We found that many beneficiaries there were working the land together, as more efficient than working independently. Some persons told us this was spontaneous and requested by the beneficiaries, while others told us it was the suggestion of the Forest Department. It seemed quite a common but not universal model in the Chhindwara divisions. We also learned that for at least one range in West Chhindwara (Tamia Range), there is a plan to split profits

¹² One bamboo beneficiary from West Chhindwara, for example, mentioned to us that while payment for work he did under NREGS was also automatically deposited in his bank account, there was quite a delay in the deposit and the amount deposited often reflected a much lower number of work days than he had actually worked.

equally among beneficiaries rather than according to the harvest from their individually designated areas. This is the decision of the Forest Department. In East Chhindwara, we learned the DFO plans to split profits among beneficiaries from the same village. He indicates this is actually the preference of the beneficiaries themselves. Further, beneficiaries from the same village have been doing rehabilitation work together and this was also their own choice. Another DFO concluded that working together should be determined by the level of harmony between the beneficiaries. And it was further mentioned that profit sharing works when the bamboo is all in the same area, so may be appropriate to a single range, but not a full division in which the project covers multiple ranges. In Sidhi and Umaria, the view conveyed by Forest Department staff is that the beneficiaries should get profits according to their own allotted area and their own work. It was mentioned that this approach will prevent free riders who are not conscientious in their rehabilitation work.

As some examples of specific evidence in the field: The two East Chhindwara beneficiaries with whom we held in-depth interviews told us they rehabilitate the bamboo as a group and will jointly split the profits. The forest guard we interviewed from East Chhindwara offered a similar view, indicating that the families do work together on the rehabilitation. If there are a few families not able to participate, the rest will first work together on their land and then work the land of the families not able to participate. Originally, they did plan to have each family receive profits according to harvest on its allocated land. Later it was realized that different families would get different benefits based on luck, so the Forest Department decided the profits would be split equally among beneficiaries. In contrast, a villager from North Betul, tells us he works the forest alone. Similarly, one in South Chhindwara told us that he will work his area only and the profits he gets will come from his area only. Of this, he will get 80 percent and the JFMC will get 20 percent. A villager from West Chhindwara indicates he works the bamboo land allotted to him and will help others afterwards as needed. He further mentioned that the forest guard is in constant touch with them about the work and how to do it. This villager told us his impression was he would get profits from his individual area. Yet, he would be keen to share profits. Another West Chhindwara villager (different village) told us the beneficiaries work together and will share profits and prefer this model. He noted they are clear they don't own the land and instead have usufruct rights, so for this reason are less concerned about being assigned specific patches of land for each individual. In some cases, there was confusion with regard to the question of whether villagers do the rehabilitation together. A common explanation of the confusion that we gathered in Sidhi and Umaria is that they generally rehabilitate their own assigned land individually, but work together if there are families that are unable to perform their duties or if someone needs extra help.

Tribal mix of beneficiaries: Beneficiaries appear all to be members of tribal groups or scheduled castes. Groups encountered include Korku, Gond, Katia, Gavli, Kol, and Baiga. Some villages were homogenous, and others were a mix of different tribes and scheduled castes.

NTFPs in Bamboo Rehabilitation Areas: We heard some different interpretations of NTFP rights after allocation of bamboo areas to beneficiaries. While this may be due to actual differences, it may also be a function of communications, as we did not drill down on this issue in depth. One East Chhindwara beneficiary, for example, told us his NTFP income had gone down, as he can now only collect on his allocated bamboo land. A forest guard in the same division indicated this is true only for the head of the family, but the rest of the family can still collect NTFPs outside forest areas. On this same topic, the DFO for the division suggested it is because they are anxious to protect the allotted bamboo areas during the NTFP collection season that the heads of the families cannot collect NTFPs elsewhere and not because of any restriction. Elsewhere from government officials, we heard that the assignment of bamboo lands should not affect NTFP rights. According to them, NTFP rights, even in project bamboo rehabilitation areas, will remain collective and open to all JFMC members. This is an issue that should be clarified at all levels. If individuals are to be assigned rights to the NTFPs (if allowable), then this may need to be clarified in their written agreement with the JFMC.

In Umaria and Sidhi, we found that a system of assigning Mahua (an important NTFP in the area) trees to individual families has continued, with the adjustment that beneficiary's assigned trees will coincide in location with his assigned bamboo area. For example, one bamboo beneficiary in Umaria explained that the JFMC has allocated five Mahua trees to each family and 20 Aonla trees per family. Thus, people aside from the beneficiary still come to his allotted bamboo plot to collect NTFPs. The beneficiary mentioned that there is a special advantage to this: When more people are around, there is better protection against fire. In Sidhi's Malwas Range, a JFMC Chair explained to us that five to ten Mahua trees are assigned to individual families. For the bamboo beneficiaries, it is true that their assigned Mahua trees will be on their land. Yet, if there is an excess of such trees, the additional ones will be assigned to other families.

Summary of issues raised with regard to the model: Some questions that arise from our findings in the field with regard to the model are:

- Assignment of land and cooperative rehabilitation: Should land be assigned to the beneficiaries collectively as a group or should the current system of individual assignment be continued? Should beneficiaries be asked to work together or should they decide on their own whether to cooperate? (Results from field suggest letting beneficiaries themselves decide how they will work may be the best option.)
- Profits: When should profits be distributed on an individual basis versus a group basis? In the latter case, what is the unit of the group (e.g. village, range, division)? Also, how can it be ensured that all bamboo beneficiaries are very clear on the share of the profits they will gain and whether these will be pooled or determined on individual basis? (DFOs provided pros (evening out benefits in face of uneven clump quality) and cons (free rider issue) of pooling profits. If profits are pooled, village may be the best unit. Also, like working together, the decision on this issue might be best left to the beneficiaries themselves.)

- Concentration of beneficiaries and of livelihood activities: Is it preferable to have more beneficiaries per village and, if so, is there a way to achieve this? Should other livelihood activities be focused on bamboo beneficiaries, non-beneficiaries or both?
- NTFPs and the model: Will the model affect NTFP rights in any way? How can the villagers be educated regarding the status of NTFP rights in bamboo areas?
- Protection duties: Also, how much time do beneficiaries spend protecting the forest during the nine or so months they are not rehabilitating the forest? Are there parameters or guidelines that can be offered? As good results have been achieved through protection of wider areas than allotted bamboo areas alone, should this wider protection responsibility be institutionalized in beneficiary-JFMC agreement?

6.2 Bamboo Rehabilitation and Use Rights – Conservation Results

Conservation results of the bamboo rehabilitation and individual use rights aspect of the project have been very positive in most cases. We divide these results into two aspects: (1) results of forest protection work and (2) results of bamboo rehabilitation work. Our sources of information include villager interviews, input from DFOs, input from other Forest Department staff in the divisions, and our own field visits to eight project bamboo rehabilitation sites.

Forest protection results: In general, interviewees at all levels are very enthusiastic about forest protection results, though villages with a small proportion of beneficiaries may have less obvious results. Both villagers and Forest Department staff confirm that the area being protected is not only the bamboo rehabilitation area, but the broader surrounding forest. Some divisions report a sharp drop in fire incidents and improved early notice to Forest Department staff of issues. Some, though not all, villagers have noticed greater wildlife in the area since enhanced protection began. Increased forest cover and density of forest was generally noted as a very positive impact in most locations. Specific feedback from villagers and forest department staff is offered later in this sub-section.

Bamboo rehabilitation results: Rehabilitation work was found to be generally acceptable at all sites, though better at some than others. In some cases, not enough of the original bamboo had been cleared. At Borpani (South Chhindwara) in particular, it was noted that growth of new culms was low due to overly conservative clearing. Estimated recruitment of new culms per clump ranged across sites from 1.7 to 4 or 5 per year, though were up to 15 in one case. Results tend to depend on quality of the local environment, including subsoil moisture content. At some sites, we noted that special care had been taken to tend new seedlings that were sprouting up in the forest.

Some examples of findings at specific sites follow: The site at Tamia in West Chhindwara made an especially good impression. Not only was the workmanship well done, but benefits from favorable environmental conditions were visible in the form of thick and longer new bamboo culms. The monitoring book kept for the site showed that there were 28,000

damaged clumps in 2010 and now only 1,295 remain to be cleaned. The newer culms appeared to have significantly larger diameters than old ones – also a good sign. One was measured to have a circumference of 21 cm. At some large clumps in South Chhindwara, up to 15 new culms per clump were seen and newer culms having relatively larger diameters were also observed. At the West Betul site we visited, it was noted the soil work was good, but soil quality was poor, so that it would take longer for these bamboo areas to become productive. In general, the range of new culms per clumps at various sites will lead to substantially differing incomes from those sites for the beneficiaries.

Protection Efforts and Results – Villager Input: Villager input on protection results, nature of responsibilities, and changes in biodiversity is given in Exhibits 6-6a and 6-6b.

Exhibit 6-6a: Villager Input on Conservation Results and Nature of Responsibilities
(first of two tables)

Improvement in Forest; Reduction of Cutting and of other Problems
<ul style="list-style-type: none"> -Improvement in forest through protection; previously there was cutting of fodder for livestock and people from bordering villages would come and cut illicitly (E. Chhindwara villager 1) -Improvement in forest. No more theft now. (E. Chhindwara villager 2) -Previously a lot of theft and felling in forest, but it has almost stopped due to project (WC villager 1) -A lot of positive changes with regard to illicit felling; also contour trenches in bamboo areas reduce soil erosion. (West Chhindwara villager 2) -Theft and illegal cutting (mostly by persons from other villages) has almost stopped; before villagers were out-migrating for work, so people from other places would come and cut wood; no fire incidences this year. (South Chhindwara villager 1) -Not only bamboo, but other forest has improved. Amount of felling down; no fires recently. (South Chhindwara villager 2) -Forests have benefited because people regularly visit them; illegal felling by people from our village and other villages has decreased (S. Chhindwara villager 4, non-bamboo beneficiary, female) -Forest is improving; we are helping to prevent forest fires (West Betul villager 2, female) -Don't sell fuel wood and get self-use fuel wood from forest floor; nothing has changed in this regard (West Betul villager 3) -Bamboo clumps improving and rest of forest doing well; people used to sell fuel wood from forest, but don't any more (South Betul villager 1, female) -Previously theft for fuel wood, but now don't allow others to cut it. Protect in groups so more protectors than perpetrators (South Betul villager 2) -Do not allow outsiders; easy because of our numbers. (South Betul villager 3) -Forest much greener now and no instances of fire (South Betul villager 4) -Before villagers collected fuel wood; now with "ownership" it is less – use agricultural waste; minor incidents with people from other villages; monitor and go into forest if something is heard (NBV 3) -Before would collect fuel wood to sell; now collect only for household use (NB villager 4, female) -With increased income buying natural gas to cook – has decreased fuel wood consumption from 5 or 6 kg /day each to 1.5-2kg per day each (3 beneficiaries in W. Chhindwara) -Density of forest has increased. Before project, no dense forest; rainfall very low. As forest developed rainfall increased. Feel forest is important for rainfall. This is why they are committed to protecting the forest. (Sidhi villager 1) -Substantial change in health of forest. Bamboo doing well. Growth is great. Forest fire much less than before. (Umaria, villager 1)

Almost all interviewed indicate some improvements in the forest. The most common aspects of improvement emphasized are overall forest growth and reduction in illicit felling. Often, at

least some of that felling was from neighboring villages. Now with more time in the village, beneficiaries can better protect the forest. While a few indicate that villagers are no longer collecting fuel wood for sale, others say their village was never involved in fuel wood sale. A few indicate reduction in self-use collection by replacement with agricultural waste or replacement with LPG. Not all villagers notice an improvement in wildlife, but some of the ones that do indicate great certainty regarding their observations of improvement. In Sidhi, we even encountered a villager looking for compensation due to damage to crops by the increased wildlife he associated with the project. Reduction in forest fire is another important improvement mentioned by villagers. Finally, from our discussion with villagers, we got the impression in many cases that their feeling of connection with the forest has increased substantially.

Exhibit 6-6b: Villager Input on Conservation Results and Nature of Responsibilities

(second of two tables)

Nature of Protection Work
<ul style="list-style-type: none"> -Required to protect both bamboo areas and surrounding forest; included in written agreement (East Chhindwara Villager 1) -Forest protection required by JFMC for payment and profit. Spend 3-4 months on bamboo clumps and the rest on protection. Requirement written into agreement with JFMC. (E. Chhind. villager 2) -Protect the whole forest and not just the bamboo rehab areas; sometimes need to use force to protect, but it's not dangerous (W. Chhindwara villager 1) -Protect open forest and not just bamboo area; told by Forest Dept. to protect (WC villager 2) -Beneficiaries protecting full forest area, not just bamboo areas (Sidhi villager 4: JFMC chair, female) -Villagers protecting not just bamboo areas of 600 ha, but also roughly 200 ha more. This is voluntary. Motivated to protect the forest because of their involvement with the forest. Protection work carried out together. They protect forest from villagers and cattle. (Sidhi villager 1) -Grazing restricted in some areas, especially bamboo areas, but allowed in others. Sometimes pressure from other villages – fires that spread from other villages. Now that they are in the forest more, they can stop the spread, such as by making fire lines. As part of their work, they clear forest floor from weeds – this makes it easier for them to do work. Also the weeds get dry at times and raise risk of fire. (Umaria villager 1)
Biodiversity/ Wildlife
<ul style="list-style-type: none"> -No difference in wildlife noted (East Chhindwara villager 2) -No difference in wildlife noted. Have wild boars, deer, a few leopards, but not enough water to attract wildlife (West Chhindwara villager 1) -Before project, less appearance of wild boar, spotted deer, and leopard (rare but did occur) than now. Also, since protecting forest, more wild bear and monkeys eating bamboo shoots – beneficiaries using sling shots or making sound to scare away (West Chhindwara villager 2) -Have seen animals they did not see before, including spotted deer, antelope, some types of bird, leopard, and wild boar. Certain there is a difference. Even though out-migrating previously did go to forest -- hardly used to see this wildlife before. (South Chhindwara villager 1) -One negative impact is an increasing number of monkeys. These are eating the bamboo shoots. Also, more deer (do not eat bamboo shoots). (South Chhindwara villager 2) -Has seen deer and boar encroaching on her agricultural land – seems to be more than before (SC villager 4- non-bamboo beneficiary, female) -Population of animals has increased. Presence of birds, black buck, deer, and pigs has increased. (Sidhi villager 1) -Increased wildlife due to project eating crops – compensation sought. (Non-beneficiary, Sidhi) -Now substantially more wildlife seen, especially deer, wild boar, and wild cats (Umaria villager 1)

Protection Efforts and Results – Forest Department Staff Input: Conservation results as conveyed by DFOs and other staff are indicated in Exhibit 6-7. Generally, input was very positive and enthusiastic, especially about the reduction in forest fires and illicit felling. In one project village in North Betul, where there was previously collection of fuel wood for selling, the practice has stopped. Yet, in another case, staff noted that there had not been much improvement as the project only affected the behavior of seven beneficiaries out of a village of 300 households. This reinforces another point made by Forest Department staff that it would be better to have a greater concentration of beneficiaries per village if possible.

Exhibit 6-7: Conservation Results Indicated by Forest Department Staff

Division Forest Officer Input
<p>-Main challenges forest fires, grazing, and theft; forest fire 99% down. Not a single forest fire in project areas this year – that’s a drastic reduction. Beneficiaries are protecting the natural forest where policing is not possible. Area is notorious for illicit felling; population growth has led to increased pressure on resources. (East Chhindwara DFO)</p> <p>-Biomass has increased; every day 5 or 6 persons go to the forest; forest guards get information earlier. (West Chhindwara DFO)</p> <p>-What’s really good about the project is that the community protects the forest from fire and theft and provides wildlife protection. They also help to protect forest outside project areas. They realize if they save it they can utilize it (West Betul DFO)</p> <p>-Already a conservation impact in that families no longer sell fuel wood. Before, every family in first village (38 out of 40 households at least) collecting fuel wood for sale. Now collect only for own use, because they have money from other pursuits and fuel wood collection actually a tough job and undesirable. And, it’s illegal and they may get fined. One of the most impressive things is that villagers feel ownership of the forest; attitude change is impressive. Some concerns on conservation side are monkeys and boar which damage the forest area. (North Betul DFO)</p>
Other Forest Staff Input
<p>-Last year no fire cases in this division. And the year before, there were 5 or 6; typically 7 up to 20. Good result due partly to project. (an SDO)</p> <p>-There have not been big changes in the forest probably because the beneficiaries are only 8 families out of 300 – the beneficiaries are taking better care of the forest, but the other families are not. (staff)</p> <p>-Conditions requiring beneficiaries to protect forest mentioned in agreement; beneficiaries act as local human resources for monitoring and call if there is a problem, so response time is much faster.(staff)</p> <p>-Protection very satisfactory; there are 12 beneficiaries – 6 cover the whole bamboo area and the others protect the rest of the forest. This is in the written agreement. There is a big change in forest protection. People used to come from bordering district. Now, an 85% reduction in problems in forest (SDO and RO)</p> <p>-Protection has significantly improved. They protect not just bamboo areas, but all the surrounding forest. It is required, though surrounding forest is protected with other JFMC members. Fire and grazing are two big issues in forest protection and both are being addressed. Almost zero fire now in project areas. (an SDO)</p> <p>-Beneficiaries protect greater area than bamboo area alone because they are self-motivated. Some visitors came and were really impressed with the improvement in the forest here. (a forester)</p> <p>-Forest fires in the area have gone down from 10-15 per year to zero. No problem with beneficiaries not fulfilling their protection job – they are all working very hard (beat guard overseeing area with 15 villages).</p>

6.3 Bamboo Rehabilitation and Use Rights – Socio-economic Results

Socio-economic results of the project’s bamboo rehabilitation individual use rights model are generally quite strong and obvious. While these are due directly to the payments beneficiaries

have been receiving since October 2010, it is useful to consider the results as a baseline for long-term change. If future bamboo profits can yield at least as much income as current payments, then the changes relayed in this sub-section may be sustainable. It should be noted that positive socio-economic results due to the bamboo rehabilitation work are not completely separable through our interviews from the impact of other income-enhancing aspects of the project. Thus, while we do focus in this section on improvements in income of the bamboo beneficiaries, the caveat that other livelihood aspects of the project may be increasing their income even further must be made.

All of the bamboo beneficiaries with whom we spoke had positive experiences in terms of their income and quality of life to convey. Many commented that they have been able to stop out-migrating to work. Some had higher monthly incomes out-migrating, but this work was not steady and they had expenses living away from home. Some were being paid much lower wages than others for out-migration, depending on the area. In general, the beneficiaries feel more motivated to improve the bamboo land than to out-migrate to work. Items they purchased with the earnings are also of interest. Many bought things to improve the productivity of agriculture, such as pumps and seeds and saw commensurate improvements. Payments resulted in some increased school attendance. More common, however, was the ability to send a child away to a town for a better educational opportunity. In one place, beneficiaries used the money to pay back bank loans and have more certainty with which to take out larger loans. Use of additional income also reflects the socio-economic starting point of beneficiaries to some extent. For example, one beneficiary who seemed even less well off than others mentioned that most of his new income was going to family health expenditures and food grains. In Sidhi, we heard from the Forest Department that beneficiaries tend to be more responsible with the monthly wage provided by the project, as compared to weekly wages in the past, which they tended to use for drinking. With monthly wages, the beneficiaries tend to be more responsible; and their spouses are more clear on the earnings. Data presented by DFOs in Chhindwara show beneficiary incomes after project initiation rising by multiples. For example, in East Chhindwara, it was found that overall income of beneficiaries was over three times what it was prior to project initiation. Of course, inflation has been high, but in general, this clear result that things are better corresponds to the clear qualitative result from our interviews that things are better now for almost all beneficiaries and the improvement is largely due to the project.

Specific input from villagers on socio-economic impacts: Exhibit 6-8 displays villager input on changes in income and migration due to the bamboo rehabilitation opportunity. Exhibit 6-9 shows purchases made with the improved earnings.

Exhibit 6-8: Changes in income profiles – beneficiary input

<p><u>E. Chhindwara Villager 2</u>: Before project Rs 20,000/year from NTFPs and daily wage of Rs 60 to 70 from out-migration 3 times/year 15-20 days each time. This averages Rs 1,951/month. Now earns Rs 3,500 per month from project plus Rs 15,000/year from NTFPs, as can only collect on own land. So income after project is Rs 4,750/month. Due to irrigation, agricultural yield has increased.</p>
<p><u>W. Chhindwara Villager 1</u>: Before project, out-migrated 4 months per year for Rs 2,000/month. Also earned Rs 4,000 to 5,000/year from NTFPs. So average was Rs 1,042/month. Now earns Rs 3,500/month from project plus same NTFP income plus Rs 380/month from rope making, yielding Rs 4,245 /month on average.</p>
<p><u>South Betul Villager 1</u> (female): Before project, had no cash income. Any surplus crops they bartered for their own needs. Now has income of Rs 3,500/month.</p>
<p><u>South Betul Villager 2</u>: Before project spent Rs 1,500/month and did not save. Now spends more (bought a motorcycle) and also saves.</p>
<p><u>West Betul Villager 3</u>: Before project, they could make Rs 3,000 to 4,000/month by working as wage laborers in agriculture in other villages, but this was perhaps 4 to 5 months per year. Also, because of expenses, brought home perhaps Rs 2,000/month. So average monthly income before and after (not including NTFPs and other agricultural income) might be assessed as Rs 833/month before and Rs 3,500/month after.</p>
<p><u>Sidhi Villager 1</u>: Before project out-migrated for Rs 1,500 to 2,000/month for six months per year, so average income was about Rs 875/month. Now there is no need to out-migrate. This situation is preferred. It is more comfortable. Will not out-migrate again in the future.</p>
<p><u>Umaria Villager 1</u>: Prior to project, did not out-migrate but instead did agricultural work for others in village. He has no land, but worked on land of others and made Rs 1,500 to 2,000/month. Now he is making more.</p>
<p><u>Umaria Villager 2</u>: Worked in local flour mill before. Wages were very low – Rs 1,000 per month. Sometimes, during festival season, they might work night and day.</p>

Exhibit 6-9: Purchases with increased income - beneficiary input

<p><u>South Betul villagers</u> -(deaf and mute beneficiary) before project was landless; has now bought 3 acres of land paying Rs 60,000 -able to send son and daughter away to high school in other towns -Bought pair of bulls for Rs 12,000 and pump for Rs 15,000 – now can grow wheat on irrigated land -(female) Four grandsons now in school (could not afford it before); motorized pump purchased has doubled crops in irrigated areas; has gotten her two sons married earlier than she would have otherwise been able</p>
<p><u>East Chhindwara villagers</u> -bought a pump (for agriculture) and a motorcycle – now get two crops per year instead of one; now sending younger brother to college in Chhindwara; village school up to 8th grade – villagers can now send children out of town up to 12th grade -bought irrigation pump and pipes, tiles for home; has now switched from rain-fed to irrigated crops; noticed more people sending children away to school</p>
<p><u>West Chhindwara villagers</u> -using new income mainly for medical treatment for family and food grains. Area has malaria and water sanitation issues. Owns no land but has encroached on forest and applied for rights under FRA. -solar lights -sending son out of village for 10th grade; purchase of food grains; saving money to build new house -able to marry off daughter and send son to computer training in town</p>
<p><u>West Betul villagers</u> -(female working in silk spinning workshop): purchased many things related to agriculture – good quality seeds, pumps, and renting farmland. Really poor families use the money to buy grain. Have not saved any money and no electricity in village so have not bought mobile phone. Before project children would go with them when they out-migrated for work. Now children in school</p>

North Betul villagers

-As a result of the project more children go to school and people can buy things children need for school; invested earnings in buying 2 bulls

-Some girls in the village that were not going to school started going once the project raised incomes

South Chhindwara villagers

-Spent a lot of earnings on agriculture, especially purchasing improved varieties of seeds; also did some soil conservation activities, hiring others to help with this (since he was busy with bamboo); has gone from planting “coarse crops” to things like maize.

-(female non-beneficiary speaking of beneficiaries) : People have bought livestock/bulls with money earned. Most money has gone into agriculture – seeds and fertilizer; because heavy rains destroyed crops this year, people had to use the earnings to buy food and oil.

Sidhi villager

-Use income mainly for food and health.

Umaria villagers

-(Responses from individuals in group of wives of beneficiaries): (1) Now sending child to better school, (2) buying bulls and doing needed household renovations, (3) purchased irrigation pumps, (4) renting agricultural land and extending home with renovation, (5) getting daughter married off, (6) saving Rs 1,000 to 2,000 per month. In past hard to save since all savings to money lender. From one year of income, only got to keep 3 to 4 months, with rest going to money lender; (7) purchased sewing machine.

-Able to pay back major loan of Rs 10,000 to flour mill where he used to work. “Credit” with shop has improved. In past, shopkeeper less likely to offer credit because could see ability to pay back was weak. Interest rate for loans was 10 percent. Previously landless, but has now rented out agricultural land with income from project. Has purchased two bulls. Agricultural produce will be for own consumption and will reduce cash expenditures on food.

-Able to pay off loans of Rs 5,000 to 6,000 with income from project. Is landless and would like to rent land if he can save enough money. So far, extra income has been spent on health treatments.

6.4 Bamboo Rehabilitation and Use Rights – Issues and Concerns

In this section, we present findings on some issues and concerns with the bamboo rehabilitation individual use model as implemented. Key concerns include: (1) participation and pro-poor strategy, (2) conflict between beneficiaries and non-beneficiaries, and (3) involvement level of women. With regard to participation and pro-poor strategy, the concern is whether the project has really been targeting the poorest in each village as intended. We initially had concerns as to whether there were problems with transparency and favoritism. Yet, we found that most beneficiaries and non-beneficiaries (though, admittedly, fewer of the latter were interviewed) described a fair and transparent process. Some non-beneficiaries were anxious to have the same opportunity, but none with whom we spoke thought the process of selection had been unfair. We did find the process described seemed to vary a bit from village to village. A number of beneficiaries described a process of reviewing ration cards or other official qualifications confirming poverty level. Yet, some described a process in which the JFMC made the evaluation based on their understanding of the villagers’ relative situations.

Regarding conflict between beneficiaries and non-beneficiaries, this is a concern of many who look at the project as providing a potential model for replication. Some voice concern that even if there is no conflict now, some may emerge when the bamboo is harvested. We

asked both beneficiaries and non-beneficiaries regarding conflict; and the level appears minimal. In several cases, there is a situation such that disgruntled villagers say things about those who are benefiting, but we did not hear of any conflict escalating. We did hear from one stakeholder of some level of conflict in Singrauli, in which some non-beneficiaries threatened to stop the beneficiaries from doing their work. Yet, this was related to the non-beneficiaries' dissatisfaction with not being allowed to undertake agriculture in the forest, rather than direct jealousy of project beneficiaries. Overall, the conclusion of the project proponents is that a balance mechanism, such as other livelihood opportunities, is needed.

The involvement level of women in the project overall is higher in those areas where there is a higher proportion of villagers in a village involved and where there is correspondingly more other livelihood activity spread across beneficiaries and non-beneficiaries or across wives of beneficiaries. We did find that women tend to know a lot less about the bamboo rehabilitation aspect of the project than men. Even when we met a widow who would have been the person in her family to attend village meetings regarding the project, she was not really aware of it and had not attended the meetings, though was involved in the project via the fish pond aspect. While we did find that a handful of women, such as some in South Betul, have the bank account for project payments in their name, most often the work is still done primarily by the husband, perhaps with the wife assisting as needed. Considering other aspects of the project: Men beneficiaries do appear to have made up the larger proportion of beneficiaries going for out of town trainings. Yet, in some livelihoods work, such as sericulture or home garden, women appear to be the most involved persons.

In the sub-sections below, we present some specific evidence from the field on each of the three concerns outlined above. We close with a short sub-section reviewing villager recommendations for the project.

Participation and pro-poor strategy: Exhibit 6-10 below shows villager input on the process of selecting beneficiaries in various villages. Each villager who knew about the process was clear that the beneficiaries were prioritized based on poverty levels. All, including beneficiaries and non-beneficiaries, seemed to believe the process was fair and no-one pointed out any irregularities. Additional input from Forest Department staff on this topic is given in the text.

