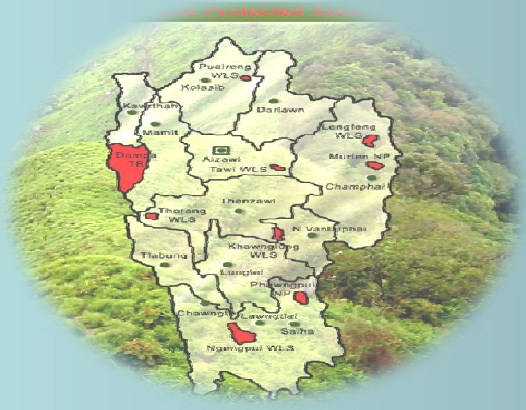
MINISTRY OF DEVELOPMENT OF NORTH-EASTERN REGION
(GOVERNMENT OF INDIA)

"NORTH EAST RURAL LIVELIHOOD PROJECT"

ENVIRONMENTAL ASSESSMENT



CONSOLIDATED
ENVIRONMENTAL MANAGEMENT FRAMEWORK
(MIZORAM, NAGALAND, SIKKIM AND TRIPURA)

DRAFT FINAL REPORT

MAY, 2011

CONSULTING ENGINEERING SERVICES (INDIA) PVT. LTD.
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ACKNOWLEDGEMENTS

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SL. No.	Name	Contact Details (Sikkim)	
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ABBREVIATIONS

AEAP	Annual Environmental Action Plan
AWPB	Annual Work Plan and Budget
BADP	Border Area Development Progarmme
BP	Bamboo Policy
BRGF	Backward Region Grant Fund
CBO	Community Based Organization
CDG	Community Development Group
CDP	Community Development Plan
CDPS	Community Development and Panchayat Scheme
CES	Consulting Engineering Services (India) Pvt. Ltd.
CIG	Common Interest Group
COM	Community Operational Manual
CRP	Community Resource Person
DAC	District Advisory Committee
DEAR	Draft Environmental Assessment Report
DoNER	Ministry for the Development of North-Eastern Region
DPIP	District Poverty Initiative Project
DPM	District Project Manager
DPMU	District Project Management Unit
EASS	Environmental Appraisal Summary Sheet
EC	Executive Committee
EGs	Environmental Guidelines
EIA	Environmental Impact Assessment
EMF	Environmental Management Framework
ES	Executive Summary
FEC	Federation Executive Committee
FSF	Food Security fund
FWWB	Friends and World Women Banking
GB	General Body
GEG	General Environmental Guideline
GoI	Government of India
GoM	Government of Mizoram
GoN	Government of Nagaland
GoS	Government of Sikkim
GoT	Government of Tripura
GSDP	Gross State Domestic Product
HEF	Health Emergency Fund
HH	Household
HR	Human Resource
ICDS	Integrated Child Development Society
IEC	Information education and Communication
IFAD	International Fund for Agricultural Development
IG	Income Generation
IGA	Income Generating Activity
IREP	Integrated Rural Energy Programme
IWDP	Integrated Wasteland Development Programme
IWMP	Integrated Waste Land Management Programme
IYS	Indira Awas Yojana
JGSY	Jawahar Gram Samridhi Yozana
L & RM	Livelihood and Rural Marketing
M & E	Monitoring and Evaluation

ME & L	Monitoring Evaluation and Learning Process
MFI	Micro Finance Institution
MGNERGA	Mahatma Gandhi National Rural Employment Guarantee Act
MIS	Management Information System
MNST	Mizoram, Nagaland, Sikkim and Tripura (Four States under NERLP)
MoEF	Ministry of Environment and Forests
MoU	Memorandum of Understanding
NABARD	National Bank for Agriculture and Rural Development
NBHM	Nagaland Beekeeping & Honey Mission
NBM	Nagaland Bamboo Mission
NBRM	Nagaland Bio-Resource Mission
NE	North East
NEC	North-Eastern Council
NEDFI	North East Development Finance Institution
NEPED	Nagaland Empowerment of People through Economic Development
NERCORMP	North Eastern Region Community Resource Management Project for Upland Areas
NERLP	North East Rural Livelihood Project
NERLPS	North East Rural Livelihood Promotion Society
NGO	Non Government Organization
NLUP	New Land Use Policy
NP	National Park
NRA	Natural Resource Assessment
NREGA	National Rural Employment Guarantee Act
NREGS	National Rural Employment Guarantee Scheme
NRLM	National Rural Livelihood Mission
NRM	Natural Resource Management
NTFP	Non Timber Forest Produce
NWDPRA	National Watershed Development Project of Rainfed Areas
PD	Project Director
PFT	Project Facilitation Team
PIP	Project Implementation Plan
PM	Project Manager
PMGSY	Pradhan Mantri Gramin Sadak Yojana
PO	Producer Organization
PP	Power Policy
PPT	Peoples Plan of Tripura
PRA	Participatory Rural Appraisal
PRI	Panchayati Raj Institutions
RGVN	Rashtriya Gramin Vikas Nidhi
RHS	Rural Housing Scheme
RPIP	Regional Project Implementation Plan
RPMU	Regional Project Management Unit
RRA	Rural Rapid Appraisal
RRBS	Rural Roads and Bridges Scheme
RTI	Right to Information Act
RWSSS	Rural Water Supply & Sanitation Scheme
SDP	State Domestic Product
SGRY	Sampoorna Grameen Rojgar Yozana
SGSY	Swarnajayanti Gram Swarojgar Yojana
SHG	Self Help Group
SIDBI	Small Industries Development Bank of India
SPMU	State Project Management Unit
SPSU	State Project Support Unit
SREDA	Sikkim Renewable Energy Development Agency