Input from Forest Department officers and staff generally concurs with villager input. One beat guard working in a very poor area noticed that in practice sometimes social conditions are also taken into account. In a village where almost all households are BPL (below poverty level), they look at other aspects. For example, there may be a family of three brothers with two working their land, so that they may select the third brother. The beat guard noted that the selected person has to be someone who can do the work. One forest officer offered the view that the landless are chosen first; and then those with very meager or unproductive land are chosen. The people with better land, he suggested, will not be interested. He added that the question of whether the profit to the beneficiaries is 100 percent or 80 percent with 20 percent going to the JFMC is decided by the village, not the Forest Department.

Exhibit 6-10: Beneficiary Selection Process - Beneficiary and Non-Beneficiary Input

<p><u>South Betul villagers (beneficiaries)</u></p> <ul style="list-style-type: none"> -JFMC selected the poorest. (female) -Involved villagers were chosen by JFMC on basis of poverty. -Poorest were selected by community mainly based on poverty – based on value of their ration card for food subsidies.
<p><u>East Chhindwara villagers (beneficiaries)</u></p> <ul style="list-style-type: none"> -Selection handled by <i>gram sabha</i>. Families discussed project and decided to give bamboo opportunity to landless and marginal first. 12 families selected; more wanted opportunity than got it. -JFMC in meeting selected the poorest of the poor. Everyone in village consented to selections made. It was openly discussed. After selection, plan discussed in detail with selected families.
<p><u>West Chhindwara villagers (beneficiaries)</u></p> <ul style="list-style-type: none"> -JFMC and Forest Dept. determined the poorest as beneficiaries. No ration cards or other cards used. Field staff went to check households to confirm. “Were the non-selected as poor as those selected?” “We are Bharias and not very high in society. The whole village is very poor – there is no distinction.” (Note: Out of 25 families, 20 were selected in this village.) -Meeting held and poorest chosen. Identity cards were used to identify the poor. Process was fair. Others are keen to join. Initially may have refused, but now are interested.
<p><u>West Betul villagers (beneficiaries)</u></p> <ul style="list-style-type: none"> -selected at meeting held by JFMC – nearly all villagers participated; took BPL (below poverty line) cards to analyze who was the neediest (female villager) -selection based on BPL card system; DFO had meeting with them about this and explained plan. Most poor families were priority. Only 7 selected.
<p><u>North Betul villagers (beneficiaries)</u></p> <ul style="list-style-type: none"> -Had meeting about how to allocate the land among families. Took place with staff from Forest Dept.
<p><u>South Chhindwara villagers</u></p> <ul style="list-style-type: none"> -JFMC held meeting with villagers and chose people with help of FD based on low income. -Selection based on poverty levels, made in conjunction with Forest Dept.
<p><u>Sidhi villagers</u></p> <ul style="list-style-type: none"> -FD and JFMC held meeting to choose those below poverty line. Of two beneficiaries interviewed together, one is landless and one has 0.3 acres.
<p><u>Umaria villagers</u></p> <ul style="list-style-type: none"> -FD told villagers about plan and that they should come to meeting if interested. 35 were interested and 12 chosen by JFMC based on income and other factors. About half of the 12 are landless. There are other landless persons that were not chosen, but these were not chosen due to often being drunk.
<p><u>Non-beneficiaries (from all villages)</u></p> <ul style="list-style-type: none"> -Lower income groups chosen, including some with no land, less land, and agricultural workers. Beneficiaries do have a lower income than me. (former JFMC chair, a South Chhindwara village): -Poor families who generally out-migrate for work were given priority. Everyone offered the opportunity took it. (new JFMC chair, a South Chhindwara village, female) -It was not difficult to choose the poorest (JFMC chair female, Sidhi) -Not disappointed to not be involved as does not want to do hard labor. Husband has a pension from the railways. (Sidhi villager, female) -Landless, but husband not interested at the time opportunity presented. Is interested now. Husband does seasonal agricultural work in village. (Umaria villager, female) -Has 2 to 3 acres, mainly vegetable crops. Is interested in the bamboo work but was not selected. Selection process satisfactory. (Umaria villager) -Can make Rs 7,000 to 8,000/month out-migrating, but expenses high, so bring back only 20% (Rs 1,000 to 2,000/month or Rs 10,000/year). Typical land holding in village 1-2 acres. (Umaria villagers) -Would like son to participate, but believes process was fair. (Umaria villager with home garden)

Exhibit 6-11: Conflict or jealousy? - Beneficiary and Non-Beneficiary Input

<p><u>South Betul villagers (beneficiaries)</u> -No conflict or jealousy problems from non-beneficiaries (female)</p>
<p><u>East Chhindwara villagers (beneficiaries)</u> -Even though more families wanted the bamboo opportunity than got it, no problem with conflict. -There is no conflict or jealousy problem.</p>
<p><u>West Chhindwara villagers (beneficiaries)</u> -No conflict or jealousy. Sometimes people say: “You’re lucky – you don’t have to go out of the village to work.” -No problems with jealousy/conflict.</p>
<p><u>West Betul villagers (beneficiaries)</u> -Village heterogeneous so some problems, though not exactly conflict. Some envious villagers said things. Gawasen has 400 families and there are just 10 to 20 beneficiary families. (female) -As only 7 families (in village of 300) were selected, they did have an argument with other villagers. They had to “hear a lot,” but it did not escalate. They are not worried about getting access to the bamboo as they have a certificate that entitles them to it.</p>
<p><u>South Chhindwara villagers (beneficiaries)</u> -There has been no conflict because beneficiaries chosen by JFMC. Yet, it’s true that others would be interested to participate if they could. -No conflict due to jealousy, because others can participate in other development activities in the village. Also, people who get profit will contribute to village in various ways.</p>
<p><u>Sidhi (beneficiaries)</u> -No conflict. Others are not jealous because they are more capable persons and not willing to do this hard work. They have easier sources of income. Also, others are happy, because JFMC will get 20% of profits. -No problem of jealousy (female villager)</p>
<p><u>Umaria (beneficiaries)</u> -Jealousy not a problem. -No jealousy from non-beneficiaries (female)</p>
<p><u>Non-beneficiaries (from all villages)</u> -Not bothered too much by the benefits beneficiaries are getting. “They are working and getting.” Yet, if given the opportunity would take it – not afraid of hard work.” (S. Betul, female non-beneficiary) -Doesn’t mind that others have benefit from bamboo payments as they are taking care of the forest (South Chhindwara, female non-beneficiary) -As non-beneficiary, not troubled by the situation (S. Chhind., female non-beneficiary at fodder site) -Would like to be a beneficiary. Attended villager meeting with Forest Dept. in attendance when beneficiaries were selected. Thought more would be selected later. Is not angry at not having been selected; it was a collective decision. And, entire village benefits from incense making with a mixed group of bamboo beneficiaries and non-beneficiaries involved. Also, bunding of agricultural fields and soil conservation work have benefited non-bamboo beneficiaries. Was interested in being beneficiary from the start, but was not chosen. (West Chhindwara, non-beneficiary) -Opted out of being considered as beneficiary as busy with own work. Has 5 acres and also gets work through NREGS. Happy not to be involved – was the right decision. Yet there may be more poor families in the village than the project was able to include. (West Chhindwara non-beneficiary) -When MTR team was in West Chhindwara, some men from outside project area came to ask if their village could be involved. When it was learned that their village had only 100 ha of degraded bamboo, we asked if only five families were involved it would cause problems. They said that it would not and they would be glad for those families. (Villagers outside project area.) -Jealousy is not a problem; there is no conflict. It’s just that some others wish to have the opportunity and feel sad not to be a part of it. A few have a feeling of “chakadia” (which means, “I was left out.”) Whole village benefits, because forest getting better. (JFMC Chair Sidhi, female) -Seeks compensation due to wildlife eating crops – believes due to project (Sidhi, non-beneficiary) -No conflict, no anger, no jealousy. Happy they are doing it. (Umaria non-beneficiary) -Understands that there is a limitation of area (Umaria bamboo non-beneficiary; has home garden)</p>

Conflict with non-beneficiaries: Aside from the Singrauli “forest encroachment” case mentioned above, we heard of no serious case of conflict beyond “words.” As evidence, exhibit 6-11 above shows villager comments in interviews on this topic, including both beneficiaries and non-beneficiaries. In the text, we also include some comments on jealousy and conflict made by Forest Department personnel. Of particular interest is a comment suggesting that inclusion of more persons from one village reduces conflict. We do note a case in Sidhi, in which non-beneficiaries were asking the FD for compensation for crops eaten by wild life. They believe this problem of theirs is a direct result of project activities. When this issue came up, we also heard a rumor that some land holders are disgruntled because the project has lowered the availability of the landless to serve as cheap agricultural labor, as some landless are now busy with their bamboo areas.

Generally, Forest Department personnel agree that there has been no serious conflict with regard to bamboo beneficiaries and non-beneficiaries. One SDO suggests that when more families are included from the same village, conflict tends to be low. So, more and more families from the same village would be preferred. Yet, in West Betul, the geography of bamboo distribution dictated a low number of families from each village. A beat guard involved in the project confirmed that there is some envy – say among five to ten percent of people. It’s not only the work opportunity, but he also noticed some jealousy whenever the beneficiaries go other places for capacity building, such as Dehradun. Others ask why they don’t have this opportunity. The beat guard notes that these others can’t be stopped from behaving this way or saying these things, but it’s a low level of conflict and doesn’t come to anything. The North Betul DFO indicated a lack of conflict. Of all districts, his appears to have the most concentrated set-up of beneficiaries. In the first village, almost all families are beneficiaries and in the second, 40 out of 85 are beneficiaries. For this second village, the 35 families not participating are better off so not bothered. Perhaps they will be a little bothered when the bamboo is ready for harvesting, but some of these other families are also interested in pursuing poultry, which the project is also helping out with. A Range Officer told us that conflict is not a problem because the project still does a lot at the local level for others who are not involved in the bamboo aspect. A DFO pointed out to us that conflict is not a problem, because the community will get 20 percent of profits and they will get this without doing any protection or other work. Furthermore, he noted, non-beneficiaries also get access to fuel wood and fodder associated with the project for free. We further note that non-beneficiaries may appreciate increased availability of dry, fallen wood and grass fodder resulting from more effective forest protection and reduction in fire incidents.

Involvement of Women: During field work we found that women are rarely the lead beneficiary for the bamboo work. In some cases, women support their husbands in the work. For example, in West Betul we spoke with three or four women who told us they are involved with clearing the bamboo clumps from congestion. One woman explained that her whole family is involved with the work, taking turns. At the same time, the group of women is also involved in silk spinning. In South Betul, it was pointed out to us that 14 of 120 beneficiaries are women as designated by whose name the bank account is in. One of these women told us she does the work herself so that is the reason the bank account is in her name. Another told

us her husband does the work, but she is the one to take the money out of the bank. And, a third told us that both she and her husband go to the forest, but she is the one that withdraws the money. One male beneficiary in South Chhindwara told us his wife helps him with the bamboo rehabilitation work. We also met a woman in South Chhindwara who heads her JFMC. She had just taken up the post, however, and did not seem fully informed. We talked to the former JFMC chair, who held the post for eight years and told us the Forest Department required that they change the chair to a woman.

Interestingly, we found less clear involvement of women in East and West Chhindwara where it seems there is more cooperative rehabilitation work among the male beneficiaries. This may be an issue to consider when considering promotion of a cooperative model versus a family model. On the other hand, in the case of East Chhindwara and West Chhindwara, beneficiaries travelled to meet us rather than us going to their villages, so there was less opportunity to discuss the situation with women. In Tamia (West Chhindwara), we met four women that were involved in the fish pond enterprise. The women from non-beneficiary families hardly knew about the bamboo work at all, while the women from beneficiary families also did not know much about the process. They did tell us, however, that they go to the sites with their husbands. None of the four had been to the village meeting at which the bamboo opportunity was discussed, including one who was a widow and therefore head of her household. The woman told us she would be interested in wage-type work. In East Chhindwara one of the “lessons learned” given in the DFO’s presentation is that gender issues are not addressed properly by the project.

In Umaria, we found that women are assisting their husbands in bamboo rehabilitation, but are not as well versed on the project. Men handle all the cutting work and a larger proportion of the work in general. Those women we spoke with, however, told us they go regularly to the forest after completing their household work – perhaps three to four days per week. They do the earthworks and are also involved in protection. For the village visited, in all cases the bank account in which project payments are deposited is in the husband’s name. Many of the women did not seem to know when the payments will stop. They also did not know how to estimate their future income from the bamboo, but believe it will bring them higher incomes if the forest is well protected.

In Sidhi, we found that women also assist their husbands with the bamboo work. One wife of a beneficiary told us that, while she does help, her husband does more of the work. She goes to the bamboo areas about four days per week. For protection, rather than going with her husband, she prefers to go with other women in a group. The bank account is in her husband’s name, but he gives her money. She does not know when the payments will stop, but is aware they will stop some time. She seemed unaware that after payments stop, the bamboo may still bring them income through sale of harvest.

In Sidhi, we further had the opportunity to speak with two village women in leadership positions: the chair of the Khajuria Village JFMC and the Vice Chair of the Barkadol JFMC, both villages with bamboo beneficiaries. Both women have been in these positions for a year

or more, were elected by vote, and seemed extremely well-versed in the project. They both agreed that women are much less involved than men in the UNDP project in their villages. In both villages, bamboo rehabilitation and lac cultivation (also considered predominantly a male job) are the main project activities. The women suggest that the project pursue some livelihood work more suitable to women, such as incense, weaving, or tailoring.

Some indicated to us that bamboo rehabilitation is not women's work, but at the same time there are at least a few cases (South Chhindwara) in which a woman is taking the lead in this work for her family. It would be best if this issue were clarified, so that a strategy for improving gender aspects of the model could be developed. Either the project should attempt to include more women as lead beneficiary of their families or it should ensure that other livelihood work has a greater focus on women. So far, the project in some areas has taken the latter strategy, particularly where sericulture or incense sticks are being promoted. A further recommendation is that separate SME training and awareness building programs be adopted for women in addition to existing training programs, which tend to focus more on men. Building awareness of the bamboo use rights model among women should also be pursued, though efforts should be prudently designed so as not to promote conflict among beneficiary and non-beneficiary families.

Areas to Improve/Recommendations – Villager Suggestions: We asked beneficiaries how the project could be improved. This did not elicit a lot of detailed suggestions, but some were made. The most common one perhaps was to include more families as beneficiaries. Beneficiaries making this suggestion hope that other villagers can have the same opportunity they have. One villager from East Chhindwara suggested more be done in the existing area. He indicated that there continues to be a lot of pressure from the neighboring district in the form of overgrazing, theft, and illicit felling, so that more protection and more rules are needed. One villager suggested the project could be expanded to include more forest species. A couple of beneficiaries from Umaria made some interesting suggestions with regard to their protection work. They suggested: (1) A watch tower for watching the forest late in the evening: They can't work alone because of the danger of wild animals; and this is even more true late at night as it is hard to see the animals. Last year, they note, when the Range Officer held a meeting, the call of a leopard was heard and everyone started running. (2) A shelter for cattle: Grazing pressure continues to be a key issue in forest protection.¹³ (3) Help clearing the weeds from the bamboo areas: This is a big job, so they suggest someone be hired to help with it.

¹³ The beneficiary that raised this used the term "kanji house," which refers to a sort of pound for cattle seized for illicit grazing until the owners can collect them.

7. Outcome 2 – Part B: Demonstration of Other Sub-Components of Multi-Pronged Model

Section 6 (the previous section) and Section 7 (this section) together cover the results, appropriateness, and course correction needs associated with Outcome 2, the demonstration component of the project. Section 6 focused on demonstration of the “individual (or small group) bamboo use rights model.” This section (Section 7) focuses on all the other sub-components of the “multi-pronged conservation and livelihoods model” in which the bamboo use rights model is embedded. These other sub-components are: fodder plantations, alternative energy initiatives (foremost of which is fuel wood plantations), watershed management work, agriculture-related efforts, and SMEs. Each sub-component is covered in a sub-section below. Agriculture-related efforts are further broken down into: improvements in traditional agriculture, home gardens, livestock and animal husbandry, and aquaculture. The sub-section on SMEs covers a number of different types of SMEs initiated by the DFOs and also discusses the project’s SME consultancies, which have developed business plans, but not yet initiated SME establishment. The types of DFO-initiated SMEs covered include: rope making, lantana furniture, lac cultivation, silk spinning, incense sticks, and other types of SMEs.

7.1 Fodder Plantation

The project’s fodder plantations represent an innovative approach addressing a key need. Grazing was repeatedly emphasized to us by stakeholders as one of the key threats to forest conservation in project areas, thus making this sub-component particularly interesting. Indeed, fodder needs are considered a key reason for previous slashing and degradation of bamboo in project areas. Further, we learned that stall feeding had been virtually non-existent in MP forest areas prior to the project. (No cattle are allowed on the project’s fodder plantations. Instead, the fodder is harvested and transported back to the village for stall feeding.) Receptivity to the opportunity to collect fodder for stall feeding was positive among villagers, particularly those with milk cows. Thus, the project can clearly be credited with the positive contribution of introducing stall feeding in project areas. The fodder is growing well at all sites visited (though shading by trees planted may become an issue in the future at some sites).

Yet, despite the positive contribution of this innovative approach, the scale of the fodder plantations is said to be too small to achieve the substantial forest protection impact desired. The project overall has 200 ha of fodder plantation spread across its nine divisions. This yields an average of only 22 ha per division. Most divisions distributed their fodder plantation allocation over more than one site. Many stakeholders suggested that the fodder plantations should be extended in scale. For example, in one case, it was suggested that a five ha site be expanded to 40 ha. In another case, it was suggested that a ten ha site be expanded to 30 ha. Back of the envelope calculations and interviews for a few cases suggest only a very small portion of village fodder needs are being met by these plantations, though more work

needs to be done to determine whether underutilization of the resource, in addition to limited area, is also a contributing factor.

Another issue that arose in our field visits is that of fodder plantation site selection. At least one site visited is located in an area belonging to a village in which there were no project bamboo beneficiaries. While site selection may have been related to the availability of appropriate land, this case raises the issue of clearly defining the conservation area targeted by the multi-pronged approach and choosing all sites accordingly.

An additional issue that arose during field visits was management of the fodder plantation. For sites visited, we were generally told that there are no limitations on amounts of fodder that villagers can take, though they must do the harvesting on pre-designated days. This gives the impression that either the sites are being under-utilized or, instead, that the villagers are able to self-regulate effectively without being given quotas. It is possible that supply still surpasses demand, as villagers continue to use other methods of feeding, including grazing in the forest and use of agricultural wastes. In some cases, it was indicated that the fodder plantations are only being used for milk cows, because the plantation fodder is deemed relatively valuable. Yet, demand did seem robust at most sites. At all sites visited, we found that the fodder plantations were open to all families in the associated village. The work to establish the plantations had been conducted by some villagers for daily wages and did not entitle workers to any long-term preferential benefits. This contrasts with the use rights conferred in the case of bamboo rehabilitation work.

To fully leverage the introduction of this innovative approach, a small systematic study across fodder plantation sites should be conducted and documented as part of the project's post-MTR dissemination work. The purpose should be to identify lessons learned, understand the current scale of fodder demand, and determine whether implementation of fodder plantations at a larger scale in future projects is recommended. Key issues that may be covered in such a mini-study include the following:

- Site selection: Are the sites strategically contributing to the defined conservation target area of the project (i.e. bamboo and nearby forest areas)?
- How much fodder is being harvested annually from each site and what proportion of each involved village's annual fodder needs are met by the site? What is the village's total fodder demand? What other sources of fodder are being used by the village and what is the total and proportional amount of each in the village's annual fodder needs?
- Is the fodder plantation undersubscribed, or are all resources available being fully utilized?
- Is actual production similar to projected production? If not, why not?
- What is the management system? Are there limitations on the amounts any one family can harvest?

Below, we discuss in more detail findings on the fodder sites via three perspectives in turn: technical observations and findings from field visits to six fodder sites, input from villagers regarding fodder sites, and input from MP Forest Department staff on fodder sites.

Findings from field visits: The MTR team visited six of the project’s fodder sites in a total of five different divisions. Some key findings are summarized in Exhibit 7-3. The grass Dinanath is used at all six sites. One site also uses the grass Stylo. Good growth has occurred at all sites. In most cases, practices ensure Dinanath seeds are available for the next season. Trees are interspersed with the fodder. The MTR team believes some of the tree species used are preferable to others, with the key consideration being that fodder function should be the focus. For those sites with bamboo, the spacing may be too close, so that eventually shading of the fodder grass by bamboo leaves may be an issue.

Exhibit 7-1: Summary of Findings from Field Visits to Fodder Sites

Site visited / area	Species	Villager Access	Conclusion/Comments
1. Bijadehi, South Betul / 20 ha	Grass: Dinanath Trees: Bamboo, Khamer, Aonla	Entire village; no quota	Good grass growth, promotes stall feeding, bamboo spacing at 3m x 2m may retard grass growth
2. Gadakhar, West Betul / 5 ha	Grass: Dinanath Trees: Aonla, Subabul, Bamboo	Entire village (300 families); no quota. (Village has no bamboo rehab beneficiaries.)	Good grass growth; Sub-babul good choice – fodder tree; bamboo at 4m x 5m spacing may retard grass growth
3. Gawasen, West Betul / 10 ha	Grass: Dinanath Trees: Subabul, Khamer	Entire village, no quota	Excellent growth; good tree selection; innovative practice leaving grass strips for seeding.
4. Jobandera, South Chhindwara/ 5 ha	Grass: Dinanath Trees: Bamboo, Aonla, Khamer	Entire village; no quota	Good grass growth; bamboo may retard grass growth; milk yields up from 2.5-3 L to 4-5 L/cow- day
5. Kunwabadla, West Chhindwara/ 10 ha	Grass: Dinanath Trees: Bamboo, Aonla, Khamer	Resource shared by four villages	Good grass growth; demand low due to drop in cattle holdings
6. Sidhi/ 10 ha	Grass: Dinanath and Stylo Trees: Sisoo, Aonla	Resource shared by one village of 64 families	Good grass growth; Stylo takes time to establish, but is attractive as it’s a perennial

Findings from Villager Input: Villager input on fodder plantations was generally positive. Some villagers benefited from the work opportunity of establishing the plantations. In this case they confirmed that they were paid a job or day wage and that there were no special rights to the fodder based on the work input. Use of the fodder, as indicated in Exhibit 7-1 is generally open to all members of one specific village, though in one case we found four villages were accessing the site. Villagers indicated that there is no specific limitation on the amount of fodder any one villager can take. They indicate instead an “each according to his or her need” system. Yet, the day(s) of harvesting are specified in advance. We found at one of the fodder sites we visited (West Betul), women are unaware of the bamboo aspects of the project, as their village does not have any bamboo beneficiaries. At some sites, we found the fodder is considered relatively precious and is therefore only being used for milk cows. Some villagers have seen substantial increase in milk yield with the fodder, while others have not noticed this. One site, in North Betul, got flooded and required replanting.

Due to scale, the impact on overall feeding and grazing practices is not transformative. Some villagers indicated that a larger scale fodder site would be appreciated. Villager input in some locations made clear that the fodder plantations visited supply only a limited portion of total fodder needs. Other sources of fodder continue to be: (1) grazing in the forest and (2) agricultural wastes. Some indicated a slight reduction in forest grazing, though none with whom we spoke indicated a very strong reduction or stoppage of forest grazing altogether.

Examples of villager input on the fodder plantations are given in Exhibit 7-2 below.

Exhibit 7-2: Examples of Villager Input on Fodder Plantations

Use and Livestock Feeding Practices
-Villager has 10 cows (relatively high number among those interviewed at the site); fodder plantation has two or three harvests per year. They do continue to have livestock graze in forest, though this has become a bit less due to fodder availability (South Chhindwara female fodder plantation user)
-Villager does not take fodder from the site (South Chhindwara villager)
-Decreased grazing in forest due to fodder, but village has low livestock level (WB female villager)
-Site got flooded, so had to replant; they are not stall feeding yet (North Betul villager)
Access and Regulation of
-Whole village comes to take fodder; no regular social arrangement for how much fodder you can take – each person takes according to her need, though villager indicates she does monitor self to keep from overdoing it (South Chhindwara female fodder plantation user)
-Village does not have bamboo rehab beneficiaries; and interviewees do not know about that aspect of project. Use of fodder is based on needs. 60-70 people were engaged in labor, but access is open to everyone in village. (West Betul female villagers)
-Fodder available to whole village, not just those who planted (and got daily wages) (S. Betul women)
Scale
-Would prefer much larger site, perhaps 8 times as large as the current one (mix of S.C. villagers)

Findings from Forest Department Input: Forest Department staff are generally quite positive about the fodder plantation concept, but feel that more extensive area is needed.

Exhibit 7-3 provides some examples of their input:

Exhibit 7-3: Input from Forest Department Staff on Fodder Plantations

Scale
-Fodder plantation approach good for small village. Should be expanded from 10 ha per village to 20 or 30 ha total per village to be sufficient. This kind of scale will be sufficient, because they can continue to collect from the forest floor as well. (DFO 1)
-It's true that the fodder plantation is not big enough to meet the needs. Villagers also go to the forest and use crop wastes for fodder. There is an interest in expanding fodder plantation area. Villagers are now planting the grass on their bunds around agricultural fields. (DFO 2)
-Fodder area not sufficient. (DFO 3)
-A key recommendation is to extend the area of the fodder and energy plantation. (a range officer)
-5 ha for 300 families is not enough; 15 ha would be more appropriate. (FD staff)
Other
-Villagers settle on an agreed time for harvest, but can take as much fodder as they like. (FD staff)
-Have a very positive opinion of the fodder and energy plantation work. (a range forest officer)

Fodder Plantation Production - Examples: Presentations provided by some of the divisions included data on production from specific fodder plantations. Exhibit 7-4 provides such data

for four cases. The general impression is that production makes only a very small dent in total fodder needs of the involved villages. Yet, there is substantial variation in per ha harvest from various sites. One of our reviewers requested a case study on total fodder demand of one or more of the villages served, with information on amount and proportion of fodder supplied by the fodder plantation and various other sources. As this information is not available, we recommend it be obtained post-MTR through a systematic study, such as that recommended above.

Exhibit 7-4: Production for Selected Fodder Sites

Source: Division Presentations

Location	Area	Families using	2011 production	2012	2013
N. Betul	5-15 ha	NA	3,500 kg (5 ha)	4,500 kg (10 ha)	5,500 kg (15 ha)
E. Chhindwara	20 ha	NA	8,400 kg	13,200 kg	3,360 kg*
W. Chhindwara	20 ha	NA	25,000 kg	36,000 kg	38,000 kg
Ghenguti (Umaria)	5 ha	40	----	1,730 kg	2,480 kg

For Ghenguti case, 40 HHs in village associated with site. In 2013, then, average of 62 kg fodder harvested per household. If animal eats 5 kg per day, then one family's share of harvested fodder for year can feed one animal for only 12 days.

*Includes data for only one of two harvest seasons in year.

7.2 Energy Plantation and other Energy Alternatives

The project's energy plantation and other energy work are a strong conceptual fit for the overall forest-land-biodiversity improvement aims of the project. In MP forest areas, along with grazing/fodder issues, cutting of trees for fuel wood represents a key threat to the forest. Indeed, the project document indicates that "head loading" (selling of fuel wood from the forest) was being carried out at substantial scale in targeted project areas at the time of project formulation. Thus, the MTR team sees inclusion of a sub-component to address energy issues in the project model as highly appropriate.

Energy Plantations: Energy plantations, the main measure chosen to provide an alternative to fuel wood from the forests, is innovative and attractive, but presents a number of challenges. Altogether, the project has established 200 ha of energy plantations, an average of 22 ha per division. Establishment work has been completed. First and foremost among challenges is the length of time (estimated at 10 to 15 years) before these plantations will be ready to supply fuel wood. Given the project duration of five years, it is clear that impacts of the energy plantations will not occur in time for proper assessment and dissemination during the life of the project. Thus, plans need to be put in place for follow up monitoring of the impact of the energy plantation component – perhaps five to ten years after project closure – once harvesting has begun. The long wait period presented by the energy plantations also raises the question of whether this initiative is appropriate to project design. The long wait period may have resulted in two unintended consequences: (1) at most sites visited, a focus on fuel wood species was not strictly adhered to, with trees that can generate cash crops in the

shorter term also introduced; and (2) some project proponents express greater interest in other alternative energy options that may create a more immediate impact. At the same time, some local Forest Department staff are enthusiastic about the plantations and suggest the scope of this work needs to be expanded.