SSO	Sector Specific Organization
TA	Technical Assistance
TDP	Tribal Development Plan
ToR	Terms of References
TTPRS	Three Tier Panchyati Raj System
VDB	Village Development Board
WB	World Bank
WDPSCA	Watershed Dev. Project in Shifting Cultivation Areas
WLS	Wild Life Sanctuary
WOT	Work and Oversight Team
YG	Youth Group

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TABLE OF CONTENT

EXECUTIVE SUMMARY

1.1 INTRODUCTION

The Government of India through "Ministry for the Development of North-Eastern Region" (DoNER) has initiated the "North East Rural Livelihoods Project" for four north-eastern States (Mizoram, Nagaland, Sikkim and Tripura) of India. It is proposed to be implemented in 2 Districts of Mizoram, Nagaland and Tripura and 3 Districts of Sikkim to increase and sustain income of the poor, especially women. In order to ensure that any potential adverse environmental impacts due to the activities/schemes are adequately taken care of, a study on Environmental Assessment was conducted with the objective of understanding environmental conditions and the related legal and regulatory framework, and to prepare an Environmental Management Frame (EMF) work which will contribute to the goals of poverty reduction by:

- Preventing and mitigating any negative environmental impact that may emerge from the sub-project activities.
- Ensuring the long term sustainability of benefits from the sub-project activities by securing the natural resources base (land, air, water, Forest and biodiversity) on which they are dependent.
- Facilitating proactive sub-projects that can be expected to lead increased efficiency and improved management in the use of natural resources resulting in local environment quality and human well being.

1.2 NEED OF THE EMF

With the developmental objectives, "to increase and sustain income of poor, especially women in 4 selected States (Mizoram, Nagaland, Sikkim and Tripura) of the North-East India, the "NERLP" focuses on supporting various livelihood activities ranging from the lower level SHGs to higher level Federation/CDG of operations in 9 proposed districts and 58 blocks of the 4 States. It will help to establish efficient institutional platforms of the rural poor. The rural population is chiefly dependant on agriculture (shifting cultivation is main stay in Nagaland and Mizoram and tribal dominated hill areas of Tripura States), piggery, poultry, dairy, fishery etc. to sustain their livelihood from time immemorial. The States of Mizoram, Nagaland and Tripura are located in tropical while Sikkim falls in sub-tropical zone. Thus heavy rainfall during monsoon season creates moist climate throughout the year. The rural population in identified States and districts are highly vulnerable due to on fragile landscape and natural resources of the area. Since, "NERLP" strategy includes promotion of livelihood support activities at larger level of operations as well; the activities may impact the natural resources and overall environmental health of the project districts. Hence, it is imperative to develop an Environmental Management Framework (EMF) work to address the potential environmental impacts of the promoted livelihood activities (individuals or cumulative) and their preventive measures. The EMF essentially lays down a set of procedures and guidelines to deal with adverse impacts of any supported livelihood activity.

1.3 OBJECTIVES OF THE EMF

The main objective is "to improve rural livelihood especially that of women, unemployed youth and the most disadvantaged in 4 States under "NERLP". The main objective behind Integration of EMF with this institutional platform is to achieve sustainable livelihood through proper implementation of environmental management plan. It can be fulfill through following sub-objectives.

1. To mitigate any possible adverse environmental impacts of the proposed livelihood activities by adopting better management of natural resources.
2. To ensure that all promoted activities meet the regulatory requirements (Acts, Laws, Policies and Regulations of the concerned State Governments, Govt. of India as well as the Safeguard Policies of the funding agency i.e. World Bank).
3. To promote only environmental friendly livelihood activities under "NERLP".
4. To build capacity of the community institutions as well as the "NERLP" project functionaries to enable them to efficiently implement the provisions of the EMF.

1.4 SCOPE OF THE EMF APPLICATION

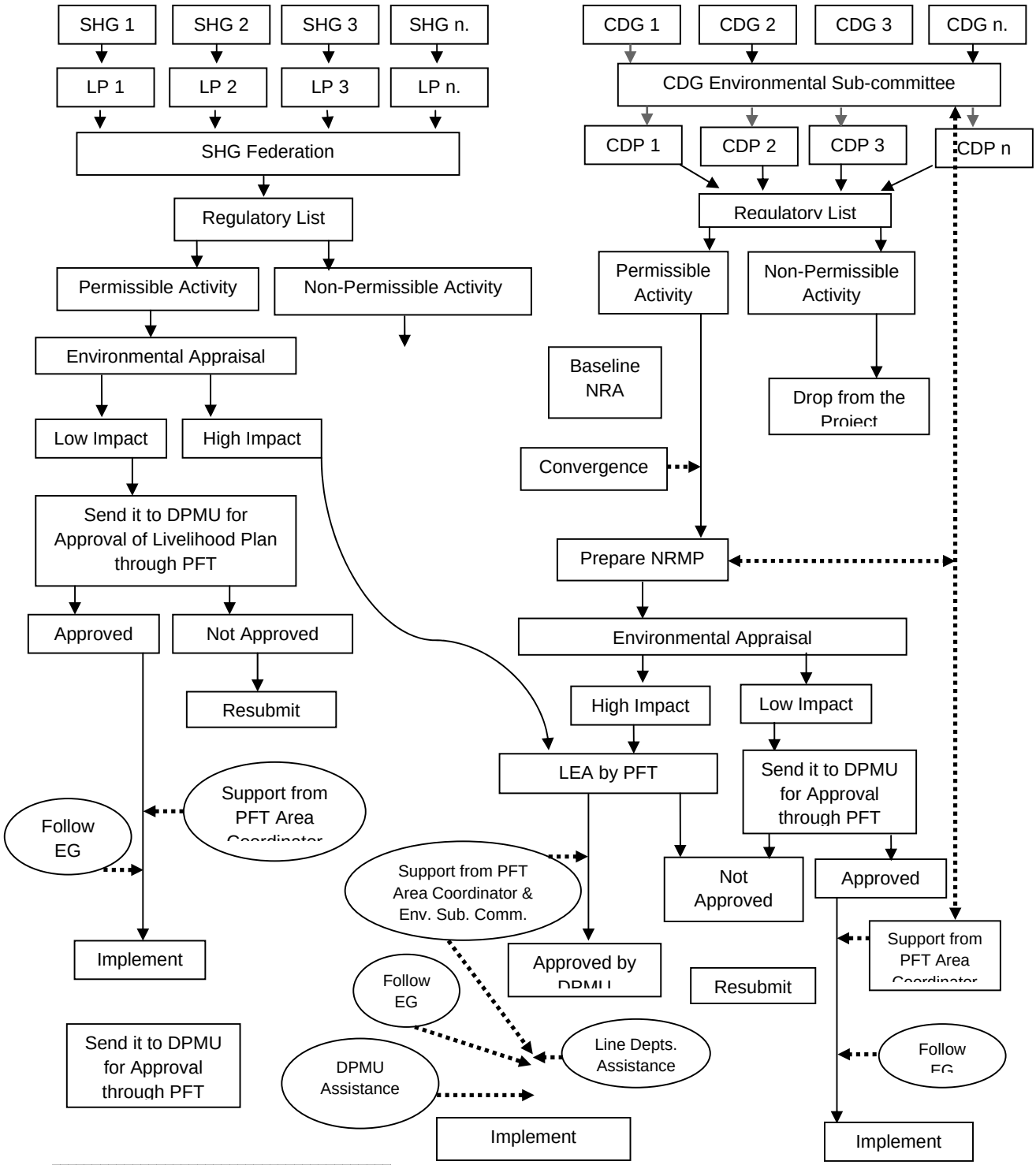
- Social Empowerment & Capacity Building
- Livelihood Support
- Project Management & Partnership Development
- Implementation & Support System

1.5 APPROACHES TOWARDS DEVELOPMENT OF EMF

The development of EMF for the proposed project is one of the major tasks for smooth and effective implementation in a sustainable manner. It has been prepared based on the lessons learnt from the International Fund for Agriculture Development (IFAD) supported North East Regional Community Resources Management Project for Upland Areas (NERCORMP) relevant experiences of the region and outside.

- Review of documents for generating baseline environmental status of 4 project states.
- Review of relevant legal and regulatory provisions
- Review of relevant documents to learn lesson for better implementation
- Village level field study in 4 project states to get better idea about the ongoing livelihood activities and develop strategy for environmental friendly livelihood activities
- Consultation at different levels from all 4 states including stakeholder's workshop at state level

The process of EMF implementation by SHG and CDG is as follows:



Process of EMF

1.6 COMPONENTS OF EMF IMPLEMENTATION

1.6.1. EMF implementation by SHG Federations
1.6.2. NRMP by CDG
1.6.3. Implementation of CoPs by Producer Organization
1.6.4. Environmental Management Toolkit
- Legal regulatory requirements
- Environmental Appraisal (EAp)
- Environmental Guidelines (EGs)
- Limited Environmental Assessment by PFT
- Summary Appraisal by PFT

1.6.5. Proactive Environmental Sub-Projects: The PFT will identify 'Proactive Environmental Sub-project' that are eco friendly in nature and have direct environment and livelihood benefits.

1.7 INSTITUTIONAL ARRANGEMENTS FOR "NERLP"

The successful implementation of the EMF would require involvement of environmental experts at different level i.e. State, District, Block, and Village Levels. The overall responsibility for EMF implementation in NERLP lies with the Project Director of RPMU. The roles and responsibilities along with the respective officials at different levels has been described in chapter.

1.8 CAPACITY BUILDING

Outcomes:
- Percentage of staff trained in EMF (to total staff).
- Percentage of CRPs, paraworkers and CDGs trained on EMF.
- Percentage of districts and PFTs with Environment Coordinator.

Processes:
- No. of SHGs, community development plans, and producer organizations' livelihood plans that have gone through the specified environmental assessment process.
- No. of villages/blocks/districts for which assessment of cumulative impacts has been conducted.
- No. of SHGs/producer organizations reviewed as part of the internal monitoring and evaluation.

1.9 MONITORING AND EVALUATION

The main objective of the monitoring and evaluation (M&E) system under the project would be to provide comprehensive information on progress, constraints, farm level performance and indications or innovations and corrective measures etc to the

management of the implementing agencies, which need to be taken care of under the project. It will also aid in identifying any emerging environmental issue, which needs to be addressed under the EMF.

Thus regular exercise of Monitoring & Evaluation will help in

i) Identifying and adopting good environmental practices
ii) Identifying any emerging cumulative impact
iii) Identifying the best performing SHGs / CDGs etc.
iv) Strengthening the EMF
v) Evaluation of environmental status

The monitoring & evaluation is planned in three phases:

i) Community monitoring
ii) Internal monitoring & internal audit
iii) External Environmental audit

1.10 TIME FRAME FOR EMF IMPLEMENTATION

Based on the experience gathered from existing livelihood projects within the country implementation phasing has been done. Training/workshop, pilot implementation and ultimate implementation of livelihood subprojects have been taken into account during development of the EMF implementation phasing.