As with fodder sites, another possible challenge noted is that the energy plantations are not always sited near villages carrying out bamboo rehabilitation work. This raises again the issue of the importance of defining the precise area in which the project hopes to achieve improvements in forest, land, and biodiversity quality through a multi-pronged approach. Without strategic site selection, the project runs the risk of becoming a set of mini-demonstrations of various sub-components, rather than demonstration of an integrated model for achieving conservation results in a certain area. In one division in which the energy plantation villages were different from those associated with bamboo rehabilitation work of the project, the relevant sub-division offered two possible reasons his predecessor chose the sites he did: (1) availability of suitable site and (2) site closer to location of field staff so that they can monitor closely.

As part of its documentation and dissemination work, we suggest the project conduct a mini-review across its energy plantation sites. A critical question will be, based on results to date, the forecast annual harvest amount and corresponding proportion of fuel wood needs of the associated village that could be satisfied. During our field visits, we received varying input on the potential impact on village fuel wood needs of these plantations. Some assessments offered indicated the impact would be low and the areas need to be expanded, while some suggested significant impact. In the case of Ghenghuti Range, Umaria Division, where the energy plantation work has more strictly adhered to the growing of fuel wood species, the projections imply a very substantial proportion of village fuel wood needs can be met by the plantations. Calculations are given in Exhibit 7-5 below.

Exhibit 7-5: Situation and Projected Impact of Energy Plantations in Ghenghuti Range, Umaria District

Characteristics of the Energy Plantations
-Two energy plantations, each 5 ha; harvest expected in 10 to 12 years. Fodder already being harvested from energy plantation sites -8,000 trees in each plantation (exclusively fuel wood species in this case)
Harvest Calculation for One Site
(8000 trees in site x 100 kg per tree) x 70% survival rate x 1/10 of site harvested per year given ten-year rotation = 56,000 kg/year
Impact on Village Fuel Wood Needs
-If 100 households in village and each household uses 100-150 kg per month, then annual use of village is: 100 households x 120 kg/month x 12 months = 150,000 kg per year for the village -Thus: harvest could meet: 56,000 kg/150,000 kg of village demand or 37% of village demand -Potential impact very significant! (Especially considering this is only 5 ha site, agricultural waste may meet up to 25% of needs, and dry and fallen wood on village wasteland may also be used.)

Another important question for a mini-review of energy plantation results across sites will be management plans and proportion of non-fuel wood trees. During our field work we learned

that the typical plan is for fuel wood to be available to all households in the village associated with the plantation. Those who helped to prepare the energy plantation were paid a daily wage; and were not promised any special rights to the harvest. As for the planting of non-fuel wood trees, this raises the concern of whether the intended purpose of the sub-component is being adhered to. Thus, it will be important to understand the total number of fuel wood trees planted at each site as compared to non-fuel wood species.

Exhibit 7-6 provides information on the energy plantations established in three of the project's nine divisions. All sites listed are associated with project bamboo rehab villages, though across all divisions there are some cases in which this is not true. Survival rates of the cases listed are quite good for the area – all over 70 percent and generally over 80 percent, though we should note that plantations may have been established at different times (2010, 2011, or 2012). Finally, species vary and include non-fuel wood species, though fuel wood species are shown to predominate in places where tree number data by species is available. Subabul is the most common fuel wood species encountered. Mahua is an example of a non-fuel wood species. At the Gadakhar site in West Chhindwara, for example, we can see that 6,000 out of 8,335 trees planted (or 72 percent) are the fuel wood species Subabul.

Exhibit 7-6: Energy Plantations Examples – Sites in Three Divisions

Division	Village	Also RDBF Village?	Area	Number of Trees	Survival Rate*	Species
East Chhindwara	Pando	Yes	5 ha	5,000	NA	Casia siamea, Albizzia procera
	Chilak	Yes	5 ha	5,000	NA	Cassia, Eucalyptus
	Baghi	Yes	10 ha	10,000	NA	Eucalyptus, Aonla
North Betul	Tawadhana	Yes	5 ha	3,125	98%	Bamboo, Aonla, Neem, Sissoo,
	Parsada 1	Yes	5 ha	3,125	80%	Kranj, Khamer, Mahua, Teak,
	Parsada 2	Yes	5 ha	2,000	75%	Subabul
	Parasada 3	Yes	5 ha	2,000	71%	
West Chhindwara	Dhual	Yes	5 ha	8,335	91%	Subabul
	Gawasen	Yes	5 ha	8,335	95%	Subabul, Khamer
	Gadakhar	Yes	5 ha	6,000	89%	Subabul
				1,000	91%	Bamboo
1,000				88%	Aonla	
335				85%	Mahua	

*Some sites were planted in 2010, some in 2011, and some in 2012. Reported survival rates are based on inspections carried out in 2013.

At present, the use rights for the forest plantations are held by the MPFD, which is responsible for overall management and maintenance of the plantations. This contrasts with the fodder plantations, for which management decisions are made by the villagers with input from the FD. When the project ends, we have been told, the FD may hand over the energy plantation use rights to the JFMCs associated with the sites, but the land will remain under the jurisdiction of the Forest Department. At present, both the record keeping and the protection work are handled jointly by the Forest Department and the JFMC. After project close, the JFMC will handle the record keeping by itself, but under the supervision of the FD.

The role of the MPFD after project close will be to provide technical assistance to the JFMCs in preparation of harvest plans and replanting of the areas.

Before project close, it will be important to solidify and confirm plans for long-term management of the energy plantations. Also, villagers will need to be educated to enable them to maintain the plantations sustainably when they start providing village fuel needs. The benefits and responsibilities of the villagers with regard to the energy plantations should be clarified and the villagers made aware of these.

Other Energy Alternatives Pursued: As mentioned, while some project proponents believe the energy plantations should be expanded, others are more enthusiastic about pursuing energy alternatives that can reduce pressure on forests more immediately. Some of the latter type of efforts have already been supported by the project. Most promising among these for reducing pressure on the forest are: fast growing sapling distribution, energy efficient cook stoves, and biogas. An interesting case of unintended positive benefit with respect to energy is replacement of fuel wood by LPG among a few beneficiaries, made possible by increased incomes from project bamboo work. Solar lanterns have a less direct impact in terms of the project objective of reducing pressure on the forest, but are another positive alternative energy initiative that has been supported by the project.

Exhibit 7-7: Other Energy Alternatives Associated with Project

Alternative/Financing	Division and Location	Scale	Potential Impact
Fast-growing fuel wood saplings (fully paid for by project)	Umaria: 3 project RDBF villages and 6 other non-project villages – saplings planted in agricultural fields (landless cannot benefit)	60,000 seedlings to 436 beneficiary families (so <u>average of 138 saplings per beneficiary</u>)	If 50 kg per tree on 5-year cycle: after 5 years, at 90% survival, 1242 kg per family per year. If use per fam. is 5 kg per day, it's 1825 kg per year. Then, <u>saplings can provide 68% of needs.</u> †
Fuel-efficient stoves (“eco-chula” – fully paid for by project)	Sidhi: project RDBF villages and other non-project villages	800 stoves (so, 800 families)	<u>Reduces family fuel wood use from 5 kg/day to 2 kg/day</u>
Solar lanterns (fully paid for by project)	North Betul	80 families	Less direct impact on forest; but <u>may have indirect impact through livelihood benefits</u> (working in home at night)
Biogas (½ paid by project, ½ paid by Rural Dev. Dept.)	Sidhi: two villages (not the same as project RDBF villages)	12 biogas digesters, one per household	<u>Reduced household fuel wood use from 1,000 kg per month to none</u>
LPG (purchased by bamboo beneficiaries – not part of project)	W. Chhindwara, Tamia area (RDBF village)	5 households	<u>Reduced household fuel wood use from 5 or 6 kg per day to 1.5 or 2 kg per day</u>

†We have used a high survival rate of 90 percent as these are on farmland and therefore receive individual care and often irrigation. For this example, we also assumed that 100 percent of saplings distributed are fuel wood species, though there may be a tendency to mix with other species. If only 75 percent were fuel wood species the share of needs met would drop from 68 percent to 51 percent.

These alternatives are listed and described in Exhibit 7-7, with additional explanation in the text below. In the coming year or two, if funding is available, the project may wish to strengthen the energy prong of the multi-pronged approach through extension of some of these alternatives. If this strategy is pursued, however, it is recommended that the targeted area of conservation be well-defined and beneficiaries be selected accordingly. As indicated Exhibit 7-7, in many cases, beneficiaries of project alternative energy efforts to date have not been from project bamboo rehab villages. In such cases, it is important to confirm that the project is working in an integrated fashion and these efforts will indeed benefit a well-defined physical area upon which the project is targeting to have measurable impact.

Projections of impact of sapling distribution in Umaria on household energy consumption are impressive, implying up to 75 percent of fuel wood needs may be met starting in five years. These saplings are to be planted on agricultural land (or wasteland) and therefore cannot benefit landless villagers, though project proponents in Umaria suggest the landless can make use of the project energy plantations.

As for biogas homes, this is a relatively new initiative in Sidhi Division, with only 12 digesters total installed under the project. Yet, proponents in Sidhi are excited about results and hope to expand the initiative. So far, the digesters are being provided with full grant. Total investment is Rs 25,000 and about half of this is provided by the project, half by the Rural Development Department and Ministry of Unconventional and Alternative Energy. So far, the project is focusing on those families with substantial livestock to fuel the digester. The household we visited had ten to 12 livestock. We learned that other villagers have come by to see the digester and are interested in having their own system. The beneficiary guessed that these others may be willing to pay part of up-front costs. The household indicates fuel wood use has gone from 1,000 kg per month to none. A technical expert in the area is providing advice on the digesters.

The LPG example indicated in Exhibit 7-7 was not organized by the project, but occurred spontaneously. In West Chhindwara's Tamia Range, the MTR team spoke with five beneficiaries of the project's bamboo work who had used some of their earnings to buy LPG cooking facilities and now purchase refilled canisters as needed. Fuel wood consumption has been reduced from five to six kg per day to 1.5 to two kg per day. They are willing to spend money on LPG, because time otherwise spent collecting fuel wood and cooking over a slow fire is valuable and also because the smoke from the *chula* (cook stove) is bad for health. They purchase the cylinder from 85 km away, spending Rs 460 on the cylinder and Rs 200 on transport. As the cylinder lasts one to two months, we can see the ongoing expenditures are Rs 330 to 600 per month.

No specific plans for up-scaling of the project's existing alternative energy initiatives were confirmed. Lack of funds is an issue in this regard. If possible, a means should be found to increase efforts, perhaps through leveraging of efforts by the department responsible for renewable sources of energy and seeing if special subsidies are available from this department for tribal areas. If funds can be leveraged, more extensive promotion of the eco-

stove demonstrated in Sidhi Division, after due evaluation of acceptance, may be promoted on a subsidized basis. Promotion of LPG would be more complex. While a one-time subsidy for purchase of the LPG stove and cylinders may be possible, transport of refills from the city may present legal and economic issues. Yet, project authorities may explore the possibility of a cooperative arrangement with the agency responsible for supplying LPG. Finally, while biogas is attractive for better off families, it is relatively cost intensive, requires substantial number of cattle be held by the family, and may not be easy for small families to maintain.

7.3 Watershed Management Work

Watershed management work is another prong of the multi-pronged forest, land, and biodiversity improvement model of the project. Unlike the fodder and energy plantations, the watershed work is new neither to the MP Forest Department, nor to the area in which the project is being implemented. The MTR team, however, sees this work as a positive contribution to project objectives. The main challenge may be that, due to limited funds, less work than originally desired was carried out. The area “treated” under the project’s watershed management sub-component is 3,000 ha, which is substantially less than the 14,500 ha of bamboo rehabilitation area. While the MTR team did not get comprehensive data on watershed work locations, field visits suggest that these do correspond to some of the bamboo rehab forest areas of the project. The MTR team appreciates this overlap of locations, as it fits with our view that all project sub-components should focus on improving forest, land, and biodiversity quality in a pre-defined area to demonstrate the efficacy of the multi-pronged model.

The MTR team observed watershed management work on its visits to project bamboo rehab areas. This work consists mainly of “check dams.” These structures are built in drainage channels on slopping land to reduce erosion and deepening of the channels. We were able to see how the check dams had prevented soil from getting washed away, resulting in the formation of fertile soil beds.

As the project moves into the documentation and dissemination phase, it may wish to provide some review of how watershed management work has strengthened project results. Options may be to compare results in villages downstream to project bamboo rehab areas with such work to those downstream of project bamboo rehab areas without such work. Also, the project may wish to make recommendations on the ideal design of the watershed management sub-component within the overall multi-pronged model. That is, what general recommendations are there for density and placement of check dam work?

Some stakeholders interviewed were extremely positive about the impact of the watershed management work on the water resources situation in villages near to the bamboo areas in which such work took place. Exhibit 7-8 displays some of the comments they made in this regard. The MTR takes these anecdotal findings as positive, though notes that the improved

water situation in the villages may also be a result of increased vegetation in the forest, in turn the result of bamboo rehabilitation and forest protection work.

Exhibit 7-8: Stakeholder Comments Regarding Impacts of Watershed Management Work

Villager Comments
<ul style="list-style-type: none"> -Villager found after watershed work that he gets three crops per year instead of one: “My God, you have made America out here.” (Villager in project area as quoted by an APCCF) -Because of soil conservation work, there is more water and thus ability to change crops (South Chhindwara Villager 1) -Check-dam has increased productivity of agriculture (S. Chhindwara Villager 6, female) -In terms of recommendations for future work, village needs more watershed initiatives. Drinking water is a problem in the village. River runs dry and they use ponds dug near the river, but this water gets contaminated. There is a good location for a check dam in the village. (W. Chhind. Villager 2)
Forest Department Staff Comments
<ul style="list-style-type: none"> -Used to be hardly any water remaining. Now, with the watershed work, the water remains up until February. This watershed work is a type of work we haven’t done in the past (an EC Range Officer) -A lot of watershed management work undertaken. Since dependence of community is on agriculture, this work is important. (DFO 1) -Impact of check dam can be seen from silt collected – otherwise silt would have washed away. Result is more moisture retention – and seeds thus get germinated faster. (DFO 2)

7.4 Agriculture and Related Efforts

For the purpose of discussion, we have divided the livelihood work supported by the project into two major areas: (1) agriculture and related efforts and (2) SMEs. In this sub-section, we discuss agriculture and related efforts. Areas covered include: (a) improvements in traditional agriculture, (b) home garden initiatives (a major focus of the project), (c) livestock/animal husbandry initiatives, and (d) aquaculture. In the next sub-section, we cover SME efforts of the project. Exhibit 7-9 summarizes some key findings and recommendations regarding agricultural efforts both generally and with regard to the aforementioned sub-areas, which are covered in greater detail later in this sub-section.

In general, we find that agriculture and related livelihood efforts by the project are having a meaningful and positive impact on villagers in project areas. As more than one DFO pointed out to us, because local people are highly dependent on agriculture, sustainability of project efforts can be enhanced by improvements in agriculture. For example, even if bamboo incomes are less than current payments in some locales, improvements in agriculture may enable total income to remain the same, so that the beneficiaries do not need to begin out-migrating again once payments stop and can instead continue their forest protection work. A related positive aspect of the agriculture work of the project is that it shifts the relationship of the Forest Department and local people to one of working together and cooperation from a previously more adversarial relationship.

7-9: Project Agricultural Efforts: Findings and Recommendations

Agriculture and Related Efforts – Generally	
<ul style="list-style-type: none"> -Positive role in improved relationship of people and Forest Department working together -Leveraging of MP Agriculture Department funds -- attractive approach; could be expanded -Integration with rest of multi-pronged model - ensure location selection relevant to targeted conservation areas. Seems project funds used to support areas far beyond scope of project's targeted conservation area. -Selection of beneficiaries – beneficiaries of agricultural efforts should be selected strategically based on local situation of project (e.g. income situation of bamboo versus non-bamboo beneficiaries). 	
Traditional Agriculture	Home Garden
<ul style="list-style-type: none"> -Positive role in helping Agriculture Dept. reach areas it does not normally reach -Efforts to support rain-fed agriculture limited; could be expanded -Biodynamic farming an interesting development; could be expanded 	<ul style="list-style-type: none"> -Very positive income seen in some cases -Main focus on vegetables and fruit trees; less work with medicinal plants seen -Concerns that site selection for project-funded home garden has spread far beyond area in which project is targeting positive ecological impact
Animal Husbandry	Fish Ponds
<ul style="list-style-type: none"> -Efforts to date limited -Chicken raising supported in at least two locales -Cooperation with Veterinary Department on vaccinations etc. -Some villagers specifically interested in support in this area 	<ul style="list-style-type: none"> -Positive income impacts -Generally, self-help groups of 10 persons -Project expert has helped to increase yields -Some locales focus on project villages while others spread support much wider: support focused on pre-defined targeted conservation areas recommended

So far, agriculture-related initiatives have been driven at the division level. Some work is coordinated with local offices of the MP Department of Agriculture. In such cases, co-financing is often leveraged. The MTR team believes leveraging of expertise and funding from the Department of Agriculture is important and should be increased. We learned that the Department of Agriculture is generally happy to support efforts if the Forest Department will provide help in getting that support to remote villages in forest areas. What is required is that DFOs and other local Forest Department officers are pro-active in liaising with their counterparts in the Agriculture Department.

In terms of integration with the rest of the multi-pronged model, the project may wish to give special attention to how agriculture and related work supports the objective of improvement of forest, land, and biodiversity quality in pre-defined physical areas. Questions that may be asked are: Has the project maintained its focus on forest, land, and biodiversity improvement of pre-defined areas in its agriculture-related work? Also, which types of beneficiaries should the project focus on? Should they be those who are also project bamboo rehab beneficiaries? (This approach may be most relevant in those cases where bamboo income once payments stop is expected to be lower than monthly payments.) Or, should they be non-bamboo beneficiaries from project bamboo rehab villages? (This approach may be most appropriate in those cases where profits from bamboo harvesting will be high.)

In terms of documentation and dissemination, the project's agriculture and related work may present a challenge because of the wide range of activities encompassed. In this regard, it is recommended that the project provide an assessment of which type of activities work well in

which types of environments. In addition, it may provide specific recommendations on how to implement certain kinds of agriculture-related initiatives. Finally, dissemination may emphasize the way in which the Forest Department works with local people to improve their livelihoods via agriculture and related initiatives. It may also emphasize the Forest Department and Agriculture Department working together locally and the leveraging of Agriculture Department resources.

Improvements in Traditional Agriculture: As has been noted elsewhere in this report, some initiatives of the project have contributed indirectly to improvements in agricultural livelihoods. These include the water resources work and the increased vegetation associated with bamboo rehabilitation, both of which may have contributed to increased soil moisture content and thus observed improvements in agriculture. They also include the increased incomes of bamboo beneficiaries. When asked what they have purchased with their increased incomes, agriculture related purchases, such as irrigation pumps and seeds, were the most mentioned items.

Here, however, we will focus on direct contributions of the project to traditional agriculture. (Home gardens are mentioned later in this sub-section.) Direct contributions include improved seeds, agricultural equipment and other support (often provided by the Department of Agriculture), and the introduction of the new area of biodynamic farming. The MTR team believes efforts in these areas are positive, but often limited, and sees room for the Forest Department to pursue greater leverage of Department of Agriculture support. Exhibit 7-10 shows some of the traditional agriculture initiatives reported by various divisions.

A good positive example is seen in the case of East Chhindwara Division, a remote and particularly impoverished division in which some project areas are virtually cut off from the rest of the world during monsoon season. The Forest Department got in touch with the Agriculture Department and got them to agree to help. The Agriculture Department had previously not been reaching the area targeted. The Agriculture Department provided hybrid seeds; and the Forest Department took these to the area.

Exhibit 7-10: Examples of Agricultural Initiatives in Project Divisions

<p>South Betul -villagers to be provided certified high-yielding seeds -vermicompost production planned for ten villages</p>	<p>Sidhi -35 pieces of agricultural equipment distributed to villagers with co-finance from MP Agriculture Department. -Introduction of biodynamic farming reducing farmer fertilizer expenditures</p>
<p>East Chhindwara -hybrid seeds and fertilizers provided -irrigation facilitates improved -area under crops increased</p>	<p>-seed replacement carried out -farm leveling and bunding conducted -practical knowledge provided</p>

Yet, overall efforts in traditional agriculture are limited and unsystematic. It seems this work, especially leverage of Agriculture Department funds and resources, could be expanded. One interesting example of the limited scope of work is that the Forest Department helped

facilitate a deal between two bamboo beneficiaries and a company looking for raw eucalyptus materials. The Forest Department paid for seedlings. Yet, this work is so far limited to two beneficiaries.

DFOs offered the MTR team insights on how they are leveraging the Agriculture Department or how this might be done in the future. In Sidhi, for example, the project provided 35 pieces of equipment to villagers, with 20 percent of funding from the project and 80 percent provided by the Agriculture Department. The project's 20 percent investment is paid back by villagers and then recycled for purchases for other villagers. The equipment includes: eight diesel pumps, 15 spray pumps, seven sprinkler sets, and one chaff cutter. One DFO indicated that the Forest Department has traditionally been hesitant to work with other departments, but that the idea to do so is a very good one. He notes that the Forest Department has a lot of people resources, which fits well with the need for other departments to find projects and places to do them. Another DFO, whose division has done a good job leveraging other departments, explained that he talked to the district agriculture people and asked them to come to his project villages to provide training. The Forest Department did the job of organizing the villagers for the visit. The DFO notes that the Agriculture Department does have the duty to visit villages, but may not be proactive in visiting remote ones. Yet, by organizing the visit and villagers, the Forest Department made it easy for the Agriculture Department to fulfill this duty. Yet another DFO emphasized that leveraging other departments is critical work. He suggests that the other departments are in need of ideas and benefit from facilitation provided by the Forest Department, as the Forest Department has many more people on the ground in distant/interior forest areas than other departments.

In Sidhi, the MTR team visited a village in which a special system of biodynamic farming is being introduced. The system uses cow dung and other ingredients as compost starter and for other applications. The technique saves farmers a lot of money on fertilizer and the crops grown appear more robust. The benefit, however, is not increased yield, but lower cost, improvement of soil quality (for sustained yield in the long run), and improvement of food quality.

Home Garden Initiatives: The MTR team found home garden initiatives (i.e. planting of vegetables, fruit trees, or other high value plants on the homestead rather than in the fields) have been pursued extensively in some locations. Income benefits were seen to be very strong in places. There has been a stronger focus on vegetables and fruit trees. Medicinal plants were originally proposed in the project document, but their use has been limited. As with other sub-components, we recommend home garden site selection be made to strategically support the project objective of improved forest, land, and biodiversity quality in a pre-defined physical area. We found, for example, in one division with two bamboo rehab project villages, that the home garden work supported by project funds had been expanded to an additional 30 or more villages not involved in the bamboo rehab work.

To give a more specific picture, examples of home garden work in three divisions are given in Exhibit 7-11. The exhibit also raises a few examples of specific villagers involved in the project's home gardening activities.

Exhibit 7-11: Examples of Home Garden Work in Project Divisions

<p>North Betul -overall 45,660 plants to 1,495 beneficiaries in over 30 villages (only 2 project RDBF villages in division) -plants include: mango, guava, lemon, aonla, jack fruit, mahua, asparagus, custard apple -site visit to Tawa Dhana Village: mustard, tomatoes, potatoes, eggplant, bottle gourd, bitter gourd; seeds purchased with revolving fund – village has already paid money back. Vegetables organic and get premium in market.</p>	<p>Sidhi -66,000 plants distributed to 1,271 beneficiaries in 9 villages -plants include: bel, satawar, aloe vera, aonla, etc.</p>
<p>East Chhindwara -5 villages – all are villages with project RDBF -23,000 plants distributed between 2010 and 2013 -plants include: neem, aonla, stavar, kevkand, bel, harra, baheda, bhilwa, karanj, grafted aonla, desi aonla, aloe vera, lemon, jack fruit, guava, grafted mango, oranges</p>	
<p>Specific Villager Examples -A few beneficiaries in W. Chhindwara made a lot of money from home garden. One made 70,000 Rs. He is also an RDBF beneficiary. -Has home garden but no other land (North Betul villager 1) -Benefitting from project's vegetable aspect (North Betul villager 2, female) -Estimated Rs 1,200/week in additional income (NB Villager 4, female – estimate may be high) -Homestead garden visit: 35 Aonla, jack fruit, 4 pomegranate, 5 Indian gooseberry, 4 mango, 100 bamboo; household seems much better off than RDBF beneficiaries; seeds provided by FD (Umaria)</p>	

Livestock and Animal Husbandry: The project's livestock and animal husbandry efforts seem quite limited. Main efforts include support of poultry development in one locale (North Betul) and leverage of Veterinary Department support (e.g. vaccinations, sterilizations, medicines etc.) in others. During our site visit, we learned that the project is to incur a cost of Rs 6,000 per family (for 40 families) to develop poultry at Tawa Dhana Village in North Betul. The project will pay for two rounds of chickens per family, with 25 chicks in each round. The project is also paying for construction of a small brick structure to keep the chickens in at this site. We learned from one beneficiary in Tawa Dhana that raising chickens was the villagers' own idea. We did find that there is interest among some project villages in the animal husbandry area. For example, a JFMC chair from Sidhi Range in Sidhi Division recommended more assistance in the animal husbandry area, particularly with commercial milk production. In general, leverage of co-financing from the Animal Husbandry Department is an area of project work or future MP Forest Department efforts that might be increased. Project engagement to date with the Animal Husbandry Department that we heard about is mostly limited to cattle camps (providing vaccination, sterilization, etc.). Exhibit 7-12 provides some examples of the limited animal husbandry activities of the project.

Exhibit 7-12: Examples of Animal Husbandry Initiatives in Project Divisions

<p>North Betul -chickens (50 each) and brick structures provided to 40 families in Tawa Dhana -267 cattle vaccinated or sterilized (total project expenditure: 9,295 Rs) – all cattle from project RDBF villages</p>	<p>West Chhindwara -Supply of chicks to beneficiaries</p>
<p>Umaria -cow camp for vaccination, insemination, etc.(in conjunction with Animal Husbandry Dept.)</p>	<p>West Betul -248 animals vaccinated and 277 provided medicines (all from project RDBF villages)</p>
	<p>Sidhi -Held one cattle camp but did not extend</p>

Aquaculture: Fish farming is an area in which the project appears to have had a very positive impact. While some of the ponds pre-dated the project, the project’s aquaculture expert (possibly an employee of the Fisheries Department) has helped to improve yield substantially. In some divisions, fish pond support was focused on project bamboo rehab areas, while in others it was expanded much more broadly. Thus, as we have suggested in other places, strategic design of the multi-pronged approach should take into consideration the specific targeted area to be conserved. Examples of findings on fishery initiatives in project divisions are given in Exhibit 7-13.

Exhibit 7-13: Examples of Fishery Initiatives in Project Divisions

<p>Sidhi -40 fish ponds supported with about 10 persons involved in each (400 families total) -Average increase in monthly family income: Rs 2500</p>	<p>North Betul -6 fish ponds, each with about 10 persons involved -2 are in project RDBF villages; 4 in non-project villages -one fish pond participant told us they even hire others to do work; fish pond does not take much of their time</p>
<p>West Chhindwara -Tamia site: 10 participants in fish pond. -Some sites existed before project, but yields were not good. Project expert has been able to help improve yields substantially.</p>	<p>South Chhindwara -Income last year was Rs 70,000 for pond; Rs 5,000 distributed to each of the ten participants. This year expecting Rs 200,000 total. -Fish pond needed Rs 200,000 worth of repairs. Member of Legislative Assembly came to know of this and provided needed funds.</p>

7.5 Small and Medium-Sized Enterprises (SMEs)

For the purpose of discussion, MP SLEM Project’s livelihoods work has been divided into (1) agriculture and related efforts (covered in the last sub-section) and (2) SMEs (covered in this sub-section). The line between the two sub-sections may be blurred in places, such as fisheries (covered in the last section) or lac production (covered in this section). In general, though, this “SME” sub-section will address non-agriculture and non-animal husbandry livelihood efforts of the project, often with a processing component. The SME work of the project, we were told, is modeled after the Japan Social Development Fund (JSDF) SME efforts in MP, which, like the SLEM project, emphasizes bio-resource SMEs. The JSDF project’s design called for the setting up four such SMEs, each co-financed at 50 percent by the MP Forest Department. The SLEM project, we were told, is taking a similar approach in

terms of enterprise type, but will eventually set up at least nine business-plan-based SMEs financed fully by GEF funds (i.e. no co-financing).

The MTR team found interesting and impressive results among project SMEs in the divisions visited. We found both villagers and Forest Department staff to be engaged and excited about SME activities. Experience is being gained in various SME areas that have strong replication potential for other locales. To illustrate the range of activities undertaken, Exhibit 7-14 lists some of the key types of SMEs observed, as well as others suggested by stakeholders. One positive aspect is that the project is emphasizing forest-product based SMEs, though work is not limited to forest-product based SMEs only. The strategy contrasts with that of “weaning people away from the forest.” Instead, the idea is to strengthen their connection with the forest and therefore their desire to protect it.

Exhibit 7-14: Key Types of SMEs Observed and Suggested

Note: Existing project SMEs to date all initiated by DFOs.

Enterprise Type	Main Participants: Male (M) or Female (F)	Locations where SME was Observed or Requested
1. Cloth or fiber rope making	M	WC, SC, EC, Sidhi
2. Other Sisal fiber products	M or F	Sidhi
3. Lantana furniture	M	WC, SC
4. Lac cultivation	M	Sidhi
5. Silk spinning	F	WB, WC (in training)
6. Incense sticks	F	Sidhi (5,000 women involved)
7. Brooms (made of chilak plant)	F and M	EC, Umaria (in training)
8. Tailoring (suggested)	M and F	SC (suggested)
9. Storage of Maohua (suggested)	M and F	SC (suggested)
10 Bamboo products (suggested)	M and F	multiple locations (suggested)

So far, SMEs have been driven at the division-level by the MP Forest Department. This is because state-level consultancies to prepare SME business plans were late getting launched. Thus, in this sub-section, existing SMEs we discuss are all those initiated by the MP Forest Department division staff and partners. At the end of this sub-section, we will discuss the status and plans of the consultancies, which are now underway.

Positive impacts on income of many of these SMEs were confirmed by interviews with villagers. In Exhibit 7-15, we include, by SME type, some of the specific comments made by villagers regarding income benefits of SMEs. Silk spinning and incense sticks, in particular, were confirmed multiple times to be having positive income benefits for involved women. Also, in one case in particular, direct positive benefits on forest protection was confirmed: Women in one village who used to cut wood in the forest for sale confirm that they now prefer the option of making incense sticks and thus no longer sell fuel wood. This is a positive example of a “green economy” approach to poverty alleviation.

Exhibit 7-15: Villager Comments on Income Benefits of SMEs

Incense Sticks
-Rs 3,000 to 3,500 per month using machine; work 6 days/week 9 am to 5 pm (Gandhigram Village, Sidhi, female Villager 1)
-Rs 3,000 to 4,000 per month using machine; had dropped out of school; now able to return to 9 th grade (Koludi Village, Sidhi, female Villager 10)
-Rs 1,000 to 2,000 per month working from home working a few hours per day; 50 women in our village doing this (Bahera Village near Gandhigram Village, Sidhi, female Villager 2)
-Rs 2,000 per month working from home (Village near Gandhigram, Sidhi female Villager 3)
Silk Reeling
-Rs 5,000 to 6,000 per month (WB Villager 1, female)
-Rs 2,000 to 6,000 per month; 20 women involved, depends on length spun and quality (WB, silk reeling supervisor)
Cloth or Fiber Rope
-Net Rs 320 per month; spend 2-3 hours at a time, but not daily due to being busy (WC villager 1)

One of the main concerns of the MTR team regarding the SME work is coherence and strategic integration with the rest of the project. While it is clear that livelihood benefits are being achieved, at times the livelihood work seems to be moving independently of the rest of the project in terms of site selection (i.e. which villages are involved) or beneficiary selection (i.e. which persons within a particular village participate). This was noticed at some of the sites visited and also appears to be an issue with the plans of the SME consultancy work underway. All of the project's work to improve livelihoods and replication should certainly be commended. Yet, we suggest going forward that the project consider developing a tighter and more focused strategy in selection of villages (and possibly participants within villages) to ensure the SME sub-component is clearly integrated with conservation targets in pre-defined areas. First priority, for example, should be given to villages involved in project bamboo rehab work. At the same time, for existing SME work, some of the perceived lack of focus may also be due to weaknesses in communicating project strategy, so that the project may wish to develop maps and written explanations of how villages that are not part of project RDBF work were selected and how their selection addresses conservation targets in areas clearly defined by the project. For the consultancies, it is important to ensure that the firms involved understand the broader conservation goals of the project and that the firms' proposed strategies be refined to properly address the physical areas targeted for conservation improvements. It's important that the SME work not be seen by these firms as an independent initiative with the sole goal of improving livelihoods, but instead part of an integrated effort that aims to improve forest, land, and biodiversity quality in specific pre-defined locales at the same time that livelihoods are improved. SME work should also be seen as an important contributor to ensuring the success of the project's individual (or small group) bamboo use right model. Current plans by the consultancies appear to be spread thin, in some cases covering a very large number of villages beyond the project RDBF villages and perhaps benefiting only a small handful of households in the project's RDBF villages.

As the project moves forward, it may also wish to refine (or at least strengthen communication of) its strategy regarding which villagers within RDBF villages are to be involved in SME work. In such villages, we found in some cases that the focus of SME work

is the RDBF beneficiaries and their families, while in others the focus is on non-bamboo beneficiaries. If this issue is to be addressed in a strategic way, one question will be whether bamboo income will be high enough to enable beneficiaries to continue to forego out-migration. Another question will be about the relative income situation of their fellow villagers. A simple approach may be to focus on RDBF beneficiaries in project villages where bamboo income is projected to be low and to focus on non-RDBF beneficiaries in project villages where bamboo income is projected to be high.

Other concerns that the project may wish to emphasize going forward are: involvement of women, sustainability, and organizational structure of the SMEs. Because men in most cases are the primary person involved in bamboo rehabilitation, it is important that there be an emphasis on women in SME work. Women often do help men in their family with the bamboo work, but generally put in less effort and time than the men. In some places, such as Chhindwara we found a lag in women's involvement in SMEs, while in others, such as Sidhi, substantial effort in developing women-focused SMEs (especially incense sticks and silk reeling) is already underway. In terms of sustainability and organizational structure of the SMEs, the MTR team did not investigate management arrangements deeply, but found that for the project's existing SMEs, participants in smaller SMEs may benefit directly from profits, while those involved in larger efforts are paid wages. Further work should be done to ensure that arrangements are sustainable and equitable. As for the business plans currently being developed by the consultancies and to be implemented in at least nine SMEs, we understand that management arrangements and sustainability – training local people so that management can be passed to them – is part of the plan.

The project's SME work (both that achieved to date and the consultancy business plans currently in progress) is valuable. Lessons have been learned on how the Forest Department can work with people living in and near forest areas and on how incomes of the poorest in tribal forest areas can be raised. As the project moves forward, the lessons learned should be documented, not only in terms of specific types of industries but also in terms of organizational methods of achieving success, whether through the Forest Department or consultant business plans.

In the rest of this sub-section, we offer further details on the project's existing and planned SME work. We begin with further details on the focus of SME work in terms of village and villager selection. We then cover highlights of some of the key enterprise types that have been developed under the initiative of the DFOs: ropes, lantana furniture, lac cultivation, silk spinning, incense sticks, brooms, and other areas (including a few stakeholder suggestions for the future). We next cover some cross-cutting SME issues. Last, we present findings on the work and plans of the SME consultancies. More depth on specific SME topics is offered in Annex 5.

Additional Background on SME Site Selection Issue: Above and elsewhere in this report we have recommended either greater focus or greater explanation of SME site selection to ensure that GEF funds are focused on achieving clearly defined conservation objectives. Here

we offer some examples of the spread of SME work beyond RDBF project villages and some of the explanations offered. Sidhi, of all project divisions, probably has the most extensive livelihoods work. Incense work involves 5,000 women in the division from 61 different villages. In comparison, there are ten villages in Sidhi involved in the project's RDBF work. During site visits, the MTR team visited two villages in Sidhi Division that are major centers of the incense stick making SME work. Neither of these are project RDBF villages. One, Koludih, was about 4-5 km away from the project RDBF village Madila. Explanation offered for the emphasis on Koludih is that Koludih is actually doing this work (the incense sticks) better and that it is important to include neighboring villages in efforts as they may be upset if they are ignored. This (jealousy of neighboring villages) did not actually happen, but was anticipated. The second Sidhi incense stick village visited, Gandhigram, is also not a project village. It was explained that efforts were begun in the project village but extended to neighboring villages to prevent jealousy. In the end, results were more outstanding in Gandhigram and that is why it was selected for a site visit.

In Sidhi, we also learned that a further rationale for extending SME work to non-RDBF villages is to reduce the phenomenon of village women cutting fuel wood for sale by offering them better livelihood alternatives. In Gandhigram, for example, women confirmed that the cutting of fuel wood for sale had been strongly reduced by the new livelihood opportunities. Yet, women from a few other neighboring villages we interviewed indicated persons from their villages had not been cutting fuel wood for sale before the project (and still do not do so). The difference may be related to village location, as those located further from a town are less likely to cut fuel wood for sale due to market access issues. More details on this issue are included in Annex 5.

Rope making: The MTR team found that rope making using either cloth or natural, forest-based fibers was an SME being promoted by DFOs in the following divisions: West Chhindwara, South Chhindwara, East Chhindwara, and Sidhi. When made with cloth, the raw material for the rope is discarded cloth rags. Cloth rope is considered attractive as it does not cut into the skin of animals like nylon rope does. Sisal fiber (a forest based fiber, which requires some pre-processing) is also being used and is considered attractive for applications requiring more strength. In East Chhindwara, a type of grass rope used as a fastener for bamboo and other purposes is being produced. Site visits imply rope-making work supported by the project is so far providing only a small supplement to income and that it is mainly carried out by men. More details on findings in the field related to rope making are included in Annex 5.

Lantana Furniture: Small-scale lantana furniture production is being pursued in West Chhindwara and South Chhindwara. The MTR team had a chance to speak with a team of ten persons from different villages in West Chhindwara who are working together to produce lantana furniture. Lantana is a type of alien invasive species that grows in the forest to a height of five to six feet. As the weed hinders growth of local vegetation, it's desirable to rid the forests of it. In fact, previous eradication efforts have been unsuccessful. The villagers trained in lantana furniture making in Dehradun. During our visit, they discussed

improvements they hope to make in the furniture, such as the addition of cane to connect parts. Each villager handles a separate step in the production process. At present, each member of the group is also a bamboo beneficiary of the project, though in the future they plan to include non-bamboo beneficiaries. One stakeholder from the MP Forest Department in Bhopal suggested to us that lantana is a weak option and that bamboo-based enterprises are preferred. Other stakeholders, however, generally offered positive feedback on the potential of lantana furniture.

Lac Cultivation: The MTR team viewed lac cultivation in Madwas Range of Sidhi Division in a village that also has bamboo beneficiaries. Lac is a resinous secretion of certain species of insects, which has value for the production of shellac, which can serve as a tough natural primer or sealant. Lac cultivation is achieved by introducing the secreting insects to appropriate trees in the form of “brood lac” via twigs/branches grafted to appropriate trees, caring for the trees, and then harvesting lac-holding twigs as well as possibly twigs/branches holding brood lac that can be grafted to other trees for further lac cultivation. (Both items can be sold.) There are two harvests of lac per year, one in June/July and one in January/February, which each may last from ten to 20 days. The harvest must be timed correctly in order to ensure quality of the lac and availability of the brood lac. We learned that participation was open to anyone who was interested. At first, less than 15 persons at the Madwas site were interested, but later more joined in.

Lac cultivation had only been recently introduced at the site visited, as well as in Khajuria village, Sidhi (where we also conducted interviews), so income results are not yet confirmed. Yet, a discussion regarding the economics implies that income may be substantial. The reduction of out-migration among the 15 involved beneficiaries also suggests they see strong income potential. (See Annex 5 for more details on the discussion of Lac economics carried out during the Madwas Range, Sidhi Division site visit.)

We learned that lac cultivation is completely new to the area, implying a positive achievement for the project. It should be noted, however, that two other organizations are also credited with bringing lac to the area. One is the NGO Neelam – a local NGO working in Sidhi. We also learned that the project got funds for lac cultivation for the MFP Federation, which has spread the work to 20 villages.

Silk Spinning: The MTR team found that the silk spinning SME promoted by the project is providing an attractive income to women in West Betul and that women (wives of bamboo beneficiaries) in West Chhindwara are being trained in silk spinning. In Gawasen, West Betul, the silk spinning workshop is paying women Rs 2,000 to 6,000 per month depending on the length and quality of the silk thread spun. Twenty women (all from Gawasen Village) are involved and they appear very happy to have this opportunity. Of these, eight are from bamboo beneficiary families. The cocoons are provided by a state company, which also buys the finished product. The machines are completely mechanical and powered by foot motion. One worker told us she hopes the silk reeling enterprise can be expanded so more other

women in the village can participate. (Additional details on findings related to silk spinning from field visits to West Betul and West Chhindwara are included in Annex 5.)

Incense Sticks: With 5,000 women and 61 villages involved, the incense sticks SME work in Sidhi is by far the project's SME work with the greatest scale. Above, we have already discussed issues associated with the extension of this work beyond the project's bamboo rehab villages. Here, we will focus on what we learned about the SME work itself during site visits, with additional details provided in Annex 5.

We visited two major village centers for incense stick production in Sidhi: Koludih and Gandhigram. Each of these centers (which are both non-project-bamboo villages) has machines set up for processing the bamboo sticks. At the same time, women in many neighboring villages are processing the bamboo with hand held tools at home. Many of these women from other villages came to Koludhi or Gandhigram for our site visits. Women in Koludih appear to have more experience and thus somewhat higher earnings than those in Gandhigram. In general, women working the machines work longer hours and have higher earnings than those processing the bamboo at home. Income levels we heard about in Gandhigram include Rs 3,000 to 3,500 per month (working six days per week, 9 am to 5 pm) on a machine and Rs 1,000 to 2,000 working part-time in the home. One young woman working in the workshop in Koludih told us she makes Rs 3,000 to 4,000 per month. In both locales, bamboo from the project's RDBF areas is being sold at a low price for use as raw material, raising the question of continued availability once mature, higher quality product is being harvested. On the other hand, if cheaper, industrial quality bamboo will be available in the future for the sticks, sustainability may not be an issue.

Other Types of SMEs: Some other types of SMEs seen or discussed during the mission include: sisal fiber products, chilak broom, tailoring, and bamboo products. More details on our field findings for these various types of SMEs are provided in Annex 5. Sisal Fiber products were just being introduced in Gandhigram Village, Sidhi Division, at the time of our visit. An NGO that has had success in introducing sisal fiber product production at another location through a government-sponsored project was cooperating with the SLEM project to train men and women in Gandhigram. Chilak broom (using natural materials of the chilak plant) has been introduced at two sites, East Chhindwara (where production existed before the project, but was being scaled up via the project) and a project village in Umaria (where women were in training at the time of the MTR mission). Tailoring was mentioned as an area of interest by some people in project villages and has been supported on a very limited scale in a few project locations. Aside from incense sticks, we did not find any other SMEs utilizing bamboo. We sensed great enthusiasm for bamboo products in the MP Forest Department, though at the same time perhaps a feeling that it may be difficult for local people to learn the skills needed to produce more challenging bamboo products. A number of other SME-related ideas came up in the course of discussions and several of these are discussed in the relevant sub-section of Annex 5.

Additional Perspectives Offered by Stakeholders and Cross-Cutting SME Issues: During the course of our consultations, we found some varied perspectives on the SME approach offered by stakeholders, which also bring our attention to some cross-cutting SME issues of interest. Some of these perspectives and issues are covered below.

The Local Market and Scope of Livelihood Work: One DFO, overseeing the Forest Department in a very poor division, emphasized the importance of looking at local conditions in selecting initiatives to enhance local peoples' lives. People in his area are cut off from the world during the monsoon season between June and September. There isn't much of a local market for many things; and SME selection must take this into consideration. Some of the beneficiaries have to travel 20 to 25 km on foot just to get their payments from the bank. For the youth, he believes the most important thing is education and skill development. So, while bringing the people closer to the forest through natural resource based enterprises is one strategy, this DFO believes that as a part of the total picture we may also look at opportunities to make these people less dependent on natural resources. Thus, as part of his livelihoods work, the DFO sent eleven youths from his area for skill development work in the areas of welding, masonry, etc. Five or six are now employed using these skills. This was done with project money. In this division, the project also supported the setting up of a government distribution center for subsidized food grains. Subsidy levels are quite high (e.g. Rs 40 per kg rice sold for 1 rupee). The problem had been that being cut off during the monsoon season people could not reach the previous nearest location of such a store. Thus, while this effort is somewhat different than the project's conception of livelihood work, it does play a very important role.

Scale: Stakeholders offered various opinions on the preferred scale of SMEs. While some suggested that the project target SMEs that can be scaled up, some DFOs did not agree with this position. One, for example, suggested the scale should not be too large. He suggests the scale should be such that local people can manage and one that fits the local, limited market. Another DFO also concurred that small-scale is sufficient. Focusing on the bamboo beneficiaries in his strategy, he suggests that the SME work will be a part-time job for the beneficiaries and that they will also need to continue their forest protection work. Small, local SMEs are preferred then. He also noted that larger scale SMEs may spoil the forest area.

Amount of SME Work and Need for Consultancy Work: Given that the divisions have already initiated their own SME activities, we asked some stakeholders whether more SME work (such as that which is planned to be undertaken by the consultancies) is still needed. Generally, stakeholders with whom we discussed this all believe there is room for more SME work in project areas. We heard this both from DFOs and from villagers. One DFO emphasized the importance of SMEs as alternatives to livelihoods from illicit felling in the forest. At the state level, it was explained to us that so far the Forest Department has been running the SMEs and that the consultant-developed SMEs are needed to put something sustainable in place that can run on its own. We asked DFOs about the preliminary business plans that the consultants had submitted to them. The DFOs were generally aware of these business plans, but did not appear to have thought about them in depth.

Mode of Management of SMEs: Mode of management was mentioned by one stakeholder. She had found in one project area that there are not many self-help groups (which would result in a profit-sharing model) and instead the trend of the SMEs was the local people working with the MFP Federation (which results in a salary-based employment model).

Role and Potential Role of Minor Forest Produce Federation: The MTR team did not observe any role performed by the MP Minor Forest Produce Federation in the project SMEs, but, given the Federation's mission and expertise, cooperation may have strong potential. The Federation is involved in marketing of minor forest products (tendu patta or bidi leaf and a few more products) in project areas. Given the Federation's background and commercial orientation, they may play a role in marketing more products (including processed and packaged minor forest products), setting up processing and storage infrastructure, and running SMEs. Federation involvement may help local people get better remuneration for their products by removing middle men and improving marketing strategy. Proper cleaning, drying, and packaging of NTFPs to increase shelf life will yield better prices for primary collectors. Given the scale of their business, the Federation may also be able to absorb initial losses characteristic of NTFP processing enterprises due to large start-up costs. With co-financing from the Federation, the project may even be able to consider financing two SMEs in each division (with 50 percent input from the Federation and 50 percent from the project). In general, the project may make stronger efforts post-MTR to reach out to other units and sister agencies within the MPFD. Overall, integration and communication such as this may bring stronger results to the project.

SME Consultancies: While all the SMEs launched to date have been initiated at the DFO level, three consulting firms have now been tasked with designing business plans (20 per division) for each of the project's nine divisions. According to their contracts, these firms will also be responsible for launching and overseeing for a certain period one SME in each division for which they are responsible. The project will be financing start-up costs for these nine SMEs with GEF funds at the level of 100 percent. The firms are Access (responsible for SME business plans for North Betul, South Betul, West Betul, and Umaria), MP Vigyan Sabha (responsible for South Chhindwara, West Chhindwara, and East Chhindwara), and IIFM (responsible for Sidhi and Singrauli). The MTR team had the opportunity to meet with both Access and MP Vigyan Sabha. Both have completed preparing their initial business plans (80 plans by Access and 60 by Vigyan Sabha). IIFM is just getting started on its SME work for the project; and we did not have the opportunity to meet the responsible persons.

Overall, we found that both Access and MP Vigyan Sabha had conducted careful, detailed work in assessing available resources and designing business plans. One concern as already highlighted is the targeting (village selection) for these plans. From discussions, we got the impression that instead of a tight focus on RDBF villages, the plans are designed to cover a wide range of villages, but may only impact a small handful of people in project RDBF villages. We hope that this strategy can either be reconsidered or at least clearly explained in terms of achieving the project's targeted conservation results (in conjunction with other

project sub-components) in a clearly defined area in which ecological impacts are expected to be measurable by project end and beyond. It's important for the consultants to understand the role of the SMEs in making other pieces of the model, particularly the RDBF work, successful. Another impression from the meetings is that the business plans chosen for initial focus by Access are more focused on agriculture, while those of Vigyan Sabha are more focused on NTFPs. Vigyan Sabha has its own technology related to NTFP processing. We found this particularly attractive as the project aims to emphasize forest resources in its SME work. At the same time, we note that the TORs for the SMEs were expanded from an initial focus on forest resource based enterprises alone, to "bio-resource" based enterprises, which include agriculture. Access is a strong organization with successful SME experiences, though this experience may have been more focused on the agriculture area. Some of the business plans that have been selected for initial focus are summarized in Exhibit 7-16.

**Exhibit 7-16: SME Consultancies and Examples of Business Plans
Selected for Initial Focus**

Consulting Organization	Divisions Covered	Examples of Business Plans for Initial Focus	Comments
Access	North Betul, South Betul, West Betul, Umaria	-fish farming -milk production -poultry -mahua storage -incense sticks	May have more experience with agriculture-based SMEs
MP Vigyan Sabha	South Chhindwara, East Chhindwara, West Chhindwara	-storage and trading of NTFPs -processing of NTFPs to marketable products -bamboo sticks	Has own technology for NTFP-based enterprises
IIFM	Sidhi, Singrauli	NA	No biz plans submitted
<p><u>Overall process for each division:</u> Each firm conducts resource assessment and prepares 20 SME business plans for each division for which it is responsible. These plans are then culled down to about 12 per division with input from DFO. Of the 12, about 4 or 5 per division have been selected for initial focus. Of the 12, the responsible consulting firm will be responsible for launching 1 per division and these will each receive up to Rs 1 million from project. The other 11 may be implemented later by the division or other interested agencies.</p>			

Further details based on our discussions with Access and Vigyan Sabha are given in Annex 5. Part of the text in Annex 5 relates our understanding of the consulting firms' plans in terms of spread of villages to be covered and concentration (or lack of it) in terms of number of villagers in each RDBF project village that might be involved. These discussions may be of interest to readers who wish to further understand the basis of our concern that the SME work may not be focused enough in terms of achieving the project's targeted conservation results.

8. Outcome 3: Monitoring, Dissemination, and Replication

Outcome 3 is critical to realizing the true value of the MP SLEM Project. So far, as the previous two sections have shown, a remarkable amount of activity and achievement has

been occurred on the ground. Both ecosystem management and livelihoods have been improved in specific locales. To really leverage these successes, however, a different type of work needs to be undertaken. Outcome 3 contains three critical elements – monitoring, dissemination, and replication – for leveraging the project models and learning on a much larger scale. Now that achievements and potential achievements in the field have become clear, it is critical that the project begin to put strong emphasis on these three areas. It is only in this way that the experiences in the field can be fully recognized, refined, and potentially replicated at greater scale in MP, India, and perhaps beyond.

The three key elements of Outcome 3 fit logically together in any effort to explain the project to others and convince them of the value of its models and the need to replicate them. Monitoring of impacts will play a critical role in providing evidence that project activities have indeed led to land, ecosystem, and livelihood improvements. So far, while much data has been collected at the local level, it has not been aggregated and displayed in a fashion that allows viewers to easily understand the project's successes. Further, there may be a need for additional and improved indicator design, to convey the full impact of the project. Dissemination and, particularly, as a first step, documentation and communications is also particularly critical at this point in the life of the project. MP SLEM is a complex project being carried out across nine divisions. Without strong documentation and communications, the real results will not be clear; and the project may also come across as an amalgamation of various initiatives without a clearly unifying objective. It is important to note that communications are not just a website and a newsletter. And, case studies, while important, are not alone sufficient. Instead, a strong emphasis needs to be put on documenting methodologies and results across project sites, so that the repeatability and trends of initiatives across sites is seen. Finally, while the project itself may not carry out replication, it is critical that during the project's lifetime, very strong efforts be made in convincing others of the value of the project's models, so that replication is ensured, with replication plans entering organizational pipelines.

8.1 Monitoring of Land Quality, Ecosystem, and Socio-Economic Results

The MTR team found positive achievements with regard to monitoring at the local level, but also identified needs for improvement in monitoring. At minimum, a strong system for aggregating results across divisions in an easy to interpret fashion needs to be prepared both for self-assessment of the project and for “convincing” potential replicators of the value of the project's models. In addition, a specially designed set of indicators could meet these needs more robustly. Ideally, such indicators would have been designed at project start so that baseline measurements could have been taken at the time. Yet, at this point, a specially designed indicator system could perhaps contribute to both a state land degradation assessment overall as well as to the project's need for improved assessment and “convincing” for replication. Monitoring achievements to date and suggestions for further work are discussed below and summarized in Exhibit 8-1.

8.1.1 Monitoring Achievements to Date

Local level monitoring: The MTR team found that at the local/site level, detailed logs are being kept of progress; and beneficiaries themselves are involved in monitoring. In addition, some of these results are being entered into an online system developed by the MP Forest Department. One criticism that has been made about the project in the PIRs is that indicators conveyed so far in project-wide documentation tend to be simple completion of task indicators (e.g. hectares of bamboo rehabilitated or hectares of fodder plantation planted). We find this criticism quite valid in that we need to see from indicators not only that the task is completed but also that the targeted impacts of land and ecosystem improvement, as well as socio-economic improvement, are achieved.

At the local level, however, we found that some limited impact-type indicators are being collected. These include data on new culms per bamboo clump and on average number of clumps per hectare for the bamboo work. For the energy plantations, survival rates are recorded. And, for the fodder plantations, amount harvested is recorded. Yet, these indicators, which provide more insights on impact than simply hectares planted, have not yet been aggregated across divisions in easy to read form at the state level. We suggest that this type of aggregation should, from this point forward, be conducted as an ongoing monitoring process, rather than one that waits until the project is near closing or over. Further, as discussed later in this section, there may be a number of other indicators that could provide more insights than the aforementioned ones collected to date (e.g. soil moisture content, simple biodiversity index, etc.). On the socio-economic side, we found that at some locations information is being collected on income levels, sources of income, and new items purchased. Yet, this too has not been aggregated at the state level. Further, a more uniform and strategic framework may be developed to assess true socio-economic impacts. Inflation and general development across the country and region may make income growth alone a weak indicator.

We also found that local beneficiaries are actively involved in working with line level Forest Department staff in collecting data for afore-mentioned indicators. This became clear particularly in interviews with bamboo beneficiaries as they were able to tell us typical number of new culms per clump and how many clumps they have on their assigned areas. We believe the involvement of beneficiaries with monitoring is a very positive achievement, as it enhances their engagement in achieving results and not just doing a job, as in the case of “job rate” models.

Online Monitoring System: The MP Forest Department has had an online monitoring system for the past four or five years, with the purpose being that state-level persons can check on various data input at the field level in the divisions (www.mpforest.org). Recently, the Department has developed an application so that the UNDP-GEF MP SLEM project data can be entered and viewed (<http://mwh.mpforest.org/UNDPGEF/>). The purpose is two-fold: (1) transparency and (2) monitoring of results. The application for the UNDP-GEF project allows the user to view data on energy and fodder plantation sites as well as watershed work. It also allows one to access information on the bamboo beneficiaries. In addition, a good

portion of all of the plantations and individual beneficiary bamboo sites are linked to GIS viewing capabilities. Eventually, the MP Forest Department will be able to use the applications developed in conjunction with satellite data to compare forest cover in bamboo rehabilitation areas of the project before and after implementation. This work will need to be carried out by Forest Department staff given satellite image licensing issues. The Department did express its strong intent to carry out this work. With regard to the website, the MTR team finds the level of detail impressive. At the same time, we recommend that key indicators from the field be aggregated in easy to read fashion, so that the viewer can assess impacts and inter-compare those impacts across forest divisions. Such indicators might include new culms per clump, clumps cleaned per ha, and forest density. Leadership of the MP Forest Department has recently provided preliminary feedback to a draft version of this report indicating that aggregated results from the project will be made available on the Department's website. Aggregation is discussed further below.