1.11 CONSOLIDATED BUDGET FOR ENVIRONMENTAL SAFEGUARDS

The 'Environmental Budget' which should be allocated to ensure effective implementation of the EMF has been worked out. Following are the major heads which have been taken into account during budget preparation:

- Technical assistance to the RPMU and States
- External Environmental Audit
- Internal Environmental Audit
- Preparation of IEC material
- Specialised Training for DPMu for EMF implementation
- NRMP Pilot implementation
- State Review Workshop
- Contingency fund (5% of total project cost)

The budget estimated for EMF implementation is:

Rs. 43585000/-

IN WORDS (INR): Four crore thirty five lakh eighty five thousand only, **(43.58 million)**

For 4 project states **Note:** M - Mizoram, N - Nagaland, S - Sikkim & T - Tripura State

CONSOLIDATED ENVIRONMENTAL MANAGEMENT FRAMEWORK FOR FOUR NORTH EASTERN RURAL LIVELIHOOD PROJECT IN FOUR STATES (MIZORAM, NAGALAND, SIKKIM AND TRIPURA)

1.1 INTRODUCTION

The Government of India through "Ministry for the Development of North-Eastern Region" (DoNER) has initiated the "North East Rural Livelihoods Project" for four north-eastern States (Mizoram, Nagaland, Sikkim and Tripura) of India. It is proposed to be implemented in 2 Districts of Mizoram, Nagaland and Tripura and 3 Districts of Sikkim to increase and sustain income of the poor, especially women. In order to ensure that any potential adverse environmental impacts due to the activities/schemes are adequately taken care of, a study on Environmental Assessment was conducted with the objective of understanding environmental conditions and the related legal and regulatory framework, and to prepare an Environmental Management Frame (EMF) work which will contribute to the goals of poverty reduction by:

- Preventing and mitigating any negative environmental impact that may emerge from the sub-project activities.
- Ensuring the long term sustainability of benefits from the sub-project activities by securing the natural resources base (land, air, water, Forest and biodiversity) on which they are dependent.
- Facilitating proactive sub-projects that can be expected to lead increased efficiency and improved management in the use of natural resources resulting in local environment quality and human well being.

The 'Sustainable Livelihoods Framework' includes human capital, natural capital, financial capital, social capital, and physical capital. The livelihood and associated activities identified for different States as indicated in the project document is given in the **Annex** - **1.** However, the types of activities are just indicative and not restrictive to any particular area. In all, 3 lac rural households of 1,849 villages under 58 Blocks of 9 Districts in 4 States of Mizoram, Nagaland, Sikkim and Tripura (MNST) would be covered under "NERLP". The project authority has been identified 73 livelihood activities to be covered in 4 States. Out of these, 3 activities (Backyard Piggery, Poultry and Support services to village market) are common in all 4 States. The organization-wise profile of the activities proposed for project States is given in same tabular form i.e. **Annex** -**1.** However, the type of activities is just indicative and not restrictive to any particular area.

1.2 NEED OF THE EMF

With the developmental objectives, "to increase and sustain income of poor, especially women in 4 selected States (Mizoram, Nagaland, Sikkim and Tripura) of the North-East India, the "NERLP" focuses on supporting various livelihood activities ranging from the lower level SHGs to higher level Federation of operations in 9 proposed districts and 58 blocks of the 4 States. It will help to establish efficient institutional platforms of the rural poor. As per the census data of 2001, about 37.40%, 39.80%, 28.60% and 43.80% of Mizoram, Nagaland, Sikkim and Tripura States respectively resides in rural areas.
(**Figure – 1**: Sources RPIP of NERLP).

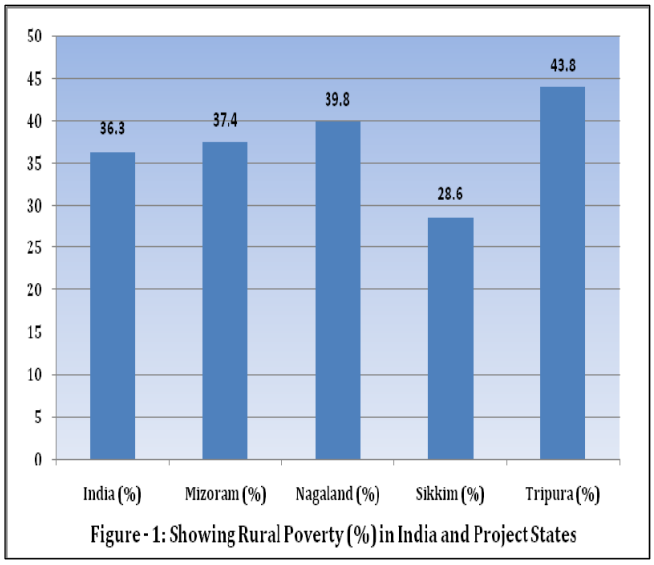


Figure - 1: Showing Rural Poverty (%) in India and Project States

The project area lies within ecologically fragile, biologically rich region (NE region contains more than one third of the country's biodiversity and is one of the 25 recognized biodiversity hot spots), highly prone to climatic changes, located in trans boundary river basins. Both flora and fauna of the areas are under threat due to deforestation, mining, quarrying, shifting cultivation etc. Most of the areas are hilly with moderate to steep slopes which are prone to soil erosion due to deforestation, shifting cultivation, indiscriminate grazing, construction of new roads or other infrastructure without any regard to geology, slope etc. The vulnerability of landscape, ecosystem and biophysical characteristics of the area need to be addressed for sustainability of the livelihood project.