8.1.2 Need for Aggregate Communication of Monitoring Results

To help policy makers, potential replicators, and other stakeholders better understand the project's results overall, we suggest that ongoing data be kept in aggregate easy-to-read form. The format would enable a reader to view results across all nine divisions, or perhaps across all included ranges, and easily understand what is presented. Presentation of the data should emphasize impact or projected impact (e.g. new culms per clump per year, potential harvest per beneficiary, etc.), rather than merely jobs completed (e.g. hectares rehabilitated). Tables on bamboo results, for example, may include, by village or range, average number of new culms per clump each year (2011, 2012, 2013, 2014), average number of clumps per hectare, expected annual harvest in culms per beneficiary (2014, 2015, 2016, 2017, 2018), typical quality or price indicator for each range, etc. They may also include by year (2010, 2011, 2012, 2013, 2014), annual illicit felling incidents and annual fire incidents in bamboo areas and nearby forest protected by beneficiaries. Tables on fodder sites may list all sites and include, for each site, indicators such as fodder per ha harvested annually, number of households harvesting from each site and proportion of village represented, and estimate of average proportion of total fodder needs met for those families harvesting. Tables on energy plantations may list all sites. Then, for each site, tables may include number of households in village to be served, total trees planted and overall survival rates, expected year of first harvest, expected rotation period, expected annual harvest, and proportion of full village household fuel wood needs projected to be met by annual harvest.

8.1.3 Additional Indicators for Land, Ecosystem, and Socio-Economic Improvements

Ideally, if funding is available, we suggest that the project consider an initiative to develop additional indicators that will reflect the impacts of the project. In this regard, we suggest putting particular priority on design and measurement of land degradation-related/ecological indicators and perhaps linking the work with more general work for assessing the land degradation status in MP overall. Such indicators in bamboo and nearby areas may include

measurement related to forest density, addition of non-bamboo biomass, soil moisture content, and soil erosion. The indicator design should include a very specific methodology that will allow inter-comparability over time and between sites. While the project was originally conceived on the milli-watershed level, proponents agree that ecological indicators developed should focus on the project's bamboo areas, along with their contiguous forest areas. The project may also consider developing a biodiversity index. This may be a simple one that could be measured by communities and give at minimum a directional indication of biodiversity growth. It would be simpler than the indicators developed under the People's Biodiversity Registration system, which serves a different purpose (protecting peoples' legal right to biodiversity) and has proved difficult to implement.

Designing strong socio-economic indicators will also be desirable, but collecting quality data may be challenging. Income growth alone is generally not a sufficient indicator and may be difficult to measure accurately. Inflation as well as growth achieved by similar non-project villages must be subtracted out. In some cases, qualitative interviews or comparison to similar non-project villages may provide insights. Trend in out-migration will also be of interest.

Regarding indicators, national-level stakeholders appear in favor of additional work. One national-level stakeholder voiced a position strongly in favor of the development of indicators for the project; and suggested the indicators cover all aspects: land quality/water, biodiversity, and carbon. He mentioned India's comparative advantage that the focal points for the UNCCD, UNCBD, and UNFCCC are all housed in one ministry. This is not true in other countries. Thus, there is potential to leverage synergies among the conventions; and the project can make a contribution in this regard. Another national-level stakeholder suggested that the project prepare a report analyzing its impact on land degradation. And a third conceptualized this work as an independent technical study that will include design and measurement of indicators, with greatest emphasis on land degradation.

As indicated previously, the SLEM TFO project is in the process of preparing indicators on land degradation; and these will be released in February 2014. While the indicators will be national level, it has been suggested they can be used at or downscaled for the local level. It has further been suggested that the MP Forest Department or a consultant they hire could do this work. Thus, we suggest the project, if it chooses to pursue indicator work, first review the TFO indicators to see if they can be utilized for such work.

Exhibit 8-1: Land, Ecosystem, and Socio-Economic Monitoring Status and Suggestions

Monitoring of Project Results to Date	
State Level Reporting	Local Level Data Collection
<ol style="list-style-type: none"> 1. Hectares bamboo rehabilitated 2. Hectares energy and fodder plantation 3. Hectares watershed work 	<ol style="list-style-type: none"> 1. New culms per clump, clump her hectare 2. Survival rates (trees), harvest amounts (fodder) 3. Some socio-economic data (income, purchases) 4. Fire incidence 5. Illicit felling incidences
Recommendations for State Level Reporting of Existing Data	
<p>I. <u>Aggregate (for project areas only) in one or two tables, with annual updates for each indicator</u></p> <ol style="list-style-type: none"> 1. <u>bamboo data</u> by place (e.g. village or range): perhaps new culms per clump for each year, clumps her ha, expected annual per beneficiary harvest 2014-2018, actual harvest (updated each May), quality/expected price. 2. <u>annual fire incidence and illicit felling incidences</u> by place (e.g. village or range) (2010-2014) 3. <u>fodder data</u> by site: perhaps area of site, annual harvest weight per ha, number of families taking fodder, full village number of households, average number of livestock per household, proportion of village fodder needs being met by fodder plantation. 4. <u>energy plantation data</u> by site: perhaps area of site, trees planted, survival rates (updated annual in Dec.), households in associated village, time to maturity, proportion of total village fuel wood needs projected to be met by annual harvest. <p>II. <u>Before and after satellite forest cover comparison</u> for forest canopy in project's bamboo rehabilitation and nearby forest areas should be made and results displayed in a table by village, range, or division.</p>	
Considerations for Design and Implementation of Improved Indicators, perhaps in Conjunction with MP Land Degradation Status Assessment	
<ol style="list-style-type: none"> 1. Ideally, project would have had indicators designed at start, so baseline could have been taken. 2. Yet, ongoing improvements expected and comparison with nearby non-project areas may be possible. 3. If sufficient funding, consider <u>commissioning independent technical study for design of indicators, measurement of changes over time, and inter-comparison across villages and ranges</u>. Indicators should be focused on capturing objective-level impacts of project with emphasis on reversal of land degradation and may include: <u>forest density, growth of non-bamboo species, quality of bamboo growth, soil moisture content, soil erosion rates, etc.</u> Annual updates recommended. 4. If commissioned, indicator work should commence immediately so that a couple years of measurement and inter-comparison with nearby areas may be made before project close. 5. <u>Indicator design work may be coordinated with MP-wide land degradation status assessment report.</u> 6. Development of a <u>biodiversity index</u> with a simple monitoring methodology that could be implemented by local people would be an interesting contribution of the project. 7. Set of indicators covering land degradation, biodiversity, and carbon could leverage India's comparative advantage of UNCCD, UNCBD, UNFCCC focal points being located in same ministry. 8. <u>SLEM TFO has prepared national-level indicators for land degradation</u> to be released in February 2014. These may be a useful starting point for project in developing land degradation indicators. 7. <u>Socio-economic indicators</u> may be challenging to measure but could also be of great interest. Recommend updating in May or June (referencing period through end of April). Any work in this area should recognize inflation, income growth across villages over time, and difficulty of accurate self-reporting of incomes on an annual basis. (All may require expert input.) Thus, qualitative interviews, changes in out-migration, new purchases, and comparison to similar non-project villages may be of interest. 	

8.2 Dissemination: Documentation, Communication, “Getting the Word Out,” and “Convincing”

As the critical link between monitoring results (as discussed above) and achieving replication (as discussed below), dissemination should be a critical part of the project action plan in the post-MTR period. While harvesting has not yet begun, we believe that after three years of implementation, the project does have enough results to begin dissemination. Progress in bamboo growth to date should also facilitate rough projections of harvests, which may be used in dissemination.

In order to promote replication and achieve wide benefits from project experiences, strong dissemination is needed. This may begin with documentation and other written communications and then move to other means of “getting the word out” and “convincing” potential replicators. Several stakeholders familiar with the project agree that communication and documentation are a key weakness of the project. This really hurts the project’s potential to make a wider impact, as the very impressive achievements on the ground are not well-understood by the wider stakeholder community. As one stakeholder put it so well: “Communication cannot be taken lightly. It is not just a website and a newsletter. It’s a tool that can actually enhance the objective of a project. It’s knowledge management and not just outreach.” In this regard, we believe the project needs to go beyond case studies. Case studies, while useful, do not provide the full perspective of the project needed by policy makers, potential replicators, or even by the project itself to enhance course correction. Instead, we encourage compilation of findings on similar topics across sites to determine trends, strengths, and weaknesses. In this regard, strengthening of state-level reporting of monitoring results (as described in the foregoing sub-section) and perhaps developing an improved indicator system (as also described in the foregoing sub-section) will be an important basis for such compilation work.

So far, the project has commissioned eight short brochures, two covering the bamboo rehab work, and one on each of: incense sticks, vegetable gardening, chindi ropes, fishing, lac, and watershed work. A short video regarding these aspects of the project has also been prepared. While these materials may serve to stimulate interest in and excitement about the project, we believe that more analytic, in-depth work is required to help stakeholders really understand how the project works and convince them that it is worth replicating.

Exhibit 8-2 below shows some ideas for dissemination of project results. Given the critical nature of dissemination in promoting replication, we recommend that specific dissemination activities be designed immediately post-MTR; and a budget be allocated for them. We suggest that around three or four very strong dissemination reports be prepared. These should be longer than case studies, but short enough (e.g. 20 pages) to hold the attention of policy makers and other key stakeholders for replication. Data should be presented in a fashion that allows them to see results across divisions and quickly grasp the message. Such documentation may be prepared from different angles, just as we have indicated the project

may be viewed from the angle of three different models. For example, there may be one or two documents that present the project from the angle of the individual (or small group) use rights bamboo rehab model. While the emphasis will be on bamboo, the document will show how other activities, such as SME work, promote the sustainability of the bamboo efforts. Another document may present project results in a more integrated fashion, with the several sub-components of the multi-pronged model shown as a means to improving land quality in a certain physical area. And, there may be another document that offers the angle of forest department cooperation with local people enhanced through promotion of SMEs and other livelihood activities in forest areas. Finally, improvement of the MP FD's project website to include aggregated results across divisions, as discussed in the foregoing sub-section, may also be a useful tool for dissemination.

Exhibit 8-2: Project Dissemination Ideas

Dissemination Activities:
-Design dissemination activities and put in pipeline as soon as possible
-Plan budget for dissemination activities
I. Reports
At least three or four substantial documents (e.g. 20 very well-written pages) that show indicators and trends across locations:
1. Two from the angle of individual use rights bamboo rehabilitation model, with livelihood and other activities as supporting.
2. Perhaps one from angle of the integrated, multi-pronged land and forest improvement model (featuring all sub-components and top learnings). This will include findings from the design and measurement of ecological indicators as outlined in previous sub-section on "monitoring," which will possibly be an independent commissioned study.
3. Perhaps one from angle of new model for Forest Department cooperation with local people, including both forest protection and promotion of livelihood activities (and including "convergence" - leverage of funding from other departments)
II. Workshops
1. Three major workshops at state level
2. One or two workshops at national level, perhaps with help of SLEM TFO
3. Regional workshops within state
III. Outreach to and Support for Potential Replicators
1. Identification of potential replicating organizations
2. Liaison with identified organizations
3. Support for most promising potential replicators in form of replication plans

We also recommend that a number of workshops (perhaps up to three major ones at the state level and a few at the national level) to promote project results be held. The first such promotions should be at the state-level. Then, perhaps in cooperation with the SLEM TFO project, national level workshops can be held. SLEM TFO is a USD1 million project that has the mandate of disseminating India's SLEM GEF projects (of which there are currently six active projects) at the national level. We recommend that the MP SLEM project leverage support of TFO technical experts and TFO funding as possible. This will require that the project step up communications and coordination with TFO regarding project results to date, as TFO currently does not appear very familiar with the project. At the same time, the project must take the lead in ensuring proposed documentation and workshops efforts are planned and occur in a timely and strategic fashion. As noted earlier, workshops may also be

considered state and national-level capacity building efforts and thus classified as Outcome 1 activities. Currently, the project is proposing a national level bamboo workshop, which will include some sessions focused on dissemination of the project's bamboo rehab model.

We further recommend that the project aim early in the post-MTR period to come up with a replication strategy. This strategy will consist of first identifying which governmental organizations may be involved in supporting replication of the strategy and then carrying on liaison and perhaps replication plan drafting for them.

8.3 Replication of Project Models

While it is not likely the project will directly replicate the project models due to funding issues, the project can plan an active role in stimulating replication through a strategic combination of activities as outlined in Exhibit 8-2. Aggregation of indicators at state level, as outlined in Exhibit 8-1, and strong communication thereof will also be important to the effort. The project may be replicated in a number of different ways and perhaps from the three angles, or three models we have discussed in this report: (1) the individual (or small group) use rights model for bamboo rehabilitation, (2) the integrated, multi-pronged approach to land and forest quality improvement, and (3) the model of enhanced cooperation between the Forest Department and local people in both forest protection and livelihood development. While replication of all three models has potential and may be pursued at some level, we find the first model to be the most well-defined/ "well-packaged" and thus perhaps the most "ripe" for replication.

This sub-section compiles some of our findings from stakeholder discussions on project replication, mainly from the angle of the individual (or small group) use rights bamboo rehabilitation model. Our main findings are: (1) At the division, sub-division, range and local level, most participants believe that results are advanced enough to suggest the model is ready for replication. (2) At the state level, participants are more cautious, some suggesting more results are needed before replication can be suggested. Yet, from top leadership at this level, we heard that there are state programs with enough funds for replication and that the Forest Department itself will have a substantially larger budget than in the past. (3) At the national level, stakeholders lack information to make informed comments about replication. (4) At both state and lower levels, barriers to replication may be institutional. For example, many told us that the issue is not that the individual use rights model is too expensive. ("Not expensive" was their common refrain.) It seems that the bigger constraint may be the budgets are typically allocated on an annual basis, so that having a guaranteed allocation for the four years in order to be able to guarantee payment to beneficiaries is problematic.

Villager Input on Replication of Individual Use Rights Bamboo Rehab Model: From the perspective of several villagers who raised the issue, replication is certainly in demand by potential beneficiaries. When we asked at the closing of our interviews for their

recommendations, several beneficiaries suggested extending the project so others could participate. And, to our surprise, at one village-level event we attended in West Chhindwara, a group of men from a couple of non-project villages in the area came by to request the project be extended to their areas. When we learned that the degraded bamboo associated with each of their villages might only accommodate five beneficiaries each, we asked if they were still interested. They told us that even if only five families could participate in each village, extension would be of interest. In another case in Sidhi Division, as related to us by the DFO, a JFMC saw the impressive results of the project’s bamboo rehabilitation in a neighboring area. The JFMC, which is not a part of the project, decided to rehabilitate its own bamboo areas without compensation from the Forest Department. While they are not, to our knowledge, using the individual use rights model, we believe this replication without compensation is quite interesting. It was later explained to us that they have been able to do some harvesting. Further, others suggest that in most places it will be difficult to achieve replication without compensation for rehabilitation work due to the urgent financial needs of poor villagers in forest areas. Highlights of villager input on replication are given in Exhibit 8-3.

Exhibit 8-3: Villager Input on Replication of Individual Use Rights Bamboo Model

Villager Input on Replication
<p>-Most common beneficiary recommendation for project: Extend so that more villagers can participate</p> <p>-One beneficiary told us he believes if project is replicated in nearby villages there will be much demand. “Already neighboring villagers know about it and like what they see.” (N. Betul Division)</p> <p>-After seeing impressive results in a nearby project area, a JFMC has begun to rehabilitate their degraded bamboo without Forest Department compensation and gain some earnings from harvesting. They are not known to be using the individual use rights model, but have been inspired by it. (Sidhi Division)</p> <p>-A number of men from 2 villages, each about 5 km away, came to a site MTR team visited to request scheme be extended to their villages. Each village has only 100 to 150 ha of degraded bamboo, so could accommodate only 5 to 7 beneficiaries each. Even so, they would be interested in participation. Some indicated they would participate even without remuneration, but later when asked again said it would be better to get remuneration. They hope to build/improve a fish pond with the remuneration. NPC offered to send project fish farm expert to help them. (Site visit in Tamia, West Chhindwara Division)</p>

DFO Input on Replication of Individual Use Rights Model: Exhibit 8-4 shows a selection of DFO feedback on whether the project model should be replicated, whether its cost is high and how it compares to other models, potential sources of funding for replication, and room for replication in their own divisions. Overall, the response on whether the project should be replicated was very positive. The majority feel that enough information is available now to make that decision. One was so enthusiastic that he believes the model should be extended across a division into other types of working circles, such as SCI, RDF, and bamboo overlapping working circles and has proposed his own division as a demonstration of this. As for costs, most DFOs responded that the model is not expensive. One pointed out that the model costs much less per hectare than what the minimum wage costs would be to do the job correctly. A number agreed that the current standard rate of Rs 3,000 per hectare is simply not enough to get the job done. Further, a number pointed out that the value for the money in this model is high, because not only do you get conscientious rehabilitation work, but also

ongoing protection work. Regarding where to get the funds for replication, two ideas raised were the Green India Mission and the Bamboo Mission at the national level. While the Rural Development Department has a lot of funds, some expressed concerns that the project model would not fit in with the Department's priorities.

Exhibit 8-4: DFO Input on Replication of Individual Use Rights Bamboo Rehab Model

Should project model be replicated?
<p>-Model should be spread to other districts. There is enough information now to replicate. There is nothing to wait for to be proven – everyone knows the bamboo will be enough to sustain the beneficiaries' incomes. (DFO B)</p> <p>-Would like the MP Forest Dept. to continue working along the lines of the project model – could change the operational model of the FD – has brought people and FD together. Would like to use UNDP project model across whole division, not only in RDBF but also SCI, RDF, and bamboo overlapping. Suggest replication in two phases: (1) extending model on similar scale in existing project divisions first and then (2) scaling up across state. (DFO D)</p> <p>-Good project – should be replicated if all goes well, which will be indicated by number of new culms per clump. (DFO C)</p> <p>-If he were decision maker would extend now in his division; problem is funding. (DFO E)</p> <p>-Project can be replicated as it ends; if he were decision-maker would extend to more areas; important to include livelihoods work with replication of bamboo model. (DFO F)</p>
Is model expensive? How does it compare to other models?
<p>-Model is not expensive. May be higher than norm, but you get very long-term results and also develop human assets. (DFO A)</p> <p>-Standard model allocates Rs 3,000 per ha, but this is not enough and does not include protection. Results with standard model have not been good. Daily minimum wage comes to Rs 6,000 per month. Bamboo Mission giving Rs 8,000 per ha, but using approach of standard model. (DFO B)</p> <p>-Cost, at Rs 7,000 to 8,000 ha, is on the lower side. If you want to pay wages, it would cost Rs 20,000 per ha to do it properly. (DFO F)</p>
Where can we get the funds for replication?
<p>-“Difficult to replicate under NREGA, which is focused on small work allotments, because here we are doing something much bigger – creating people as an asset.” (DFO A)</p> <p>-“Hard to get funded by other departments because they have different priorities than Forest Department.” May raise idea of extension of project with Bamboo Mission at central level. (DFO B)</p> <p>-Green India Mission may be best bet for extending work at project sites. Should also submit application to Bamboo Mission at central level. Rural Development Department probably not the answer. “They have their own programs and ours do not fit with these.” (DFO D)</p> <p>-Does not feel Rural Development Dept. is flexible enough in programs to work with this model. They pay wages for job done, so may pay for rehab work, but not protection in intervening periods. (DFO E)</p>
Is there room for replication in your division?
<p>-Working Plan does not include highly degraded areas. Those areas perhaps 3 to 4 times project's bamboo rehab area. Might suggest MP Forest Department monies. (DFO A)</p> <p>-Remaining degraded area about 5-6 times project area. Very slowly being treated over 20 years by standard model. (DFO B)</p> <p>-100% of RDBF areas in division rehabilitated through project. (DFO C)</p> <p>-Over 15 times project's degraded bamboo area remaining in division. This area is under ten year plan to be worked with standard job rate model. Problem is that funds usually allocated one year at a time; with UNDP model you need to be able to promise payments over a good chunk of time. (DFO D)</p> <p>-Project areas represent only 20% of degraded bamboo in division. (DFO E)</p>

Some stakeholders told us that a key barrier to using Forest Department monies is that these are only allocated on an annual basis, while the project requires a four-year commitment to ensure promises of payment to beneficiaries are upheld. At the same time, we note that state forest department annual budgetary processes begin by allocating funds for “continuing liabilities” (ongoing needs) before making allocations for new initiatives so that projects longer than one year are certainly possible. For example, in plantations programs, the state forest departments are able to come up with the money for nurseries one year, planting the next, and tending in the two following years. The problem here may be that for RDBF in particular the projects (and budgets) have traditionally had just one year of duration.

Other local-level Forest Department staff input on replication: We got very positive feedback about the individual use rights model from all other local levels of the Forest Department, including sub-division officers, range officers, foresters, and beat guards. The general consensus is that the model is ready for replication. One SDO passionately told us “We are ready, villagers are ready!” Some pointed out their belief that there is already enough evidence for replication. Exhibit 8-5 lists selected comments made at various levels of the FD regarding replication.

Exhibit 8-5: Input of Other Local Forest Department Staff on Replication of Project’s Bamboo Model

SDOs
-“We are confident. The villagers are confident. We are ready, villagers are ready” [to replicate]. Only concern is issue of leaving some families out. (SDO A) -Have worked in other districts with bamboo and believes model can be implemented in those areas. Believes if model replicated, forest rehabilitation will be more effective. Model not expensive in cases where there are relatively more clumps per hectare. Do need livelihoods work to balance potential jealousy. (SDO B)
ROs
-One problem with project is limited area. It should be expanded. Project already successful and thus ready for replication. There are a lot of hilly areas where he works and it would be hard to improve clumps, but local people have the experience in hills. A lot of evidence shows the success of the model – measuring the number of new bamboo culms and measuring how they are growing. (RO A) -Should be extended to other areas. (RO B) -Extension can be done now because there are enough results to show the project’s success. (RO C)
Beat Guard
-Project is successful and should be replicated (Beat Guard A)

CCF and state level input on replication: State-level interviewees and circle CCFs with whom we spoke were generally more conservative about replication, though there was some mix and a positive response on potential replication from the PCCF. In general, state-level stakeholders were not negative about the project’s long-term potential, but feel that more proof is needed (likely beyond project close) before action related to replication can be taken. One Circle CCF with project areas under his purview indicated that the project might be replicated by other international projects, but that it would be too early for the Forest Department itself to replicate it. Before making a decision of whether the FD should replicate, he would advocate more testing/sampling in other areas. Another Circle CCF with project areas under his purview indicates that he has not been allocated enough money to institute the

model. This CCF, however, indicated he would replicate if it were within his power. A third explained that the work plan is not the issue and the CCFs can allocate funds as needed to implement the silvi-cultural practices in the work plan. That is, the Circle CCF can decide how to implement. He did confirm, however, that the four-year commitment of funds would require some higher level intervention, as funds are usually allocated annually. The discussion that ensued suggested the MP State Planning Commission would have to address such an issue, but that the PCCF, as a member of that Commission, may be the best channel and key decision-maker to influence a work-around.

In Bhopal, we also got feedback from a number of high-ranking officials in the Forest Department and from one head of an academic forest research institute. Input was mixed, though generally much more conservative than that we got at the DFO level or lower. One state-level interviewee indicated, “We have to wait for results.” Regarding the issue of four-year budget allocation, he noted the Rural Development Department does have some much longer projects, but is not sure whether the model would fit with any of them. Another key stakeholder at high level in the MP Forest Department also indicates it is too early to pursue replication. Before the Government will plan to replicate on a large scale, real results (five years after planting the bamboo) will be needed. This will require documentation and the timing will be about 2016 (which we note is after project close). This interviewee is confident the model will be proved a success, but believes replication will come from the top and can’t come from below. At the same time, we learned that the MP Forest Department’s Development Wing, which has funds, has an interest in what the project is doing and in providing funds for activities. Further, it was suggested that really large scale replication will need political will. That is, if politicians get interested in the model, a large amount of funding may be leveraged. Already, some local politicians have become interested in the project and supported some livelihood activities.

Despite the aforementioned cautious feedback, we received positive encouragement regarding the potential for replication from the PCCF and PS Forests. In an initial brief discussion, the PCCF indicated an intention that the model be replicated across the state. He told us that the project is not a pilot, but rather more extensive. It is an opportunity to verify. Further, both the PS Forests and PCCF offered encouraging comments at the MTR debrief. The PS Forests noted that the areas selected for the project are the most backward in MP. If the model can be a success in these areas, he suggests, it can be successful elsewhere. He suggests once there is a final product, replication can be taken up with the MP State Government, as it has programs with enough funds. The PCCF noted that the project is “laying a foundation” and “bringing vitality” to the JFMC effort, which is now almost two decades old. Regarding up-scaling, the PCCF indicated that there is no gap in funding and that the MP FD will be able to elevate the project and spread it state-wide. As a result of recent discussions on budget allocations, the MP Forest Department’s budget has been raised from Rs 3.00 billion (US\$48 million) in 2014 to Rs 6.22 billion (USD100 million) in 2015. He noted that an important reason for the budget increase is that the Forest Department is working for the people in interior areas, especially poor people. We find that the project’s

model clearly fits in with that mandate, so are highly encouraged by this greater availability of funding.

In discussions with the MP Bamboo Mission, we learned that the Mission is pursuing bamboo rehabilitation on small scale (1,000 ha per year) based on the standard (job rate) model, but with a larger allocation (Rs 8,000 per ha) than the standard model. The state-level Bamboo Mission indicated an interest in discussing synergies with the project, but no discussions have yet occurred. We do recommend this avenue be pursued. While the current area per year supported is small, the state-level Mission will likely be a partner in any work involving the national-level mission.

The head of a Bhopal-based forest research institute with whom we spoke urged the project not to delay until the end to consider replication and emphasized the important role of the project in “convincing.” He explained how a previous project with which he’d been involved had introduced a model that the Government later replicated on a large scale.

National level on replication: In national-level discussions, we found that officials and other stakeholders are interested in finding models to replicate, but uncertain of the model associated with the project. Some indicate that funding will not be an issue if the model is proven. One such official from the Ministry of Environment and Forests noted that GEF projects are opportunities for experiments. He told us that resources are not a problem for up-scaling and that if the results are good, there will be resources for up-scaling. Other stakeholders at the national level indicate that the project should have an “exit” or “project sustainability” model from the beginning, designating the agency to take over and upscale the work. They recommend that the exit strategy be in written form so that all will understand the plan for making the project sustainable. Despite feedback at the local-level that Rural Development Department programs may not fit replication of the model, some national-level stakeholders note that the Ministry of Rural Development is one of the largest funding sources in the county and should be an important target for replication funding.

PART IV. SUSTAINABILITY, COSTS, AND OTHER ASPECTS OF PROJECT

9. Sustainability of Project Results

This section reviews findings at the time of the MTR on the potential sustainability of project results. Given its core role in the project, as well as outside stakeholder concerns about sustainability of the individual (or small group) use rights model, we put the greatest emphasis in our sustainability assessment on that model. In this section, we first review input from consultations on potential sustainability of conservation and forest protection results achieved via the individual use rights bamboo rehab model. We then review findings of potential socio-economic sustainability of results achieved via that model. For this, the key question is whether improvements in beneficiary incomes will be sustained after the project stops. That is, will profits from the bamboo meet or exceed the level of monthly payments? If not, will other livelihood activities compensate? To offer insight on these questions we provide beneficiary input, as well as input from Forest Department staff. Further we look at rough projections of the potential annual harvests and income per beneficiary in various areas. Finally, we close the section by touching briefly on other aspects of project sustainability, namely that of other sub-components on the multi-pronged model. Beyond sustainability of the demos, as discussed in this section, sustainability of the project's models through replication is critical. Yet, as this issue is addressed at length in the discussion on Outcome 3 in Section 8, we do not cover it here.

9.1 Sustainability of Conservation Results under Individual Use Rights Bamboo Scheme

Generally, stakeholders consulted believe that sustainability of forest conservation and protection results achieved during the period of monthly payments for bamboo rehabilitation will be maintained if income levels can be sustained. And, as will be indicated in the next sub-section, the majority believes income levels can be sustained or surpassed with profits from bamboo harvests. In this sub-section, we aggregate some of the comments made by villagers and Forest Department staff. Overall, the consensus for sustainability of conservation and protection results is positive. In one in-depth interview, a beat guard voiced his worries about a drop in protection work once payments stop. These concerns seem very reasonable, but, at the same time, the beat guard noted that the beneficiaries had assured him they will continue to protect the forest after payments stop.

Villager input on sustainability of conservation results: Villagers gave positive views of the potential sustainability of improvements in forest protection and conservation that have been achieved. While many are glad not to be out-migrating and hope to sustain that, we did get one comment suggesting a minority may envision beneficiaries taking turns out-migrating after payments stop. Exhibit 9-1 displays some of the comments gathered from villagers on

sustainability of conservation and protection results achieved through the individual use rights bamboo scheme.

Exhibit 9-1: Beneficiary Input on Sustainability of Forest Protection and Conservation Results Achieved through Project’s Bamboo Rehabilitation Sub-Component

Beneficiary Input on Sustainability of Forest Protection/Conservation Results after Payments Stop (RDBF sub-component)
<p>-Will continue to protect forest (both bamboo and surrounding areas) after payments stop. While some persons in family may out-migrate after payments end, beneficiary himself will not go. (EC Villager 1)</p> <p>-During 4 or 5 years of project will not out-migrate, but after harvesting starts will out-migrate – beneficiaries can go out under rotation, with some always left to protect. (EC Villager 2)</p> <p>-“If we start out-migrating again, who will take care of the forest?” So, he will not be out-migrating, though other family members may go. (WC Village 2)</p> <p>-Beneficiaries are clear that the more they protect the more they will benefit, so they will protect the forest even if not paid. (Umaria Villager 1)</p>

Exhibit 9-2: Forest Department Staff Input on Sustainability of Forest Protection and Conservation Results Achieved through Project’s Bamboo Rehabilitation Sub-Component

Forest Department Staff Input on Forest Protection/Conservation Results after Payments Stop (RDBF sub-component)
<p>-Even at sites with lower production, doesn’t think beneficiaries will desert this bamboo opportunity. The Forest Dept. role has been to create faith. Beneficiaries will continue to take care of forest, as they can get earnings from the bamboo. If there are issues like other work (outside of bamboo and protection work), they will manage in a joint way. (CCF 1)</p> <p>-“This will depend on whether we keep our promise to the beneficiaries. If we do, they will continue to protect. And, we will keep our promise, so the forest will be protected.” (DFO 1)</p> <p>-Believes once payments are stopped beneficiaries will continue to protect the forest. (SDO 1)</p> <p>-“We told them that if they protect, they will get the benefit of the bamboo.” (SDO 2)</p> <p>-“Protection level will be maintained. Beneficiaries know that if they are protecting the forest, they are protecting the bamboo.” (RO 1)</p> <p>-Don’t think there will be a change in protection, because profit will be expected by the beneficiaries. Very positive there will be no changes. Forest Dept. has pumped many schemes into the village. Not just the project, but also others. They have done soil work and land leveling and bunding on agricultural fields. They have also gotten so much work for villagers, so villagers very unlikely to think of taking away their support for the Forest Department. (RO 2)</p> <p>-Worried there may be a decrease in beneficiaries’ level of protection once subsidies stop, but beneficiaries have assured him they will continue to protect. Now he monitors work and asks village headman to report if there is any slacking off on protection. Will do the same when payments stop and harvesting begins. If they don’t do their protection work, beneficiaries may lose their right to harvest. People are worried about getting isolated from the forest and don’t want to lose access. So this can be leveraged to get them to cooperate. (Beat Guard 1)</p>

Forest Department Staff Input on Sustainability of Conservation Results: Generally, Forest Department staff at various levels expressed that they believe beneficiaries will continue to protect the forest as they are getting benefits from it. Exhibit 9-2 shows some comments made by various Forest Department stakeholders. As mentioned, one beat guard did express concerns, though told us the beneficiaries have reassured him they will continue

to protect. He further indicated the Forest Department will have strong leverage with beneficiaries, as they do not want to lose access to the forest.

9.2 Sustainability of Socio-Economic Results under Individual Use Rights Bamboo Scheme

Focusing on the question of whether improved incomes from payments for bamboo rehabilitation can be maintained after the payments stop, most of those we consulted offered a fairly positive view. Some envisioned a dip in incomes for the first year or so, but, with time, incomes eventually equaling or surpassing current payments. Most villagers and Forest Department staff at the DFO level or lower held this positive vision. In a few cases, we found that lack of understanding of the profits to which the beneficiaries are entitled led to a more pessimistic view. And, this more pessimistic view tended to trend by location suggesting more work needs to be done in such locales to inform beneficiaries of their potential income from bamboo harvesting. Further details on villager and Forest Department staff input regarding socio-economic sustainability are given later in this sub-section.

With first harvest about one year away and much data available on clumps per hectare and annual new culms per clump, rough estimates may be made on potential income per beneficiary in various locations. While some stressed to us the difficulty of this exercise, given the importance of sustainability and the relevance to planning other aspects of the project (e.g. on whom to focus for other livelihoods work), it is important such estimates be undertaken. As a comparison, the project has undertaken detailed financial projections for 180 business plans, many of which will never be used. Shouldn't such a projection be done for the number one business invested by the project? Later in this sub-section, we take a stab at projecting incomes from bamboo profits in some locales. Our purpose is more to recommend a methodology than to present firm results, as more work is needed in determining the right numbers to use in estimates.

Further, as we embark on such estimates, some big question marks remain. First, we found very different visions of the potential price the bamboo culms would achieve in various areas. There may be a lack of clarity on the market and also the policy the Department will implement for selling the bamboo. For example, some DFOs were estimating a market price of Rs 40 per bamboo, while others were using a subsidized price of Rs 10 to 12 per bamboo in their estimates of profits per beneficiary.¹⁴ And, there is even some question as to the best method of harvesting. At least two key stakeholders with whom we spoke asserted that annual harvesting of bamboo is preferable and will lead to greater yields, while others asserted that the scientific evidence calls for harvesting in four year rotations.

¹⁴ Here "per bamboo" refers to the same concept as "per culm." Once cut, it is typical to begin referring to the culm as "bamboo." Price information in this report, however, is given on a per culm basis unless specifically noted as "per kg."

We hope that the project will do some work to address both of these issues. Indeed, while there is much confidence expressed in some locales that all the bamboo can be sold at good price, one DFO conceded to us that the market and connecting with buyers is one challenge, since his division has sold little bamboo on the open market in the past. As for the question of annual harvests, we think this may be an interesting one for the project to address as a possible “experiment”. Those in favor of annual harvests point out that farmers harvest bamboo on their agricultural land annually and get much better results. Those against this approach point out that annual harvesting raises the chances of damaging remaining bamboo and may also be less efficient use of manpower. Currently, Department policy calls for four year rotations. A roundtable at which everyone can clearly put forth his or her view is needed.

Villager input on socio-economic sustainability of bamboo rehab sub-component:

Except for a few cases, mostly concentrated in one division, we found beneficiaries well informed that they would get to keep all or at least 80 percent of profits from the bamboo harvest. It was most common for villager interviewees to present a view that their current income is sustainable. For a group of 16 for whom we recorded relevant comments, six believe they will make more from the bamboo profits than the monthly payments, two estimated it would be the same, and four don’t know whether it will be more or less. Five believe it will be lower or at least emphasized they’ll need to look for alternative income after the payments stop. Yet, four of these are located in the same division and some seemed unaware of the profit-sharing scheme, which implies more work in communications needs to be done in that division. Exhibit 9-1 below displays comments from beneficiaries on the topic of income sustainability, organized by their overall conclusion on income after payments stop. Regarding harvest issues, in Sidhi we spoke with a bamboo beneficiary who also has some bamboo on his farmland. He indicates bamboo will grow better if harvested and cleaned annually, but is concerned he lacks the manpower to cover all of his allotted 20 ha each year on his own.

Forest Department Input: Input of Forest Department staff (see Exhibit 9-2) was generally positive about the potential of bamboo profit incomes to meet or surpass current monthly payments in the long run. In some cases, it appears there may be a year or more of lower income before the full benefits of the harvest take hold. Variation among areas within a division may mean that some do well in comparison to the monthly payments while others do not. Also, we saw some variation in assumptions for estimates of income, including when the first harvest would occur. The earliest estimate was the first quarter of 2014. More common was October of 2014 and the latest time indicated for first harvest was October of 2015. Further, while most assumed a four year cutting cycle, one DFO brought strong experience to the table to suggest annual cutting should be considered. A villager interview in his area backed up this idea to some extent. Finally, estimates of price varied widely. While quality differences will lead to price differences, the difference in prices quoted appears to be a result of different understandings of the market.

9-1: Beneficiary Comments on Sustainability of Income after RDBF Payments Stop

Believe Income will be Higher
<p>-Has counted culms and made an estimate, based on price of Rs 10-15 per bamboo. Expects income from harvesting of bamboo will be more than monthly payments. (EC Villager 1)</p> <p>-Believes income from bamboo will be more than monthly compensation. Price is Rs 22 per bamboo. (friend of WC Villager 1)</p> <p>-Believes his share, 80% of profits, will be more than current payments of 3,500 Rs per month – his peers have the same impression. Believes current price is Rs 15-16 per bamboo. Didn't do calculation to estimate harvest and realizes harvest from year to year will vary. Does have some concerns and may out-migrate, but not during fire season. (SC Villager 1)</p> <p>-Expects more on average per month from his 80% of profits than current payments. Also, expects future workload to be less than rehab work. (SC Villager 2)</p> <p>-Will likely make more than they do now. Will sell for Rs 25 per bamboo. (NB Villager 2, female)</p>
Same Income (or Same or Higher)
<p>-Not worried about income going down after project, because thinks bamboo income will be good, possibly even higher than present monthly payment. They have counted the culms. Believe price is Rs 25-30 per bamboo. Price of bamboo increasing every year so should get good results (EC Villager 2)</p> <p>-Believes income will not fall once payments stop. Expects to get 30% of earnings from bamboo and believes that will be equivalent to current Rs 3,500 per month payments. Unaware of potential to keep 80% of profits. (WB Villager 3)</p>
Don't Know
<p>-Unsure whether income will be lower or higher than current payments. Explains that Bharias don't have much knowledge with which to do such an estimate. Will get income from NTFPs. If income low, some family members may need to out-migrate, but beneficiary will stay back. Price is Rs 10-15 per bamboo. (WC Villager 1)</p> <p>-No estimate. (WC Villager 2)</p> <p>-Income may be more or less, depending on weather. (non-beneficiary JFMC Chair, SC Villager 4, female)</p> <p>-Don't know what kind of income they will get from harvest, but perhaps it will be more. Price may be Rs 10 per bamboo (WB Villager 2, female)</p>
Expect Lower Income or to Need to Look for Alternatives
<p>-Expects to get poor again once payments stop. Plan on cutting the bamboo, but does not know if payments will be as much as they get now. Asked for recommendations, she said they require continued payments. (SB Villager 1, female)</p> <p>-After project, will depend more on agriculture. Have not thought about selling the bamboo (SB Villager 3)</p> <p>-Will be difficult after the project is over will need to look for an alternative. (SB Villager 4)</p> <p>-Will get on okay in the future as there are employment options. Also, can do agriculture. Does not have an idea about the bamboo income, but believes it will be at least Rs 3,000 per month. (SB Villager 2)</p> <p>-Expect to make Rs 2,000 to 3,000 per month from bamboo profits or Rs 30,000 per year. Subsidized price is Rs 10 to 12 per bamboo - not sure of market price. (Sidhi Villager 3)</p>
Other – Harvesting Issues
<p>-Agree that harvesting and cleaning every year will ensure bamboo grows straight. However, lacks manpower to harvest 20 ha per year. Would need to engage outside people and concerned about cost. Do believe can make more money than payments. Price nearby is Rs 10 per bamboo, outside Rs 15 to 20. (Sidhi Villager 11)</p>

Exhibit 9-2: Input from Forest Department Staff on Socioeconomic Sustainability of Project RDBF Sub-Component

DFO and CCF Input on Socio-economic Sustainability
<p>-Not worried about income of beneficiaries after project stops. Will increase over time, but believes it will be over Rs 3,500 per month year after project stops. Price of bamboo is Rs 15 to 20 for 3.7 m bamboo, Rs 25 to 30 for bamboo over 5.5 m. Not worried about a bamboo glut. (DFO 2)</p> <p>-Thinks income from harvesting will be almost the same as payments have been. (DFO 3)</p> <p>-Villagers depend heavily on agriculture and animal husbandry, so strengthening these areas is the way to make the project sustainable. (DFO 4)</p> <p>-Very confident income will be sustainable. (DFO 5)</p> <p>-Within district typical incomes after project close will vary by location and average Rs 20,000 to 25,000 per year, with a low of Rs 15,000 per year and high of about Rs 50,000 per year. (CCF 1)</p>
DFO Input on Risks and Harvesting Strategy
<p>-His one concern is that they have previously not sold bamboo on a large scale in his division. What's important is to advertise the auction well. (DFO 1)</p> <p>-Another risk raised is bamboo flowering. If you get gregarious flowering in an area, all of the bamboo dies. It drops seeds but the forest will take several years to recover. This happens at most once every 40 years, so the relevant issue is when the last gregarious flowering occurred in each area. In this particular area, the earliest the next gregarious flowering will be is 2026, which should give beneficiaries time to broaden their livelihood sources. (CCF 2 and team)</p> <p>-Better productivity if you harvest every year. This is an important issue to sit down at the table and discuss (DFO 2)</p>
Input of Other Local Forest Dept. Staff on Sustainability
<p>-Income will be about the same as payments during first phase of harvesting (4 years), during next four years it will be more. (SDO 1)</p> <p>-Initially estimated income from bamboo harvest will be less than monthly payments, but based his estimate on assumption beneficiaries will get only 30% of profits. If they get 70% of profits, then he estimates income will be more than current payments. Believes SMEs will be important to sustainability. (SDO 2)</p> <p>-Incomes will go down after payments stop. Not only are beneficiaries getting Rs 3,500 per month for bamboo rehab, but are also getting wages for energy and fodder plantation work. Project should be extended to 10 years. (SDO 3)</p> <p>-Beneficiaries will keep 100% of profits; Benefit will be higher than current payments. Price of bamboo is Rs 30 to 33 per bamboo. (RO 1)</p> <p>-Income will be much more than current payments, because beneficiaries will get 80% of profits. Can start harvesting in fifth year. (RO 2)</p> <p>-Made conservative estimate and got that incomes will be higher than current payments. Livelihood activities also important to sustainability (RO 3)</p>

Rough Estimates of Future Bamboo Income: Given that socioeconomic sustainability is a key concern with regard to the project's RDBF sub-component, we recommend that estimates for subsequent years (in real Rs, so taking out inflation effects) be made on an appropriate scale. Ideally, this will begin with village level estimates that will then be merged into range level averages and into division level averages. For the MTR, we present some preliminary, simplified estimates with the purpose of initiating discussion on methodology, rather than of providing strong projections. Challenges faced include lack of parallel data from all sites, strong variation on sales price estimates (which suggests that this is unknown at some level), and differing harvest plans. We requested inter-comparable data from all DFOs, but had only received one response at the time of drafting this report. For now, we base such input data for other divisions on conversations with DFOs, field visits, or on data DFOs provided in presentations and other documents. Exhibit 9-3 shows this basic input data; and Exhibit 9-4

shows estimated real income in 2013/2014 Rs based on a very simplified model prepared by one of us (EK). We have found that income projections like these vary substantially from person to person, due to differences in assumptions and methodologies. We suggest the project bring people together to the table to discuss. It is important that key input parameters be agreed upon, a simple model be developed, and that income estimates then be made. Finally, based on income projections, strategies may be tailored differently for different locales. For those locales in which income from bamboo profits will be low (e.g. three of the eight for which we make estimates), more livelihood efforts should be focused on beneficiaries. For those for which it will be high, livelihood efforts may focus on non-beneficiaries in the same villages.

Exhibit 9-3 Data on which Estimates of Bamboo Income are Based

Division/Range	Method	Clumps per ha	Average annual new culms per clump	Survival Rate	Estimated Profit per culm	First harvest	Harvest cycle	% share *
W. Betul: Gawasen	Standard	50	2	70%	Rs 40	Oct '14	4 yrs	100%
N. Betul: Sarni	Standard	96	3.7	70%	Rs 40	Oct '14	4 yrs	100%
N. Betul: Boura	Standard	96	1.8	70%	Rs 40	Oct '14	4 yrs	100%
S. Betul: Amla	Standard	82	2-3	70%	Rs 40	Oct '14	4 yrs	100%
W. Chhind: Tamia	Standard	64	5-6†	70%	Rs 45	Oct '14	4 yrs	80%
E. Chhind: Batkakapa	Standard	74	4	75%	Rs 40	Mar '14	4 yrs	100%
Sidhi (average)	DFO	70	9	70%	Rs 12	Oct '14	1 yr	80%
Umaria: Ghughuti	Standard	250	10-12	65%	Rs 10	Oct '15	4 yrs	80%

Sources: DFO Presentations and Interviews

†The 5-6 new culms per clump annually is based on what we were shown in field visit and told verbally. Data made available in a presentation for West Chhindwara suggests a much lower average level of 1.8 new culms per clump annually. Further follow-up needed to determine the more accurate option.

*Percent share of beneficiary may vary by village and is based on agreement between beneficiary and JFMC. For the purpose of this model, when available, we used the more common percent share mentioned by stakeholders in a certain locale. Otherwise, we used 100 percent.

While results in Exhibit 9-4 (based on EK's model) are very rough and subject to revision of parameters, the initial estimates show that in 2015, beneficiaries in four out of eight ranges for which we have data are on average making more or the same from bamboo profits as they made from monthly payments. (We don't worry about bamboo profits in 2014, since payments will continue through October 2014.) By 2018, the second harvesting cycle begins in most locales and four years worth of "post-rehabilitation" culms instead of one year's are available for harvest. In the model used, this results in a quadrupling of real income for all seven groups harvesting on a four-year cycle, so that all these groups by then are making more than they did from the monthly payments. The simplified model, however, does not consider the harvest in any of the first four years of culms that grew before rehabilitation. Availability of such culms for harvest may make incomes in the first four years higher than we estimate and thus somewhat dampen the large step-up in incomes between cycles (i.e. between year four and five). At the same time, these pre-existing culms may be taken as a constant base number for retention, since continued health of the clumps will require that a certain portion of culms be retained. For the one division that is harvesting annually, increases in income are projected to be more gradual (occurring on an annual basis), but also by 2018 far exceed current monthly payments. Indeed, by 2018, according to the simplified

model, those in the other six of the seven ranges listed are also making profits that far exceed (double or more) their remuneration during the project, while the seventh is making profits that exceed that remuneration by about one-third.

Exhibit 9-4: Estimates† of Annual Real Income from Bamboo Profits (in INR)††

Notes: For comparison to current wage rate of Rs 42,000 per year; conservative estimates used; first year of concern for sustainability will be 2015, as in 2014 monthly payments will continue through October.

Division/Range	2014	2015	2016	2017	2018	2019
W. Betul: Gawasen	14,000	14,000	14,000	56,000	56,000	56,000
N. Betul: Sarni	49,728	49,728	49,728	49,728	198,912	198,912
N. Betul: Boura	24,192	24,192	24,192	24,192	96,798	96,798
S. Betul: Amla	28,700	28,700	28,700	28,700	114,800	114,800
W. Chhindwara: Tamia	44,352*	44,352*	44,352*	44,352*	177,408*	177,408*
E. Chhindwara: Batkakapa	44,400	44,400	44,400	44,400	177,600	177,600
Sidhi (average)	21,168	42,336	63,504	84,676	84,676	84,676
Umaria: Ghughuti	0	71,500	71,500	71,500	71,500	286,000

†Estimates based on parameters in Exhibit 9-3. Method of calculation for all sites other than Sidhi and Umaria is as follows: In 2014, annual profit income for one family's allocated bamboo plot in a particular range = 5 ha x A x B x C x D x E, where A, B, C, D, and E are from Exhibit 9-3 data for the corresponding division and range. We use 5 ha, since each family is allocated 20 ha, rehabilitates roughly 5 ha per year, and plans to harvest 5 ha per year on a four year rotation. We assume new culms are only harvested after 4 years of growth or more. A is clumps per ha, B is average annual new culms per clump, C is survival rates (in decimal form), D is profit per culm, and E is share of profits the individual may keep (in decimal form). In reality, 2014 culms harvested may be greater if there are culms over four years old (those that emerged prior to rehabilitation) that may be harvested. Yet, we conservatively do not include these other culms in the harvest and instead assume that a constant base number of culms that must be left in place to support future new culms is covered by our conservativeness in this regard. Assuming a four year rotation beginning in 2014 (as indicated for the first six ranges in Exhibit 9-3), we assume, 2015, 2016, and 2017 harvests (and profits) are the same, as each of the new 5 ha plots "comes of age" with one year's worth of new culms that have reached an age of 4 years. In 2017, however, the 5 ha plots are assumed to quadruple the number of available culms, because not only will 4 year old culms will be available, but also a group of 5 year old culms, a group of 6 year olds, and group of 7 year olds. Umaria (Ghughuti Range) lags by one year, as the division does not plan to begin harvesting until 2015, but otherwise follows the same methodology of computation. Sidhi, the only division of the group proposing annual harvest, sees a more gradual ramp up as it is assumed 5 ha are harvested in year one (as only 5 ha will have post rehabilitation culms reaching 4 year maturity), 10 ha in year two, 15 in year three and 20 in year four. So in 2014, when there is only 1 year's worth of mature culms on 5 ha, the profits are 5 ha x A x B x C x D x E, but in 2015, this number doubles as there are one year's worth of mature culms on 10 ha and so on until steady state is reached in 2017.

††This model prepared by one of us (EK) bases estimates on new culms per clump per year after rehabilitation. It assumes a base number of culms roughly equal to those remaining right after rehabilitation are retained to maintain clump health. So, each harvest size is based on newly (post-rehab) accumulated mature culms. For sites on 4-year rotation schedule, that will mean one year's worth of culm growth harvested in each of the first four years of harvest and four year's worth of culm growth harvested in subsequent annual harvests). The other of us (PK) provides an alternative income model in Annex 3 based estimates assuming constant harvest size of: clumps per ha x new culms per year x 4 years worth of culms growth harvested each year x ½ of culms retained. *Given uncertainty in average number of new culms annually per clump in Tamia (as indicated in notes to Exhibit 9-3), these estimates may be as low as Rs 14,515 first four years and Rs 58,061 in subsequent years.

9.3 Sustainability of Other Aspects of Project

The results on projections of income from bamboo harvesting, while rough and uncertain, highlight the importance of sustainability of other aspects of the project. For those areas in

which incomes of bamboo beneficiaries will drop, it is important that sustainable livelihood activities be developed. For those areas in which beneficiaries will do well, sustainable livelihood opportunities for others in the same villages will be important. We recommend the project design its livelihood strategy accordingly and, as argued elsewhere, put top priority on livelihoods in villages involved in RDBF work. Strategy for training of beneficiaries as well as selection of appropriate livelihood activities should also consider potential bamboo income.

As for other aspects of the project, such as the fodder and energy plantations, systems should be put in place so that these areas will be sustainably harvested and used. The current system for fodder in which most beneficiaries can take as much as they want may need to be modified. For SMEs, a plan for ensuring management of these is sustainable is needed.

As for Outcomes 1 and 3, more work remains to be done before sustainability aspects can be commented upon. The work in Outcome 1 to get individual use rights for beneficiaries mentioned in the state's JFMC resolution is a positive development strengthening the sustainability of the model. For the model to be sustained beyond the project areas, Outcome 3 activities in documentation and dissemination will be critical

10. Expenditures and Cost Efficiency

In this section, we review expenditure-related aspects of the project. Topics covered include: (1) status of overall GEF expenditures, (2) relative distribution of GEF expenditures between outcomes, (3) activity-based GEF expenditure analysis, and (4) cost efficiency (including whether GEF funds are well spent and leverage via co-financing).

10.1 Overall GEF Expenditures to date and Comparison of Outcome-wise GEF Expenditures

Exhibit 10-1 shows UNDP-provided data on MP SLEM expenditures of GEF grant money up to Dec. 17, 2013. Annual totals in the right column show that the project is spending GEF funds in a timely fashion. We also see that Outcome 2 dominates the outcomes in terms of spending, having received 93.2 percent of outcome spending to date. Unrealized gains/losses that are positive are considered losses (so added to expenditures) and are related to loss of value of rupee relative to dollar as rupee-denominated funds sit in the bank account prior to expenditure. The net amount of rupees transferred to the project does not change via these losses. Instead, these amounts just lose some of their value in comparison to original dollar amounts due to lags in time between conversion to rupees and actual expenditure.

Exhibit 10-1: MP SLEM Expenditures of GEF Grant Money up to Dec. 17, 2013 (USD)

Source: UNDP CDRs

Year	Outcome 1 Capacity Building/ Policy	Outcome 2 Demos	Outcome 3 Monitoring Dissemination for Replication	Manage- ment Costs	Unrealized Gains/ Losses	Un- designated Item	Total
2010	-----	283,033	14,118	19,845	-1,532	----	315,463
2011	5,008	980,378	44,325	279,410	37,173	11,442	1,357,738
2012	61,199	1,324,388	2,276	-44,553	160,065	17,382	1,520,757
2013	47,448	958,241	83,959	66,744	16,664	----	1,173,057
Total	113,655	3,546,040	144,678	321,446	212,370	28,824	4,367,015

Exhibit 10-2 displays totals spent to date by outcome and compares these to allocations designated in the project document. Thus, we are able to see that Outcome 2 is 107.5 percent spent (i.e. already overspent, despite substantial spending planned for the coming year), while Outcome 1 is only 13.4 percent spent and Outcome 3 is only 13.3 percent spent. These figures reflect the project's strong emphasis on field work and limited activity at the state or national levels. Indeed, even a significant proportion of Outcome 1 spending has been on local level capacity building, thus also representing field-level activity.

As has been indicated elsewhere in this document, we believe it imperative that, post-MTR, the project give substantial attention to documentation, dissemination, and “convincing” work – moving beyond the field work of Outcome 2 to address state-level and national-level aspects. A plan and budget for such work should be prepared as soon after the MTR as possible.

Given that substantial additional monies will be needed to support Outcome 2, which is already overspent, this excess spending needs to be justified in conjunction with specific assurances that Outcome 1 and 3 targets will not be overlooked. Shifts between outcomes of over ten percent of originally allocated amounts may require approval. A justification may be that costs for dissemination workshops, documentation, and policy work are lower than anticipated, while field work costs are higher than expected. Yet, such justification should be accompanied by a clear plan and budget for the neglected outcomes showing that they will receive substantial attention post-MTR. While there appears to be some confusion as to whether a shift of budget allocations between project outcomes has been previously approved, we suggest that the best approach is to formulate a plan and budget for addressing Outcomes 3 and 1, which can be presented in conjunction with remaining targeted expenditures for Outcome 2.

10-2: Comparison of Outcome-wise Expenditures to Project Document Allocated Amounts

In USD and up through Dec. 17, 2013 (Source: UNDP CDRs)

Outcome, etc.	Spent to Date	Prodoc Allocation	Gap (unspent amount)	% spent
Outcome 1	113,655	850,000	736,345	13.4%
Outcome 2	3,546,040	3,300,000	-246,040	107.5%
Outcome 3	144,678	1,088,000	943,322	13.3%
Management Costs	321,446	525,000	203,554	61.2%
Gains/losses	212,370	-----	-212,370	NA
Undesignated Item	28,824	-----	-28,824	NA
Total	4,367,013	5,763,000	1,395,987	75.8%
In Rupees	NA	259,335,000@45 Rs/USD*	87,249,188	66.4%
Discounted to Jan. 2010 Rupees	NA	Same	61,691,545	76.2%

*45 Rs/USD is Jan. 2010 (start of project) exchange rate.

Another important point that comes through in Exhibit 10-2 is that funds are already 75.8 percent spent. Given that (a) substantial work remains to be done in the field (payments to bamboo beneficiaries will continue through October 2014, SMEs proposed by consultancies have not yet been implemented, and training designed by consultancies has also not been implemented) and that (b) Outcomes 1 and 3 will both be needing more attention during the coming period, it appears funds will be relatively tight. The project will very likely be proposing an extension of closing date from December 2014 to December 2015. Thus, while only about 3 out of 5 expected years of the project have been completed, three quarters of the funding has been spent; and that amount has been spent predominantly on Outcome 2. There has been some discussion that devaluation of the rupee as compared to the dollar will improve the situation, but inflation, which counters this positive impact, must be considered. While the original value of the project in rupees is about 66 percent spent, estimates using a discount factor accounting for inflation (see Exhibit 10-3), show the project's GEF funds in rupees to be 76 percent spent. This result suggests that looking at "dollars remaining" in the project gives a more accurate picture of proportion of funds spent than does looking at "rupees remaining."