The human poverty is vastly influenced by lack of skills among the poor. While the literacy rate is high, the skill development is low. The unemployment in the region is also very alarming and as youth unemployment dominates with 40% of the total unemployment is becoming a serious and disturbing factor. Unemployment factor is contributed a lot by the high percentage of the school dropouts which is higher than the all India level. In Nagaland, the percentage is 77.5% as compared to all India figures of 62.6%. The high percentage of dropouts in all the north eastern States coupled with lack of skills attributes more to the problems especially in the social sector. While nutritional poverty in terms of availability of per head calorie in rural areas is lower than all India level (30.6%) in the States of Mizoram (27.3%) and Nagaland (24%). The gap is, however, higher in Tripura (43.9%), and Sikkim (41.4%). The gap in urban areas is lower than all India level (33.4%). In Mizoram it is 30.2%, Nagaland 14.7%, Sikkim 30.2% and Tripura 22.7%. The Basic Amenities Poverty (BAP) relates to having access to proper houses, sanitation, safe drinking water, electricity etc. Access to basic requirements is very much important for any improvement in the quality of life. The admittance of overall percentage of the households to safe drinking water facility is lower than the all India average. In Mizoram the number of households having access to safe drinking water is only 36% as compared to all India level figures of 77.9%. It is also notable that a large percentage of households fetch water from faraway places in the North Eastern States (37.92% in Mizoram) where the all India percentage is 19.54. The number of households without proper sanitation facility is less than the all India average.

The rural population is chiefly dependant on agriculture (shifting cultivation is main stay in Nagaland and Mizoram and tribal dominated hill areas of Tripura States), piggery, poultry, dairy, fishery etc. to sustain their livelihood from time immemorial. The States of Mizoram, Nagaland and Tripura are located in tropical while Sikkim falls in sub-tropical zone. Thus heavy rainfall during monsoon season creates moist climate throughout the year. The rural population in identified States and districts are highly vulnerable due to on fragile landscape and natural resources of the area. Since, "NERLP" strategy includes promotion of livelihood support activities at larger level of operations as well; the activities may impact the natural resources and overall environmental health of the project districts. Hence, it is imperative to develop an Environmental Management Framework (EMF) work

to address the potential environmental impacts of the promoted livelihood activities (individuals or cumulative) and their preventive measures. The EMF essentially lays down a set of procedures and guidelines to deal with adverse impacts of any supported livelihood activity.

1.3 OBJECTIVES OF THE EMF

The main objective is "to improve rural livelihood especially that of women, unemployed youth and the most disadvantaged in 4 States under "NERLP". The main objective behind Integration of EMF with this institutional platform is to achieve sustainable livelihood through proper implementation of environmental management plan. It can be fulfill through following sub-objectives.

1. To mitigate any possible adverse environmental impacts of the proposed livelihood activities by adopting better management of natural resources.
2. To ensure that all promoted activities meet the regulatory requirements (Acts, Laws, Policies and Regulations of the concerned State Governments, Govt. of India as well as the Safeguard Policies of the funding agency i.e. World Bank).
3. To promote only environmental friendly livelihood activities under "NERLP".
4. To build capacity of the community institutions as well as the "NERLP" project functionaries to enable them to efficiently implement the provisions of the EMF.

1.4 SCOPE OF THE EMF APPLICATION

The proposed project has following four major components in application of EMF for which necessary provisions have been made.

1.4.1 Social Empowerment & Capacity Building

The investment under this component will be geared towards intensive and long-term training efforts to strengthen/build institutions of the skilled and unskilled manpower (e.g. Govt. officials, SHGs, YGs, economic activity-based groups, and/or natural resource management-based groups) involving all poor household in the village, establish leadership, protect vulnerable sections of communities, and conduct participatory planning processes. Under this component, there will be two major components of community mobilization of the kind of groups mentioned in this para and institution building of the above groups. In addition, support will be provided to federate community-based groups into higher-level associative tiers.

1.4.2 Livelihood Support

Investments under this component will be aimed at enhancing income generation on a demand-driven basis consisting of:

1. Providing Support for improving institutional arrangements for EMF implementation at various levels.
2. Vocational skills training and capacity building of community institutions to facilitate income generation.
3. Community-based infrastructure and service delivery, with emphasis on implementation of Environmental Management Plan (EMP) by SHG federation.

1.4.3 Project Management & Partnership Development

1. Required incremental staff, training, facilities, office equipment, transportation modalities and operating expenses would be made available for developing forums.
2. A comprehensive monitoring, evaluation and learning system would be deployed and operated.
3. Effective communications with all relevant stakeholders would be maintained; simultaneously social entrepreneurship development and public private community partnership needs to be established.

1.4.4 Implementation & Support System

Support under this component will be aimed at establishing and managing effective linkages between various govt. and non govt. agencies for better project implementation and develop support system through following steps.

1. Line departments in each of the participating States to facilitate successful implementation of EMF
2. Engage specialized institutions for monitoring and evaluation during EMF implementation and application of EMP through SHG federations in the field.
3. Maintain accountability and establish proper framework between govt. agencies and NGOs/service providers to upgrade skills and capacity that would allow them to work more effectively with participating communities.

1.5 APPROACHES TOWARDS DEVELOPMENT OF EMF

The development of EMF for the proposed project is one of the major tasks for smooth and effective implementation in a sustainable manner. It has been prepared based on the lessons learnt from the International Fund for Agriculture Development (IFAD) supported North East Regional Community Resources Management Project for Upland Areas (NERCORMP) relevant experiences of the region and outside.

- Review of documents for generating baseline environmental status of 4 project states.
- Review of relevant legal and regulatory provisions
- Review of relevant documents to learn lesson for better implementation
- Village level field study in 4 project states to get better idea about the ongoing livelihood activities and develop strategy for environmental friendly livelihood activities
- Consultation at different levels from all 4 states including stakeholder's workshop at state level

1.5.1 Lesson learned from Evaluation Report of IFAD and other Livelihood Projects

The reduction in "Jhum Cultivation" leads to:

- Increase in land area under perennial crops and in community and protected forests will have reduced the amount of soil erosion and thus slowed soil and land degradation.
- In specific cases - improved the reliability of village water supply.
- Less soil degradation leads to increased crop yields, and this, together with switching of labour to perennial crops, has led to increased food security and incomes for project villages.

- However, the promotion by the project of cross-slope rather than down-slope ridging for new plantings has had minimal effect and the opportunity has also been missed to introduce vegetative cover on cross slope bunds.
- Cleared "Jhum Areas" or as part of an overall agro-forestry approach to sloping land cultivation. Serious on-farm soil conservation is an area where more effort should be made; similarly, although crop husbandry methods propounded by the Project have been environmentally sensitive, the scope for even wider application of organically-based integrated pest management and improved plant nutrition technologies has yet to be exploited.

Evaluation report provided the weakness of the livelihood activities especially shifting cultivation and cultivation along the slope. These weaknesses have been taken into consideration under EMF & specific studies have been proposed when designing guidelines and EMP.

- Now studying nature and scale of livelihood activities undertaken by individual households in project area, it have been found that impacts are environmentally lesser sensitive and small in scale. The potential impacts are also localized and can be mitigated by adopting simple mitigation measures. Therefore, rather than concentrating on mitigation measures of micro-impacts through appraisal of every individual household activity – it is more meaningful and efficient to focus on:
- Introducing/improving the systems in community institutions for environmental management
- Periodically monitor cumulative impacts to provide pointers on required interventions.

  - Mostly livelihood activities have limited negative environmental consequences & have immense, demonstrated potential for interventions that can lead to positive environmental impacts.
  - Thus, livelihood projects are unique in nature and the EMF for these projects cannot limit its scope to the mitigation of negative impacts only. There should be a strategy for introduction of pro-active environmental sub-projects that will promote environment- friendly livelihoods.
- External agencies always play a vital role in successful implementation of EMF. It can be better achieved when the responsibility for regular supervision lies with project staff as compared to a situation where it is outsourced to an external agency. External agencies can provide invaluable technical support for promoting environment-friendly livelihoods and for capacity building.

The "North East Livelihood Project" (NERLP) has provision of EMF which will safeguard against environmental damage by its proper implementation, regular monitoring and evaluation and also auditing.

1.5.2 Specific Features of the EMF Development

1. The "North East Rural Livelihood Promotion Society" (Ministry of DoNER) is an Executing Agency have overall responsibility of the proposed project (NERLP). The Executing Agency will setup one Regional Project Management Unit (RPMU) at regional level i.e. for the entire project followed by four State Project Support Units (SPSUs) in each project State for smooth and effective implementation of "NERLP" and ensure effective implementation of EMF.

2. Simplified process for environmental appraisal: The suggested livelihood activities have been screened according to its impact on environment. The PFT need to use appropriate guidelines which indicate suggested mitigation measures that can be taken up by individual SHG members or SHG as a group or by CDG at village level.
3. A plan and tool for internal monitoring have been designed to assess implementation mitigation measures as well as to capture cumulative impact at the village environmental level by the NERLP staff and external audit twice during the project period.
4. The EMF also details proactive strategy to promote environment friendly activities.
5. EMF has put thrust on capacity building of the beneficiaries for environmental friendly activities through appropriate training and IEC (Information, Education & Communication) thrust also has been given on raising awareness about ill effects of shifting cultivation which is the major cause of environmental degradation. Besides there is a provision of capacity building of EMF implementation staff for monitoring of the activities.

1.5.3 Stakeholder Consultation

The key stakeholders, including SHGs, YGs, CDGs, Federations, NGOs and line departments were consulted during Environment Assessment study for the preparation of the Environmental Management Framework (EMF). Overall three levels of consultation with the stakeholders are as follows:

(A) Field Consultation: The key stakeholder consultations involved Focus Group Discussions (FGDs) with identified stakeholders, who were mainly the Village Council Chairmen/Presidents, SHGs, YGs members of 9 Districts of the Project States (MNST). In addition to the above mentioned tools, open informal interviews were conducted with stakeholders during the course of the study.

(B) Consultation Meetings: The Consultation meetings were held with the NGOs, research institutes, and the federation to elicit their comments and suggestions on the structure of the final EMF.

(C) Consultation Workshops: The four multi-stakeholder 'Consultation Workshops' are to be organized at State capitals viz., Aizawl, Kohima, Gangtok, and Agartala. In these workshops, representatives from various line departments, research and academic institutes, NGOs, Federations and SHGs will be invited to provide their feedback and suggestions on the draft EMF. The major outcomes from these workshops will be incorporated in the final report.

1.6 COMPONENTS

1.6.1 EMF implementation by SHG Federations

The primary duty of the SHG Federations under the NERLP is to provide Institutional platforms for livelihood enhancement without adversely affecting the environment. In this context the successful implementation of the EMF is one of the major agenda of these Federations. Under SHG federation the Primary SHG is the channel for monitoring project and give important feedback as and when required. In this process federation may take necessary assistance from PFT area coordinator who will be under the direct control of PFT. These area coordinators must be equipped with adequate knowledge about the project and environment for providing necessary guidance. Federation's role is to perform functions that an individual SHG cannot – environmental management is such a higher order function.