Exhibit 10-3: Inflation Rate in India

(basis of discount factor used to prepare last line of Exhibit 10-2)

Year	2010	2011	2012	2013
CPI growth	9.47%	6.49%	11.17%	9.13%

Based on above, discount factor for four years: 0.707073.

Source: globalrates.com, accessed at: <http://www.global-rates.com/economic-indicators/inflation/consumer-prices/cpi/india.aspx> in Feb. 2014.

10.2 Activity-Level Expenditures (by Outcome) and their Cost Efficiency

This sub-section shows, by outcome, expenditures on major activities (or "activity areas", such as local-level capacity building). The goal is to give the reader insights into how much is

being spent in each main area of activity and also the relative spending amongst activities. The data was provided by the PMU. Given its prominent role in expenditures to date, we begin with Outcome 2, before moving to Outcomes 1 and 3.

Before delving into results based on the PMU expenditure data, a caveat is in order for which we reference the interested reader to Annex 6. As the UNDP CDR data is considered the most accurate source on actual GEF funds spent, we had intended to provide a comparison of UNDP totals per outcome to PMU totals per outcome to confirm that all spending was accounted for by the PMU-provided activity-wise expenditure data. A problem we faced, however, is that the PMU provided US dollar data based only on a single exchange rate – the UN Operational Rate of Exchange as of October 1, 2013. Given the strong devaluation of the INR to the USD over the lifetime of the project, this approach substantially overestimates dollars spent in the early part of the project. While we hoped to get annual expenditure information to improve estimates, this data was not provided to us. Thus, in order to get a ballpark idea of how PMU expenditure totals compare to UNDP-provided totals, we developed a US dollar range for the PMU data – the low being based on the October 2013 conversion rate and the high by applying our USD discount factor for 2010 of 0.707 (as indicated in Exhibit 10-3).

Results of this triangulation technique are provided in Annex 6. The main findings are as follows: Outcome 3 expenditures reported by the PMU (somewhere in the USD1,400 to USD2,000 range) are far below the official UNDP figure of USD144,678. At the same time, Outcome 3 expenditures reported by the PMU (somewhere in the range of USD167,000 to 246,000) are substantially above the official UNDP figure of USD113,655. The range of possible PMU figures for each of Outcome 2 and management expenditures, encouragingly, provide a rough match to the UNDP totals. There are two possible explanations for the gaps in the cases of Outcome 1 and Outcome 3. First, the PMU may have reported some activities under Outcome 1 that UNDP reported as Outcome 3. Second, UNDP had some direct expenditures for corporate communications that are not included in PMU expenditure data. These are believed to be in the low tens of thousands USD and include a project video, on which USD17,000 was spent. These two explanations may account for all of the Outcome 1 gap and the majority of the Outcome 3 gap. Any remaining gap in Outcome 3 might be due to activities overlooked by the PMU in its expenditure reporting to the MTR team.

10.2.1 Outcome 2 – Activity-Level Expenditures for Demos

Activity-wise expenditures for Outcome 2 are given in Exhibit 10-4 below. As discussed, the great proportion of project outcome monies (93 percent of outcome expenditures) has been spent on the demos of Outcome 2. Exhibit 10-5, in turn, reveals that 52 percent of these demo expenditures (93.8 million INR) have been spent on payments to bamboo beneficiaries. This confirms the prominent role of these payments in the project's overall expenditure make-up, as they account for 49 percent of all PMU-reported expenditures across outcomes. This result fits with our finding that the individual (or sub-group) use rights bamboo model is the most well-developed aspect of the project. It reinforces the conclusion that assessment,

dissemination, and potential replication of the model is indeed a core area for attention in coming months of the project.

Exhibit 10-4: Outcome 2 – Demos
Activity-level Expenditures of GEF Grant Money
Source: PMU Accounting and Finance Data (as of 31 December 2013)

Activity	Amount Spent, in INR
1. Bamboo Rehabilitation (payments to beneficiaries)	96,342,000
2. Fodder Plantation	16,688,000
3. Energy Plantation	22,311,000
4. Water Resource Management Work	22,710,000
5. Home garden and other agriculture/animal husbandry	12,152,000
6. SME investment at local level	0
7. SME consultancies (9) to design business plans for each division	12,900,875
8. Other	3,134,000
Total (sum of PMU-provided expenditures for Outcome 2)	186,237,875

Other sub-components of the demo have received lesser amounts. All planned work for fodder plantation (9 percent of Outcome 2 expenditures to date), energy plantation (12 percent), and water resource management (12 percent) has been completed, while livelihood work will continue and see further expenditures in coming months. SMEs, in particular, will result in additional expenditures as SME business plans designed by Bhopal-based consultancies are implemented (i.e. SME investment monies) and additional payments to consultancies made.

The MTR team finds the expenditures associated with most listed activity areas for Outcome 2 relatively reasonable. We are not sure, however, why no local-level investment for SMEs is indicated. From field work, it is our understanding that the project did provide start-up funds for various enterprises, such as silk reeling and incense sticks.

Expenditures to date on SME consultancies appear to be about 1.38 million INR for each of nine divisions or 12.5 million INR total. Total anticipated spending on the consultancies by project close will be about 2.5 million INR per division (not including direct investment in SMEs) or a total of around 22.8 million INR by the time the consultancies are complete (see Exhibit 10-5). For each division, the work will include resource, market, and institutional assessment reports; baseline information report on bio-resources (including forest and non-forest); about 20 business plans covering about 20 JFMCs; training of 100 JFMC members; and operation of one “bankable” SME for two years. The investment for each of the nine SMEs will be approximately one million INR for a total of 9 million INR. We were told that the project will fund the start-up of at least these nine and perhaps more of these SMEs (one per division) without co-financing.

Exhibit 10-5: Contracts for SME Consultancies

Note: Contracts signed in INR in 2012

Consulting Firm	Division	Contract Amount (INR)	Business Plans to Prepare	JFMCs to Cover	JFMCs with project's bamboo rehab
Access	N. Betul	2,581,740	20 plans	20	2
	S. Betul	2,592,240	20 plans	20	3
	W. Betul	2,697,240	20 plans	20	13
	Umaria	2,613,240	20 plans	20	5
<i>Access Total</i>	<i>4 divisions</i>	<i>10,484,460</i>	<i>80 plans</i>	<i>80</i>	<i>23</i>
Vigyan Sabha	E. Chhind.	2,433,915	20 plans	20	5
	W. Chhind	2,433,915	20 plans	20	6
	S. Chhind	2,433,915	20 plans	20	7
<i>VS Total</i>	<i>3 divisions</i>	<i>7,301,745</i>	<i>60 plans</i>	<i>60</i>	<i>18</i>
IIFM	Sidhi	2,474,052	20 plans	20	11
	Singrauli	2,522,917	20 plans	20	8
<i>IIFM Total</i>	<i>2 divisions</i>	<i>4,996,969</i>	<i>40 plans</i>	<i>40</i>	<i>19</i>
Grand Total	9 divisions	22,783,174	180 plans	180	58

In terms of cost efficiency, one question that arises is whether the project may have focused on a more narrow set of JFMCs in the scoping and design work of these SME consultancies. About 58 JFMCs are involved in the project's bamboo rehabilitation aspect, with the number varying from a low of two JFMCs to a high of eleven in a division. Yet, the SME consultancy TORs ask the consultants to cover 20 JFMCs in each division and list a total of 169 JFMCs. If there is a strategic rationale in terms of project objectives for the additionally selected JFMCs, it would be useful to provide information on why each specific additional JFMC was included.

Another concern regarding cost efficiency is that the SME consultancies, like the TNA consultancies of Outcome 1, were not launched until later in the project. (The earliest were launched in June 2012.) Thus, the divisions were asked to initiate their own livelihood activities. Now, with the first phase of the SME consultancy work finally complete, new livelihood activities will be initiated based on associated business plans. It may have been more cost efficient and strategic to integrate these two efforts (division-initiated SMEs and SMEs based on consultancy-developed business plans) from the start. Yet, the division-initiated work has had positive results. The MTR team found the contracting process for the SME consultants to be relatively transparent. While several factors were involved in the delays of launching the consultancies, the most serious issue may have been not attracting qualified bidders with the first requests for proposals. Thus, for the future, we suggest greater outreach prior to posting of requests for proposals to ensure sufficient bids are received.

10.2.2 Outcome 1: Activity-Level Expenditures for Policy Work and Capacity Building

To date, we find that all Outcome 1 expenditures accounted for to date have been focused on local level capacity building. This includes capacity building workshops with bamboo beneficiaries and local Forest Department staff, skill training for bamboo beneficiaries and

other villagers in the area, and exposure visits for bamboo beneficiaries and other villagers in the area. It also includes two training needs assessments (TNA) focused on the JFMC level and carried out by consultancies in Bhopal. While the project is likely to garner one significant policy achievement at the state level, no outcome-level expenditures were involved. Instead, this matter was handled by the IP (MP Forest Department) and PMU.

Exhibit 10-6 shows the breakdown of expenditures for major activities in Outcome 1. We find the division-led local-level capacity building relatively cost efficient, but are confused with the total given for the TNA consultancies (INR 6.22 million) as it is much higher than the amount estimated based on contract value (about INR 1.12 million per contract or INR 2.23 million total), resulting in 3.99 million unaccounted for. Exhibit 10-7 below shows the contract amounts and JFMC coverage for each of the two TNA consultancies. TNA work has already been completed and contracts paid in full.

**Exhibit 10-6: Outcome 1 – Policy and Capacity Building
Activity-level Expenditures of GEF Grant Money**

Source: PMU Accounting and Finance Data (as of 31 December 2013)

Activity	Amount Spent in INR
1. Local level Capacity Building*	4,230,000
2. TNA (2 consultancies for assessing local level capacity building needs)	6,220,063
3. Policy work	0
4. State level capacity building	0
Total (sum of PMU-provided expenditures for Outcome 1)	10,450,063

*Includes local-level workshops for bamboo beneficiaries and MP Forest Dept. staff and skills training and exposure visits for bamboo beneficiaries and other villagers from area.

One inefficiency is that the TNA consultancies were delayed and have only recently been completed. Had the TNAs been completed closer to the start of the project, training recommended may have been implemented directly. Given the delays, the divisions were asked to initiate trainings. The MTR team found no specific plans to make use of the TNA findings, which leads to the concern that the funds spent on TNA consultancies were unnecessarily spent. Hopefully, use of the TNA findings will be made, but at the same time, this may lead to some risk of redundancy with capacity building initiated at the division level prior to the assessments.

Regarding contracting for TNA consultancies, the MTR team finds the process relatively transparent. Yet, as with the SME consultancies, about 20 JFMCs were targeted per division for an estimated 180 JFMCs total, as compared to the roughly 60 JFMCs involved in the project's bamboo work (see Exhibit 10-7). The question arises of whether the work should have been more focused in order to achieve project objectives or if, instead, each of the additional JFMCs can be strategically justified in terms of project objectives.

Exhibit 10-7: Contracts for TNA Consultancies

Note: Contracts signed in INR in 2012

Consultancy	Divisions	Contract Amount (in INR)	JFMCs to Cover	JFMCs with project's bamboo rehab
Access	N. Betul, S. Betul, W. Betul, E. Chhind., W. Chhind, S. Chhind.	1,116,990	120	36
IIFM	Sidhi, Singrauli, Umaria	1,116,616	60	24
Total	9 divisions	2,233,606	180	60

10.2.3 Outcome 3 – Activity-Level Expenditures for Documentation, Dissemination, and Replication

Activity-wise expenditures for Outcome 3 are given in Exhibit 10-8 below. PMU provided data indicates that there has been very little spending for Outcome 3, which concurs with findings that documentation, dissemination, and replication work needs to be ramped up in the post-MTR period. One concern, noted above, is that the UNDP data indicates spending of USD144,678 for this outcome, while the PMU data indicates expenditures to date of somewhere within the range of USD1,418 – 2,006. Yet, as also noted above, the majority of this gap may be explained by (a) items reported by UNDP under Outcome 3 being reported by the PMU under Outcome 1 and (b) some direct expenditures by UNDP on corporate communication. The remainder of the gap may be due to items overlooked by the PMU in its activity-wise expenditure reporting.

Exhibit 10-8: Outcome 3 – Documentation, Dissemination, and Convincing for Replication

Activity-level Expenditures of GEF Grant Money

Source: PMU Accounting and Finance Data (as of Dec. 31, 2013)

Activity	Amount Spent, in INR
1. Preparation of Case Studies	88,625
2. Other	0
Total (sum of PMU-provided expenditures for Outcome 3)	88,625

10.2.4 Project Management Costs

Exhibit 10-9 below shows a breakdown by category of expenditure for project management costs (based on PMU-provided data) as well as the share of project management costs in total expenditures (based on UNDP-provided data). Based on the UNDP data, we see that project management costs to date have overall been 7.3 percent of total expenditures. Thus, they have been well within the GEF limit at time of project formulation of ten percent. At the same time, costs are somewhat sporadic on an annual basis. Considerable cost-effectiveness in this area has been achieved by leveraging co-financing of district level salaries and office space, as well as office space in Bhopal. Originally, the project intended to purchase eight or nine vehicles (one for each of the division), with eight vehicles approved by UNDP. In the end, due to concerns about difficulty in terminating of employment contracts at the end of the project period, rental of vehicles was chosen. Yet this issue may need to be understood more, as the divisions generally have vehicles for their other work. We were told that the costs of

rental actually exceed the costs of purchase. Finally, one of the line items (“baseline and solar energy”) seems out of place in “project management costs” and may need to be reclassified.

**Exhibit 10-9: Project Management Costs
Expenditures of GEF Grant Money by Category of Expenditure;
and Proportion of Total Expenditures**

Source: PMU Accounting and Finance Data (as of December 31, 2013)

Activity	Amount Spent, in INR				
1. Staff salaries	7,355,000				
2. Travel	2,672,000				
3. Office supplies (stationery)	1,792,000				
4. Office rent	0				
5. Other (materials)	4,052,000				
6. Other (baseline & solar energy)	2,280,000				
Total (sum of PMU-provided expenditures for management costs)	18,151,000				
<i>UNDP-provided data</i>	2010	2011	2012	2013	Total
Project Management Costs by year	19,845	279,410	-44,553	66,744	321,446
% of total annual expenditures	6.3%	20.6%	-2.9%	5.7%	7.3%

10.3 Co-Financing and Implications for Cost-Effective Use of GEF Funds

Exhibit 10-10 below displays co-financing data for the project by division, as provided by the PMU. We find that co-financing amounts reported vary drastically among districts from a low of Rs 375,000 for S. Betul to Rs 134.5 million for Sidhi. As indicated in Exhibit 10-11 below, according to PMU data, reported co-financing amounts are about 2.2 times total GEF expenditures to date. We asked the PMU for co-financing data broken down by nature of expenditure both prior to the mission debrief and following it (other stakeholders expressed interest in this information as well), but did not receive this information. This may be an area worth additional attention at the time of the Terminal Evaluation.

Exhibit 10-10: Co-financing by Division (in Rupees*)

Source: PMU

Division	2010-2011	2012	2013 (proposed)	Total
North Betul	2,474,800	1,549,800	2,855,400	6,880,000
South Betul	171,960	204,020	0	375,980
West Betul	1,522,100	1,741,000	2,485,600	5,748,700
East Chhindwara	27,420,000	199,800	263,500	27,883,300
West Chhindwara	212,800	337,500	162,500	712,800
South Chhindwara	3,021,400	1,836,000	1,086,000	5,943,500
Sidhi	29,220,000	35,920,000	69,360,000	134,500,000
Singrauli	50,720,000	36,420,000	39,170,000	126,310,000
Umaria	44,548,000	23,264,900	33,134,400	100,947,300
Total	157,809,060	102,037,420	148,631,400	409,301,600

*Because of substantial devaluation of the INR with respect to USD during life of project, we present this data in rupees. October 2013 exchange rate was 62.5 Rs/USD.

Exhibit 10-11: Comparison of Reported Co-Financing to GEF Expenditures to date

Source: PMU

GEF Expenditures to Date in Rupees	Co-financing to date in Rupees (estimated)*	Leverage level of co-financing Co-financing: GEF Expenditures
Rs 187,600,000	Rs 409,300,000	2.2 x

*2013 amounts are planned amounts

Note: Because of substantial devaluation of the INR with respect to USD during life of project, we present this data in rupees. October 2013 exchange rate was Rs 62.5/USD.

The MTR team has a mixed impression of project co-financing. Overall, there are two positive findings and one negative finding. First, we see the experiences gained with “convergence” (i.e. the MP Forest Department leveraging funds from other departments) to be valuable. We learned that the potential for such “co-co-financing” is high, but skill of Forest Department staff may be important in leveraging the opportunity. According to interviewees, other departments (especially departments such as agriculture) are keen to use their funds in project areas if they can get help from the Forest Department in implementation. These other departments do have responsibilities to serve villagers in project areas, but the remoteness of villages in forest areas makes this difficult for them. Thus, help from the Forest Department is appreciated. Results, however, may depend on the ability of DFOs and SDOs to reach out to other departments. Exhibit 10-12 provides a sort of case study of “co-co-financing,” presenting data from East Chhindwara on project funding received in the division from other departments.

Exhibit 10-12: Co-Financing Case Study : Co-financing Reported by East Chhindwara

Note: This table really represents “co-co-financing” or “convergence,” funds from other departments, but does not include co-financing from the MP Forest Department.

Government Department	Co-co-financing in INR**
NREGS*	3,864,000
MP Minor Forest Produce Federation	13,711,000
Forest Development Agency (FDA)	825,000
Total Co-co-financing	18,400,000
Total GEF expenditures to date	15,072,150
Co-co-financing: GEF expenditures	1.22 : 1

*Mahatma Gandhi National Rural Employment Guarantee Scheme

**We have not converted to USD due to the great changes over time in exchange rate. As of Oct. 2013, the exchange rate was 62.5 Rs per USD.

Second, it is clear that the project benefited greatly from the leveraging of the MP Forest Department’s human resources. As illustrated in Exhibit 1-5, numerous persons at the local level from DFOs to SDOs, to range officers and beat guards were intimately involved in the project. As an example, we asked one beat officer whether he had shared his project experiences with other beat officers. He said he had, because they had asked why he is now extremely busy and without time to get together. The project also benefited from free office space at the state and local levels. Clearly, the MP Forest Department has leveraged a vast amount of human resources for this project, all of which may not be reflected in co-financing

figures. Because of this human resource involvement alone, the MTR gets a very positive impression of in-kind co-financing

At the same time, we were surprised in some cases at the lack of cash co-financing from the MP Forest Department. The major expenditure area for GEF funds, payments for bamboo rehabilitation (representing about 49 percent of expenditures to date), received no co-financing. This is surprising, as the MP Forest Department does have annual allocations for rehabilitation of degraded bamboo. On the other hand, as discussed previously, the model of the project has not yet been fully recognized by the Department; and the project's model requires a budgetary commitment of four years, whereas the Department generally allocates funds on an annual basis. Similarly, we did not find any cash co-financing from the Department for any of the other sub-components of Outcome 2 (the demos). Looking ahead to financing of the SMEs based on the business plans developed by the consultancies, we have been told that at least one SME in each division will be financed fully by the project. It was further pointed out to us that the SME work was modeled on SME work previously done under a JSDF forestry project in MP. For the JSDF project, half of the financing was provided by the Department and half by the project. So, "what's new" about the SMEs, we were told, was for the UNDP-GEF project to provide 100 percent of the financing for the SMEs. This view, we believe, shows a lack of understanding of the GEF strategy of incremental financing. Finally, the MP Federation, given its mission and current activities, appears to be a promising source that may be pursued for co-financing of the project's upcoming SMEs.

10.4 Cost Efficiency of the Model: Expenditures for Sample Villages/Forest Areas

To assist policy makers in understanding how much full replication (not only of RDBF but of other sub-components) will cost, we hoped to provide data on expenditures of the project in a few sample villages or forest areas. We were unable to obtain data for this, but would highly recommend as part of the project's post-MTR dissemination work that such an analysis be conducted. Already, in Section 6, we have provided a cost comparison and interview findings that suggest the RDBF costs are not expensive as compared to other options. Indeed, while we lack data for a sample village or forest area, we expect that once such data is obtained, it will show that the bamboo rehabilitation is still the greatest expenditure for the model on a forest area or village-wide basis. Thus, in assessing the feasibility of replicating the model, considering the base cost of bamboo rehabilitation payments will be useful in assessing feasibility.

11. Design, Implementation, and M&E

11.1 Design

In general, the project received praise from stakeholders for its design. We especially appreciate the innovativeness of design which brings together three different intersecting models for learning and replication: (1) individual (or small group) use rights bamboo rehab model, (2) multi-pronged approach to improving land quality, ecosystem, and local livelihoods, and (3) highly enhanced cooperation between Forest Department and local people in forest protection and livelihood development. Yet, there are a few aspects in which project design could have been improved.

First, the scope and unifying theme of all the sub-components of the demo work could have been tighter. In discussions with a key individual involved early in the design process, we learned that the project originally envisioned the milli-watershed as the unit activity. Yet, as currently implemented, we have also been told that changes and improvements should not be expected at the milli-watershed level, but instead in and nearby to the RDBF areas of the project. It's critical to be clear on the area of focus for the project as this affects where conservation activities will be placed and in which villages livelihood activities may be undertaken. The MTR team perceived that decisions in this regard seemed a bit haphazard as the scope and targeting of the project have not been well-articulated.

A second issue lies with the design of the non-demo activities. As mentioned, activities have mostly been focused on field activities and capacity building at the local level. The project originally envisioned some broad-based work in the policy area as well as in dissemination. Yet, this work is not articulated in much detail in the project document. The message we have gotten during the MTR is that there is not much relevant policy work to be done aside from the one small policy adjustment likely to be achieved soon. As for Outcome 3 work, activities have still not been clearly articulated. Greater definition and greater consensus on Outcome 1 and Outcome 3 activities prior to launching of the project would have ensured that they did not get left by the wayside.

We learned that some of the project design issues we have noted are related to the historical development of the project. Interestingly, the MP Forest Department originally wanted to focus the project entirely on the individual use rights model for RDBF. UNDP proposed a broader multi-pronged approach to the demos, which includes many sub-components (e.g. fodder and energy plantations, watershed work, and SMEs). The Forest Department came on board with enthusiasm for this multi-pronged approach. Yet, when funding was less than hoped for, some of these other activities got cut more than did the RDBF, thus leaving the RDBF work as strongest aspect of the project. The scale of the fodder plantations, for example, is considered too small to have the type of transformative impact hoped for. In one locale, it was suggested to us that instead of 10 ha, 30 ha would be the more appropriate scale

of the fodder plantation. As it is, the project achieves a small piloting effect in this area, rather than a full-scale demonstration effect.

11. 2 Project Implementation – Timeliness

The project timeline is discussed in Section 1.3 and illustrated in Exhibit 1-4. Certainly efforts should be made in the future to avoid the substantial delays that occurred between PDF B approval and ProDoc signing and between second ProDoc signing and the inception workshop. After implementation began, the biggest delay was in launching the SME and TNA consultancies. These delays create redundancies within the project, as the divisions were asked to move ahead with both SMEs and capacity building. While the consultancies have been launched, their findings, not available until over three years after project inception, have not been implemented. The delays appear to be tied to the process of reaching out to and then selecting contractors. Future projects may wish to flag critical consultancies that need to be launched as soon after project start as possible. And, IPs may wish to develop strategies to reach out to potential bidders and ensure bidding and selection is carried out in a timely fashion.

Mainly because of a delay of about nine months in launching activities, the five year project hopes to extend its duration to almost six years. This would move the project end date from January 2015 to December 2015. In its formal application for extension, the project should confirm its plans and budget allocations for Outcomes 1 and 3, in particular conveying a firm plan for documentation, dissemination, and “convincing” in 2014 and 2015. If and when a viable plan has been developed and it can be confirmed strong efforts towards dissemination and replication will be made, we recommend the project extension be granted. With payments to beneficiaries ending in October 2014, continuation of the project through 2015 will also ensure that the project is ongoing during the first full year without payments. This is attractive as the project will be able to see real results in terms of income sustainability.

11.3 Project Implementation - Institutional Set-up and Issues

The project institutional set-up is described in Section 1.4. In this section, we discuss additional findings from the mission and issues to consider.

PMU: We found the PMU is led by a dedicated and capable NPC and also got positive impressions of the two local PMU staff based in the districts whom we met. We found through discussions with one of the local PMU staff that he is quite involved in promoting the livelihood activities, as well as financial and administrative work, including the keeping of detailed records. As the project moves into the post-MTR phase, the PMU in Bhopal will face added pressures of organizing documentation and dissemination, as well as pushing forward the SME work and, possibly training based on the TNAs. While these pressures may be handled by outsourcing additional work, we suggest that hiring an in-house expert for a period be considered. The documentation work in particular may require access that is best gained from within the Department.

Implementing Partner – MP Forestry Department: The MTR team was impressed with the level of effort put into the project both at the state and division levels. There are some concerns that progress is slowed both by the frequent transfers, which are common practice in the Department, and by the amount of work the NDP has on his plate. We learned during the mission, however, that the dual assignment of the current NPD, as the APCCF responsible for both protection and the project will be adjusted soon, so that an NPD fully dedicated to the project will be arranged for.

The frequent transfers within the MP Forest Department have both pros and cons. Having more consistent staffing, particularly at the DFO and NPD level would ensure continuity and eliminate disruptions due to transitions in personnel. At the same time, the frequent transfers (on average at least once every three years) have resulted in a much greater number of persons in the Department being involved in the project on an intimate level, thus expanding the scope of capacity building. According to one interviewee, the original intention was to ensure that DFOs that began with the project at project launch would stay in their positions until completion. In the end, however, this plan was not sustained; and transfers were made. Exhibit 11-1 displays some of our findings in the field regarding the length of time some individuals associated with the project have held their current post. We heard from one interviewee at the DFO level that high turnover of staff at lower levels is a challenge to project implementation. Also, one explanation given for a case of beneficiaries and even SDOs not being clear on share of profit due to beneficiaries was frequent turnover of staff. It was recognized by project leadership that better communication is needed to ameliorate this issue.

Exhibit 11-1: Findings on Length of Time in Post of Individuals Involved with Project at time of MTR field trips: end of Dec. 2013 and beginning of Jan. 2014

Position	Time in post	Position	Time in post
Chhindwara CCF	2 months	W. Betul DFO	1 month*
E. Chhindwara DFO	3 years	S. Chhindwara Range Officer	1.5 years with project**
W. Chhindwara DFO	4 months	E. Chhindwara Range Officer	1.5 years
S. Chhindwara DFO	6 months	E. Chhindwara Beat Guard	2010 – present***
Sidhi DFO	2.3 years†		

†Served as Singrauli DFO prior to transfer.

*But was involved in project in West Chhindwara for almost three years prior to that.

**Moved to area outside of project 1.5 years ago

***Time involved in project, not sure how long in post.

Illustrating the scale of Forest Department Staff involved, one DFO outlined the number of staff involved with the project in his division: seven forest guards, three foresters, two range officers, and two SDOs (previous and current), and three DFOs (two previous and one current).

PSC: The Project Steering Committee consists mainly of state-level representatives. The advantage of having a local PSC is that meetings can be called relatively quickly to respond

to needs of the project. On the other hand, particularly as the project hopes to get the word out about its model and learnings, national level representation may be a good idea. For example, India's GEF focal point may be a relevant addition to the PSC going forward. ICRFRE, given its role in promoting SLEM projects at the national level via the TFO Project, may also be a relevant organization to include in the PSC.

Village level: The JFMC, as discussed, plays a critical role when the beneficiary system is being launched in a village. One topic that perhaps did not receive enough attention in our fieldwork is the ongoing role of the JFMC Chair or other JFMC office bearers in the project. One JFMC chair, when asked for suggestions, recommended that the JFMC Chair be compensated for the large amount of time spent in organizing people for the project. Indeed, presentations by Chhindwara DFOs suggest that JFMC chairs may be checking work on a daily basis and reporting to the Forest Department. If it turns out that JFMC chairs are really a critical link in the chain and required to do daily work, a means of strengthening their commitment to this role may need to be considered.