- SHGs prepare micro-investment / livelihood plans (M/LP) for activities identified under NERLP given in **Annex – 1**
- SHG federation ensures that the activities included in the M/LP are in compliance with the 'regulatory requirements ' before taking further necessary action for implementation **Annex - 2**
- During regulatory compliance Permissible activities will be identified for implementation and non permissible activities will be discarded from the plan.
- The process of environmental appraisal will be facilitated by the federation and carried out by SHG groups keeping in view the classification of activities based on their magnitude of adverse impact on environment **Annex - 3**
- Activities identified having low to negligible impact through appraisal process will be send to DPMU through PFT for approval. After getting approval from DPMU project can be implemented with the help of PFT area coordinator. While implementing the project Environmental Guidelines (EG) must be followed **Annex- 4, 4A, 4B, 4C, 4D** to minimize the adverse impact on the local environment.
- Activities with medium to high environmental impacts will go to the PFT for limited environmental appraisal (LEA). PFT will submit these M/LPs to DPMU along with filled up LEA form for approval. After getting approval project can be implemented following EGs given in **Annex – 5** or
  if not approved can be resubmitted after making necessary corrections.
- During implementation necessary support will be provided by PFT area coordinator, CDG environmental subcommittee, different line depts. for effective implementation.
- During project implementation SHG federation should follow following steps for better implementation of subprojects:
  - ✓ Maintain linkages between different Govt. and non Govt. agencies for betterment & necessary feedback
  - ✓ Annual review of Livelihood Plans and achievements and update it as per sub-project requirement
  - ✓ Frequent interaction with the local people to create awareness amongst the potential beneficiaries.

1.6.2. NRMP by CDG

The role of Community Development Groups is to involve the community members in the process of defining and transforming social problems and empower them to address their own needs and problems and plan for development.
One of the first institutions that would be formed would preferably consist of entire village and would be called the community development group (CDG).It would consist of three members from each household i.e. husband wife and adult child (preferably female) and would constitute the general body of CDGs. The general body of CDG would elect the executive committee (EC) consisting of nine representatives of which minimum four would be women. EC would be village planning and monitoring body for various tasks that would be taken up under the project that involves the entire village or sizable segment of the village. It would prepare and submit various investment proposals in the form of community development plan (CDP) to the DPMU through PFT. The EC would constitute work and oversight teams (WOT), environmental subcommittee (ESC) for providing necessary support for implementation of specific tasks and activities that CDGs decide to take.

The ESC would be responsible for preparation of natural resources management Plan (NRMP). Following are the steps for preparation of the NRMP to minimize the adverse impact on the environment due to the implementation of the proposed Community Development Plans (CDPs).

- ESC ensures that the activities included in the CDP are in compliance with the 'regulatory requirements list' (**Annex - 2)** before preparation of NRLP.
- During regulatory compliance Permissible activities will be identified for implementation and non permissible activities will be discarded from the plan.
- CDG facilitated by the ESC and PFT area coordinators to prepare the NRMP given as **Annex - 6**. While preparing the NRMP natural resource assessment will be done and convergence will be checked simultaneously.
- The process of environmental appraisal will be facilitated by the ESC and carried out by CDG keeping in view the classification of activities based on their magnitude of adverse impact on environment **Annex - 3**
- Activities identified having low to negligible impact through appraisal process will be send to DPMU through PFT for approval. After getting approval from DPMU project can be implemented with the help of ESC & PFT area coordinator. While implementing the project Environmental Guidelines (EG) must be followed **Annex- 4, 4A, 4B, 4C** and good practice **Annex - 4D** to minimize the adverse impact on the local environment.
- Activities with medium to high environmental impacts will go to the PFT for limited environmental appraisal (LEA). PFT will submit these CDPs to DPMU along with filled up LEA form for approval. After getting approval project can be implemented following EGs given in **Annex – 5** or
  if not approved can be resubmitted after making necessary corrections. During implementation necessary support will be provided by PFT area coordinator, CDG environmental subcommittee and different line depts. for successful implementation.

The NRMP must be a simple document which will be easy to understand and simple for implementation. It will contain:

- Actions required at individual household level, including community norms on use of the natural resources and environmental management
- Plan for implementation of required actions including awareness building, training and extension support activities that will be facilitated by the CDG environmental sub committee
- Institutional arrangements within the system for implementation of the NRMP
- Sources of support for implementation of the NRMP (these include convergence with existing Government schemes such as MNREGS as well as support from the NERLP Given in **Annex- 7**).
- A template for the NRMP is provided in **Annex - 6**. The NRMP will be followed and updated by the village group with facilitation by the PFTs.
- The DPMU Environment coordinator will review the NRMPs prepared by the CDG Environmental Sub Committee for ensuring the quality of the NRMP and provide necessary support for implementation. The PFT environment coordinator will also check the regulatory requirement, institutional requirement and monitoring plan for making the entire process user friendly and environmentally friendly. In case of non compliance of any necessary requirement DPMU may ask the Environmental Sub Committee for re submission of the NRMP along with other necessary documents.

Successful NRMP implementation can be achieved by adopting the following approaches:

- Incorporate issues and take necessary actions relevant to the specific village for making NRMP sub-project specific.
- Provide opportunity for village level norms on resource use to emerge and/or be strengthened.
- Provide opportunity for the CDG to take up environmental management (in the context of the livelihoods and well-being of its members) as one of its core functions.
- Function as a 'bottom-up' process for generating demand on Proactive Environmental Sub-Projects.

1.6.3 Implementation of CoPs by Producer Organization

Producer Organizations will be supported under the livelihood support component of NERLP. These organizations of primary producers may be formed on agriculture, dairy, NTFP, etc and will consist of SHG members involved in that particular activity. These organizations would mostly engage in activities such as procurement of inputs, processing, marketing, technical support, etc. The POs supported through the NERLP will be facilitated by the DPMU coordinator to develop and implement the Code of Practice (CoP) for environmental management. The Cop will be based on NRMP but will incorporate locally relevant and activity specific codes. Participatory approach must be adopted for developing CoP. A template for CoP is provided in **Annex – 8.** Environmental Guidelines for POs for implementation of business plans following environmental measures given as **(Annex- 9)**

Implementation of EMF by SHG federation and CDG is given in the **Figure - 2:** for better understanding about the entire process.