11.4 Project Monitoring and Evaluation

As discussed in Section 8.1, the MTR team has several recommendations for strengthening monitoring of project results, particularly from an ecological perspective. Information from all the demos should be gathered at the central level and displayed in an easy to read fashion. If possible, additional ecological indicators should be developed.

The project has a log frame with: indicators, start-of-project levels, and targets for achievement by end of project. The status of these indicators has been updated annually at the time of the PIR. One recommendation to improve the log frame is that more specific indicators showing impact, rather than those showing "hectares of work completed" be instituted. Indicators may include new culms, forest density indicators, a simple biodiversity index, and an indicator reflecting profits earned from harvested bamboo. Another issue, though a challenging one, is to ensure that objective level indicators reflect broader level impacts and are distinct from outcome-level indicators.

The MTR team does believe that stronger documentation will strengthen the self-monitoring and evaluation of the project and lead to more adaptive management. The MTR team did not find any annual progress reports (APRs) distinct from the PIRs as it has in some other projects.

The project put a lot of effort into organizing the MTR and ensured the MTR consultants were able to travel to almost all project divisions and districts. The team was also able to meet with key persons from the Forest Department in Bhopal as well as Bhopal-based consultancies serving the project. The MTR team hopes that this effort results in substantial course correction that will ensure that the excellent field work achieved to date is both brought into sharper focus and disseminated to likely replicators.

PART V: RECOMMENDATIONS AND NEXT STEPS

12. Recommendations and Next Steps

Below is a summary of recommendations and next steps based on MTR findings. These are drawn from the previous eleven section of the text. They are presented here as a group to facilitate project planning for course correction.

Scope, Focus, and Timeline

- Clear description of project purpose: Project should develop clear description of what it is trying to achieve. One possibility is: “To promote sustainable land and ecosystem management in and near bamboo (and possibly other) areas of Madhya Pradesh and India via demonstration and replication of all or parts of an innovative model that: (1) assigns individual bamboo use rights to families; (2) integrates multiple conservation and livelihood activities (including fodder and energy alternatives, watershed management work, and agriculture-related and SME livelihoods work); and (3) enhances cooperation between the Forest Department and local people.”
- Refinement of targeted physical area for measurable ecological impact: Whereas milli-watersheds were originally used to define boundaries of the project, we recommend this scope be narrowed to reflect an area in which measurable ecological impacts can be achieved. This area will likely be project bamboo and surrounding forest areas. Already, fire incidence has been reduced and vegetation noticeably increased in these areas.
- Development of 2014-2015 action plan and application for formal project extension: Project should prepare action-plan for 2014 and 2015 that includes specific activities to facilitate dissemination/replication of project models. Based on action-plan, project should submit formal application for extension of project close from Jan. 2015 to Dec. 2015.

Addressing of Key Overall Concerns

- Communication of results: We recommend project put strong emphasis going forward on communicating project results achieved in field. Project should emphasize provision of similar indicators across sites. It should aggregate results in clear fashion so trends across sites can be seen. Case studies should emphasize conservation results at the local forest or village level, rather than livelihood results alone. PMU may consider hiring an in-house documentation expert to oversee this process post-MTR.
- Indicators and monitoring: We recommend project move beyond simple mention of hectares achieved to indicators that reflect real impact. Ecological indicators, such as soil moisture content, simple biodiversity index, forest density index, etc. may be considered. New culms per clump (bamboo), survival rates (energy plantation), and fodder quantity harvested (fodder plantation) at local level can be grouped together at state level and shown across sites to illustrate trends. Analysis of change in forest cover from before-and-after satellite photos should be carried out. Project may wish to reference TFO work

on land degradation indicators or design its own indicators. Indicator design work may be carried out internally by MP Forest Department or outsourced to independent technical consultancy that also makes baseline and follow-up measurements. Socio-economic indicators are challenging, but design of new ones may also be considered. Increase in income alone is not enough to prove impact, given inflation and overall growth in income trends. Forecast of bamboo revenue, comparison of before-and-after out-migration rates, and comparison to non-beneficiary villages may be of interest.

- State and national-level initiatives for dissemination and replication: To ensure that excellent results in field do not go unnoticed, project should ramp up state and national-level activities in 2014 and 2015. Such activities should focus on promoting the project's model and convincing others of the benefits of replication. Efforts should begin at the state level and then be expanded to inter-state or national level initiatives. Because of funding limitations and situation that Outcome 2 is overspent, a clear action plan for 2014 and 2015 should include these state and national-level activities.
- Project handover strategy: We suggest project develop a clear strategy for how the bamboo and energy and fodder plantations will be incorporated into the FD's work once the project closes. Also, plans for sustainability of the SMEs started to date should be made.
- Systematic integration of model sub-components, especially SMEs: We found that site selection for SMEs and some other project initiatives (e.g. a few fodder plantations, biodynamic farming, etc.) does not overlap with bamboo beneficiary villages. SME consultancies plan for coverage of many more villages than are included in the project's RDBF work. At the same time, the number of persons that will be included from RDBF villages in SMEs designed by the consultancies may be very small. We suggest the project reexamine this strategy and drive site selection choices based on conservation targets in defined areas. As the milli-watershed is too broad an area in which to achieve measurable results, we recommend the project consider bamboo areas and surrounding forest as targeted area of impact.
- Plans for harvesting, marketing, and profit distribution: The project's divisions have little experience with marketing bamboo, expected prices vary widely, and there is some confusion on the question of subsidized versus market prices. We recommend the project initiate activities to ensure clarity on how bamboo will be marketed. Also, some locations are planning profit-sharing (beneficiaries each get same, average profits), while others plan to stick with originally envisioned plan of profits distributed according to each family's harvest. And, others still may not be sure how they will handle this. Project may wish to facilitate discussion on this issue. Finally, while 4-year rotations are generally planned for the bamboo harvests, there is some controversy as to whether annual harvesting will improve results and provide a faster path to sustainable incomes. We recommend project hold roundtable discussion and consider "experiment" regarding annual versus 4-year rotation period. After facilitating sufficient discussion and review of the foregoing issues, we recommend the following steps:
 - Government issues directive clarifying proportion of profits to be shared between beneficiary and JFMC. (We suggest this include specification of a range of profit

sharing, e.g. 80 to 100 percent as has been informally applied to date, with final decision to be made by each *gram sabha*.)

- Government or MPFD issues directive regarding manner of calculation of benefit/profit for bamboo that the department sells on behalf of beneficiaries. This should, in particular, clarify the issue of concessional supply versus sale on open market. Project may provide support to the MPFD in developing this directive.
 - MPFD reaches out to bamboo market and makes sure all project divisions are equipped to handle sale of bamboo harvest on open market. This will ensure beneficiary gets best price and maximum profit from the harvest of bamboo.
 - Detailed technical discussion on desirability and practicability of annual versus four-year cycle harvesting of bamboo is held. Conclusions are circulated amongst project divisions and working plan officers.
- Lessons learned from failure of a very similar program in the past: For the purpose of sustainability of the model introduced by the project, it will be important to understand the true reasons for the failure/discontinuation of funding for the “Sustained Employment through RDBF” program introduced by the MPFD in 2000/2001. The earlier program’s design in some aspects is remarkably similar to the SLEM project. An understanding of why funds were discontinued may enable the current project to take steps to avoid a similar fate of plans for its replication.

Next Steps on Outcome 1 – Policy and Capacity Building

- Policy initiatives: While further policy initiatives may not be needed, we recommend project conduct a scan of possibilities to ensure no good opportunities are missed and that replication of project model will not face policy barriers. The following possibilities may be considered: (1) support for MP Bamboo Mission’s drafting of bamboo guidelines; (2) support for elaboration of MP JFMC policy for calculating profits due and for determining use of market versus subsidized prices for bamboo; (3) review of legal validity and appropriateness of agreement between JFMCs and beneficiaries and possibility of specifying wider area of protection in agreement; (4) assessment for possibility of flexibility in FD harvesting cycle requirements; (5) analysis of adherence to FRA in implementation of project bamboo use rights model (e.g. NTFP issues, need for *gram sabha* agreement, etc.).
- State-level capacity building: State-level workshops and analyses targeted at promoting project model for inclusion in government plans and programs should be a priority post-MTR. Departments with strongly funded programs should be invited to attend workshops. Workshops involving other states and national-level stakeholders can be held as a second step. If needed, other state-level capacity building work may address design and assessment of ecological indicators for state-wide land degradation study. SLEM TFO project, however, indicates it has already designed indicators for India and its SLEM projects. MP Forest department may initiate efforts to make use of these indicators. MPFD officers may participate in trainings/workshops and modulate indicators to suit local condition as part of capacity building to equip the FD for such assessments.

- Local-level capacity building: A decision should be made whether and how to implement training agendas developed by TNA consultancies. The project should increase integration of any TNA follow up with rest of model through: (a) strategic selection of villages and trainees to be included in training (TNA work covered 20 villages per division – much broader than area covered in RDBF work) and (b) selection of training content (e.g. making a decision on whether to focus on income generation training per Access’ focus or on more general training per IIFM’s approach). Given enthusiasm for the project’s model of enhanced cooperation between the FD and villagers, project may wish to consider idea that FD line staff be trained to be trainers. The project should make greater efforts to include women in training, including in out-of-town exposure visits if possible. We suggested the project target at least 50 percent of person-trainings to be of women.

Next Steps on Outcome 2 - Part A: Individual (or Small Group) Use Rights Bamboo Rehab Model

- Forest protection as part of use rights model: Project has achieved outstanding forest protection results as result of bamboo use rights model, in part because protected area extends beyond bamboo areas alone. In order to ensure good results continue and are replicated elsewhere, project may wish to specify protection requirements in greater detail (both area to be protected and nature of protection) in JFMC-beneficiary agreement or in another medium.
- Work mode and profit-sharing: In some locales beneficiaries, are working together to rehabilitate bamboo. Further, in some locales the Forest Department plans to pool profits among beneficiaries in the same village or on the same range. The pro of profit-sharing is that it alleviates problems of uneven clump distribution or quality. The con is that it may lead to free riders and lack of motivation to do an outstanding job on one’s assigned land. Working together may lead to greater work efficiency, but less involvement of women. Project may wish to investigate these two issues (working together and profit pooling) further and come up with recommendations on how divisions handle and on how this aspect is replicated in other locales. Because of variation of preferences from place to place, letting beneficiaries themselves decide whether to work together is preferable. If profit pooling is implemented, it is better for the scale of the group to be small enough that all members know each other and work well together (e.g. are from same village).
- NTFPs: While the issue of NTFPs on beneficiary bamboo land did not arise as a major issue during field work, there may be some differences in how different places are handling access to NTFPs on project bamboo lands. We suggest project follow up to ensure approaches comply with policy. Based on follow up, project may wish to make recommendations as to how JFMCs handle this issue.
- Distribution of beneficiaries: When possible, replicators of project should strive to have a greater rather than lesser proportion of households in a village involved in rehabilitation work. For example, a village with 25 out of 50 families participating may have better forest protection results than one that has only eight out of 300 families participating. Further, attention should be paid to how to distribute other benefits from project (e.g.

livelihood opportunities) to either non-beneficiaries in bamboo villages (when issues of jealousy are of concern) or to beneficiaries themselves, when profits from bamboo will be low and a return to out-migration is a risk.

- Measuring forest conservation and protection results: Forest conservation and protection results have been outstanding. Project should develop way to measure and document improvements such as increased forest density and reduced fire incidence. Results should be provided across sites to show repeatable trends. This may be a part of indicator work mentioned under Outcome 3.
- Measuring socio-economic results: Measuring socio-economic results will be challenging for several reasons: inflation, general income growth without project, and difficulty villagers have in reporting net annual income. If project has resources to take on this challenge, it may wish to design means to confirm improvement in income and material well-being, such as a structured survey canvassed over a statistically selected sample. This method may include comparison to similar villages. If resources are constrained, however, project may put greater emphasis on measuring ecological results and use extended villager interviews to confirm socio-economic results. Other participatory techniques may also be useful for lower-cost socio-economic data collection and triangulation to confirm trends.
- Women: Involvement of women in bamboo rehab is relatively low. Project should confirm whether women can play greater role in bamboo work. (Some say it is a man's job, but we found in South Chhindwara that some women are leading their families in the work.) If women cannot play a greater role in bamboo work, project should ensure that project livelihood work puts its greater emphasis on women.

Next Steps on Outcome 2 – Part B: Other Sub-Components of Multi-Pronged Model

- Fodder Plantation: Site selection should be driven by targeted conservation area in which multi-pronged approach aims to have measurable impact. If replicated, larger areas (to meet larger proportion of village needs) should be considered. We recommend project conduct a systematic mini-study across all project fodder plantation sites. The mini-study can cover: annual amount harvested, proportion of village needs met, actual production compared to expected production, management system/quotas, and strategic fit of site selection with project's targeted conservation areas.
- Energy Plantation: We recommend project conduct a mini-review across energy plantation sites. The review can cover: forecast of annual harvest and corresponding proportion of fuel wood needs of associated village that could be satisfied, management plans, and proportion of non-fuel wood trees. Some have suggested expansion of fuel wood plantation area, though we got mixed feedback on how well existing areas may meet village needs. For replication of model: (1) site selection should clearly support achievement of measurable results in targeted conservation area; and (2) focus on fuel-wood species should be verified.
- Other Energy: If funding is available, project may wish to expand alternative energy work in areas such as fast-growing saplings, energy efficient stoves, and biogas. LPG and solar lanterns might also be considered. If expansion is pursued, we recommend project's

targeted area of conservation be well-defined and drive site selection for these alternative energy initiatives.

- Watershed Management Work: Project may wish to provide a review across sites of how watershed management has strengthened project results. Such a review may provide comparison of project RDBF villages with and without watershed work in neighboring bamboo areas. It may also provide recommendations for design (e.g. density and placement) of watershed work within the larger multi-pronged model.
- Agriculture-Related Livelihoods: Project and MPFD more generally should expand leverage of Agriculture Department co-financing by offering to facilitate outreach to remote villages in forest areas via FD human resources. Future project efforts in agriculture-related livelihoods should ensure locations selected are relevant to targeted conservation areas. Beneficiaries should be strategically selected (e.g. bamboo beneficiaries versus non-beneficiaries) based on the local situation. Given the wide range of agriculture-related livelihood activities, we recommend documentation assess which activities work well in which environments and provide implementation advice for certain types of initiatives. In addition, the project may document how the MPFD can leverage Agriculture Department funds and document how the FD and people can work together to improve livelihoods.
 - *Traditional Agriculture*: The project's efforts to support rain-fed agriculture are very limited and could be expanded. Biodynamic farming efforts may also be expanded, as the techniques drastically reduce farmer expenditures on fertilizer and are said to improve soil and food quality.
 - *Home Garden*: The project has achieved positive income results from its home garden work. Yet, sites in some places expand far beyond project RDBF villages. We suggest a more strategic approach to site selection be implemented in the future. There is an opportunity to link home garden effort with SMEs for production and processing of medicinal and aromatic plants that needs to be explored and pursued.
 - *Animal Husbandry*: Project efforts to date in animal husbandry have been quite limited, despite interest of villagers. We recommend the project and MPFD generally expand their leverage of support from the Animal Husbandry Department, through FD offers to facilitate work in remote locales.
 - *Fish Ponds*: The project has seen positive results in its fish pond efforts. In some cases, sites seem far afield from project RDBF sites. Thus, we recommend focus of future project efforts be on those locales relevant to the project's pre-defined targeted conservation areas.
- SMEs: We recommend the project conduct in-depth review of its SME site selection strategy. There is a need for either greater focus on areas in which the project targets to have a measurable conservation impact or improved communications to explain how sites integrate with areas targeted for conservation. Beneficiary selection should also be strategic based on whether bamboo incomes will be low (in which case, the strategy may be to provide SME opportunities to bamboo beneficiaries) or high (in which case, the strategy may be to focus on non-bamboo beneficiaries). Women should receive the

greatest emphasis in SME work, as their role in bamboo rehabilitation is limited. Work is needed to ensure SMEs run sustainably after project close. Lessons learned on how the FD works with local people to develop SMEs and how income of the poorest in tribal forest areas can be raised through SMEs should be documented. Types of SMEs and organizational approaches should also be included in documentation. Some stakeholders recommend a strong forest-product orientation for the project's SMEs in order to increase villagers' connection to the forest. Some suggest bamboo enterprises should be emphasized to a much greater extent than at present, so that the project does not lose its bamboo focus.

- **SME cooperation**: The project may wish to consider cooperation in establishing SMEs with the MP Minor Forest Products Federation. The Federation's experience in marketing, processing/storage infrastructure, and running SMEs may be leveraged. In addition, partnership may make it possible to obtain co-financing for the SMEs, so that two could be established per division (e.g. with 50 percent co-financing) instead of one per division (with no co-financing).
- **SME consultancies**: Concerns with regard to village selection and the potentially very limited scale of impact in project bamboo rehab villages should be addressed. We recommend that the current "cluster" strategy be reconsidered to ensure impact on bamboo rehab villages is more substantial. We recommend that at minimum site selection strategy be clearly explained in terms of achieving targeted conservation results in well defined areas. Consultants should be better briefed on the overall conservation aims and multi-pronged strategy of project and asked to ensure their work clearly supports these.

Next Steps on Outcome 3: Monitoring, Dissemination, and Replication

- **Outcome 3 Overall**: Project should now put strong emphasis on monitoring, dissemination, and laying the groundwork for replication post-MTR. It should prepare an action plan with budget allocations in which these areas are clearly covered.
- **Monitoring**: As noted above, we recommend the project move away from only reporting (at state level) hectares worked. The project may aggregate data collected at local level (such as new culms per clump bamboo, clumps per ha, fire incidence, survival rates on energy plantations, kg of fodder harvested on fodder plantations) in a fashion that allows viewers to easily understand project results and trends. The Forest Department should conduct and document analysis of before and after satellite photos for changes in forest cover in bamboo rehab and neighboring forest areas. And, as also mentioned, the project may consider design of additional indicators (such as soil moisture content, forest density, simple biodiversity index, projected annual harvests, etc.) to convey the full impact of project. The project may commission an independent technical study to design and measure these indicators, both at baseline and at follow-up intervals (or at least at baseline and at project close). Design and measurement of such indicators, if pursued, should be done as soon as possible so that follow up measurement during the lifetime of the project will be possible. Such a study may reference SLEM indicators recently designed by TFO project to see if these are useful input for the design of indicators specific to the MP SLEM project.

- **Dissemination:** Documentation work should go beyond case studies and compile results across sites. We suggest the project prepare three or four very strong dissemination reports appropriate to policy makers (perhaps 20 pages each). These may each be prepared from the angle of a different project model (i.e. one or two for the bamboo model, one for the multi-pronged approach with indicator results, and one for the model of the Forest Department working with villagers on conservation and livelihoods). We also recommend that the project hold a number of dissemination workshops (perhaps three major state level workshops and a few national level ones) to promote project results.
- **Replication:** The project should design a replication strategy, identifying organizations that have strong potential to replicate. (This strategy, then, would not be about specifically where and how to replicate, but rather about who to try and convince to replicate and how to convince them.) The project could then carry out focused liaison with such organizations and perhaps draft replication plans for them. (These plans, then, would be specifically about where and how to replicate.) While all three of the project's models have replication potential, the individual (or small group) use rights bamboo rehab model is the most "ripe" for replication. With more than a doubling of the MP Forest Department's budget allocation expected in 2015, the project's efforts to promote replication within Department should also be strong. The project may also consider pushing for support of the DFO who wishes to replicate the model of the Forest Department working with local people across all forest types (working circles) in his division as a new sort of demo.

Sustainability-related Recommendations

- **Ensuring awareness of bamboo profits due:** While most beneficiaries are aware that they will be entitled to most or all (80 to 100 percent) of the profits from bamboo harvest, in one division, we found a lack of awareness and thus pessimism regarding sustainability of income levels. Therefore, we recommend the project ensure beneficiaries in all locales are very clear on the share of profits to which they are entitled.
- **Forecasting bamboo incomes and planning accordingly:** Sustainability of the protection and ecological results of the project's individual use bamboo rehab model will be closely tied to the income of beneficiaries after payments stop. We recommend that the project develop estimates on a village-by-village basis of expected annual income per beneficiary from bamboo profits for several years into the future. While estimates are challenging, the "bamboo business" of the project should certainly receive the same or more attention than each of the proposed SMEs in the 180 business plans commissioned by the project. These estimates should be made as soon as possible and updated as parameters used evolve. Results should be used to inform strategy for livelihoods work in beneficiary villages and whether (on a village by village basis) this should be focused on increasing beneficiary or non-beneficiary income.
- **Uncertainties in bamboo profits:** The project should clarify issues related to uncertainties in the expected price of bamboo and harvest cycle. Open discussion should be held as to whether annual harvesting is a viable option to improve incomes.

- Sustainability and other aspects of project: The project should address sustainability of other sub-components of the multi-pronged model. For fodder and energy plantations, systems should be put in place so that these areas will be sustainably harvested and used. The current system for fodder in which most beneficiaries can take as much as they want may need to be modified. For SMEs, a plan for ensuring management of these is sustainable is needed. Sustainability of project efforts through replication of its models should also be attended to. (Please see recommendations associated with Outcome 3.)

Recommendations Related to Expenditures and Cost Efficiency

- Action plan for spending over next 22 months: Given that funding may be tight, the project should accompany its 2014-2015 action plan with targeted expenditures for each activity area. So far, the project has spent about 76 percent of GEF funds in 3 years, but targets two more years of active spending. Outcome 2 (demos) is overspent, but will need more funds; and Outcomes 1 and 3 require stepped up activity post-MTR. As there may be substantial shifting of outcome-wise budget allocations, excess spending in Outcome 2 need to be justified in conjunction with specific assurances that Outcome 1 and 3 targets will not be overlooked.
- Cost efficiency of SME work and any TNA follow up work: The project should review geographic focus (villages covered) to ensuring ongoing SME work and any TNA follow up work is focused on areas in line with project's targeted conservation impacts. As both SME and training work has already been carried out by the divisions, efforts should be made to prevent duplication.
- Follow up on PMU-reported expenditure data: We suggest the project look into the following gaps in reported expenditures: (1) The PMU has reported expenditures of around INR6.22 million on TNA consultancies, whereas contracts indicate total of about INR2.23 million (or INR1.12 million each). (2) The PMU total for Outcome 1 expenditures is substantially higher than the UNDP reported amount. This may be because some items reported under Outcome 3 by UNDP are reported under Outcome 1 by the PMU. (3) The PMU total for Outcome 3 expenditures of INR88,625 (somewhere in the range of USD1,400 to USD2000) is much lower than the UNDP total of USD144,678. This is likely due to: (a) some UNDP-reported Outcome 3 expenditures being reported by the PMU as Outcome 3 expenditures; and (b) some expenses having been paid directly by UNDP (mainly corporate communications) and thus not included in the PMU data. In addition, there may also be (c) some items that have been overlooked by the PMU in the Outcome 3 activity-wise expenditure data provided to the MTR team.
- Co-financing: If possible, the project should look to leverage greater co-financing in the coming 22 months. Field work suggests other departments (especially the Department of Agriculture) are glad to get help from MP FD in reaching people in remote forest areas with their assistance. Lessons learned in leveraging funds from other departments may be synthesized and shared with all MP forest divisions. Further, the plan for 100 percent GEF/international investment in project SMEs (as compared to the 50 percent international, 50 percent MPFD structure used in the earlier JSDF project) may be re-considered. Generally, efforts should be made to leverage greater co-financing for the

SMEs from whatever sources possible. Finally, in addition to providing aggregated co-financing data by division, it will be useful if project can provide co-financing data for the project as a whole, (a) broken down by use (e.g. SME, training, etc.) in one table and (b) broken down by source (e.g. Agriculture Department, Animal Husbandry Department, Rural Development Department, etc.) in another table.

- Cost efficiency of the model: expenditures for sample villages/ forest areas: To assist policy makers in understanding how much full replication (not only of the RDBF sub-component, but also of other model sub-components) will cost, we suggest the project conduct an analysis of model expenditures in sample villagers or sample forest areas. Findings to date suggest that RDBF costs are not expensive as compared to other options. Once data is obtained for the full costs in a sample village or forest area, it may likely show that bamboo rehab is the greatest expenditure by far. If this is the case, in assessing the feasibility of replicating the full model, considering the base cost of bamboo rehabilitation payments could still play a very useful, “ballpark” role.

Recommendations and Lessons Learned Related to Design, Implementation, and M&E

- Design: (1) For future projects, the scope and unifying theme of demos with many sub-components should be as clear as possible; and particularly targeted conservation areas will need to be clear. For this project, milli-watersheds are too large to achieve measurable impacts. Bamboo and nearby forest areas are the more appropriate target. Thus, “re-design” work should be undertaken to adjust the target conservation area and make sure all activities are then directed toward it. (2) In future projects that have a major demo component, design of non-demo activities should be articulated in detail in ProDoc. Greater definition and greater consensus prior to project launch will help ensure non-demo activities are not neglected. For this project, “re-design” work should take into consideration current project realities to add greater definition to plans for Outcomes 1 and 3.
- Implementation - Timeliness and Project Extension: Major delays between preparatory work approval and ProDoc signing and between ProDoc signing and the project inception workshop should be avoided in future projects. Further, in order to avoid the situation faced with this project’s TNA and SME consultancies, future projects may wish to flag critical consultancies that need to be launched as soon after project start as possible. And, PMUs may wish to develop strategies to reach out to potential bidders and ensure bidding and selection is carried out in a timely fashion.
- Implementation – Project Extension: The current official end date of the project is Jan. 2015. We recommend formal application for extension to Dec. 2015, contingent on submission of a viable action plan and budget for 2014 and 2015. The action plan and budget should include confirmation of plans for documentation, dissemination, and “convincing” activities. Extension will require submission of a formal request by the project and approval from: (1) the GEF Focal Point for India, (2) the Department of Economic Affairs, Government of India, and (3) UNDP.
- Implementation – Institutional Set-up and Issues:

- PMU: Hiring of an in-house documentation and/or SME expert for the post-MTR period may be considered.
- IP: For future projects, the MP Forest Department may want to consider the pros and cons of instituting more stability in staff for project areas. On the one hand, frequent turnover gets more staff exposed to project model. On the other, efforts tend to be less focused and less timely.
- PSC: Local membership (all PSC members are based in MP) has enabled PSC meetings to be called quickly. Yet, as the project enters its dissemination phase, national-level representation may be considered. In particular the project may consider inviting India's GEF focal point in the Ministry of Environment and Forests and, possibly, ICFRE (given its SLEM TFO role) to be members.
- Village level: The JFMC plays a critical role in launching the bamboo beneficiary system at the village level. The project may wish to investigate further the role of the JFMC Chair and time input required for continuing to organize and monitor beneficiaries. If work is required by the JFMC Chair on a daily basis, a means of strengthening JFMC chair commitment through an honorarium or other means may be explored. A question related to this issue is how important the role of the JFMC Chair will be in ensuring sustainability of the bamboo rehab model's protection work once payments stop.
- Implementation – Cooperation within MPFD: The project may be able to increase its cooperation with other cells/departments and sister agencies of the MPFD. These may include (1) the MPFD cell responsible for the MP Bamboo Mission and (2) the MP Minor Forest Products Federation.
- Project M&E and MTR follow up: Means for strengthening monitoring of ecological and other field results were offered in the recommendations for Outcome 3. As for other M&E recommendations, a related one is to improve the project log frame with indicators showing impact rather than "hectares work completed" only. Indicators may include new culms, forest density indicators, a simple biodiversity index, and an indicator reflecting profits earned from harvested bamboo. Another recommendation, though a challenging one, to consider for this or future projects is to ensure that objective level indicators reflect broader level impacts and are distinct from outcome-level indicators. (We found some overlap of these indicators in the project's log frame.) Stronger documentation, as has been recommended above, will strengthen the project's self-monitoring and adaptive management. The MTR team is appreciative of the great effort made and high level of access facilitated by the project during the course of the MTR. Given the detailed information in the MTR, it may be a useful source of preliminary materials for those undertaking recommended project documentation post-MTR. More importantly, we recommend close review of the MTR report and recommendations by project proponents, followed by ample internal discussion and then follow up with well thought-out course correction. The goal should be to ensure the excellent field work achieved to date is both brought into sharper focus and disseminated to likely replicators.