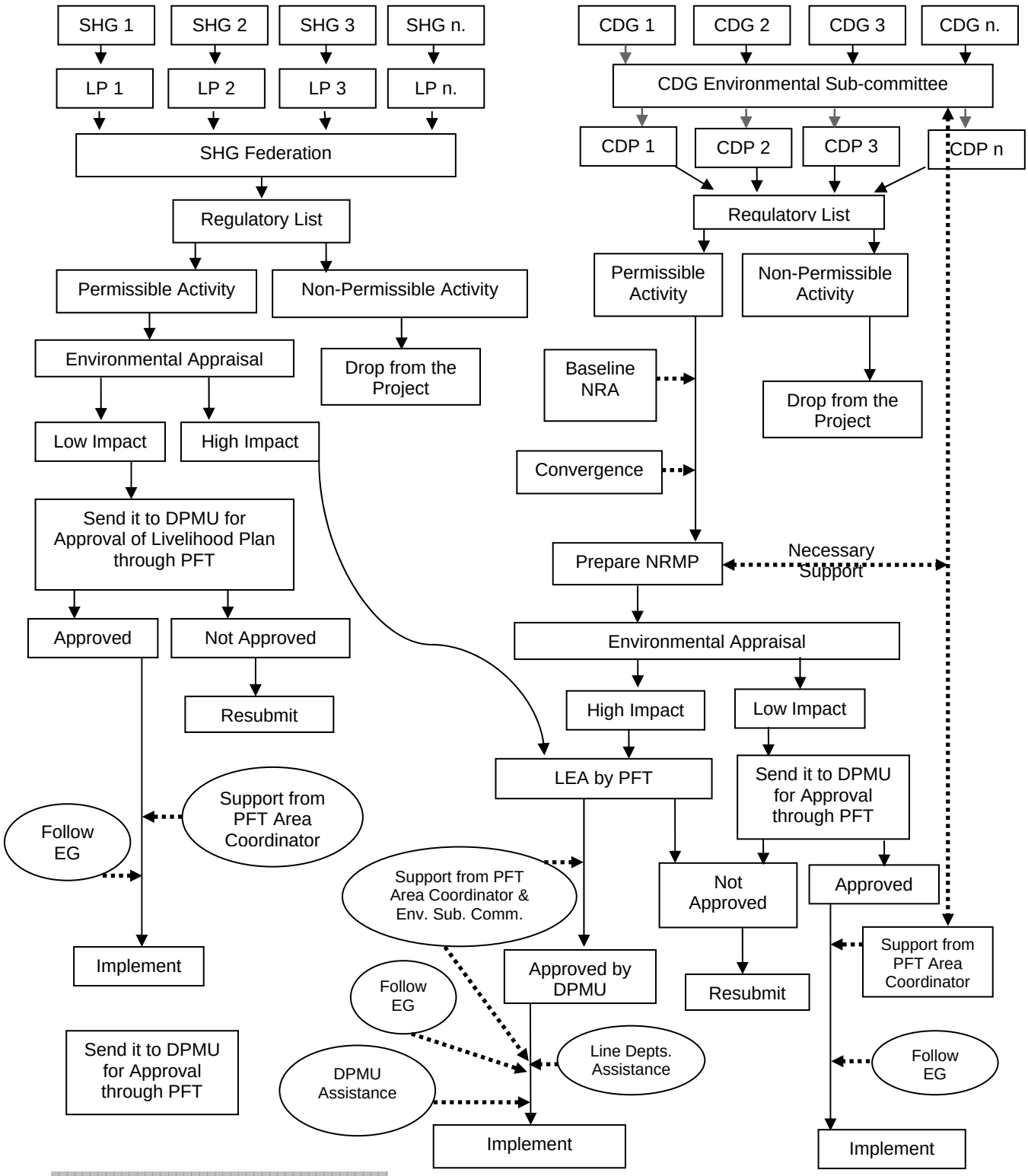


Fig: 2 Process of EMF

1.6.4 Environmental Management Toolkit

Implementation of EMF requires development of a comprehensive toolkit to guide identification of measures to mitigate potential negative environmental impacts occurs during rural livelihood activities.

1.6.4.1 Legal regulatory requirements:

On the basis of existing law and regulations of the Government of India, the 4 state Governments and the safeguard policies of the World Bank a list of non permissible activities has been prepared and provided at **Annex - 2** This list needs to be validated by each of the 4 SPSUs in consultation with the respective line departments. Rules/regulations of the concern State that are relevant to the environment-rural livelihood context need to be added to this list to make it more realistic.

For checking compliance with the legal and regulatory framework, the RPMU will circulate this list to all DPMUs and PFTs for information and necessary action.

1.6.4.2 Environmental Appraisal (EAp)

Environmental appraisal will require imputes from the technically qualified person. This process in the EMF is required to be done studying nature and scale of livelihood activities undertaken by individual households in project area and classify them under Negligible/Low (N/L), Medium/High (M/H) Simpact grades.

(i) The Negligible and Low (L) level impact will require minimum environmental review.
(ii) The Medium (M) and High (H) level impact will require 'Limited Environmental Assessment' (LEA).

Table - 1: Assessment Criteria for Categorization of Activities

Sl. No.	Impact Category	Criteria	Example	Environmental Appraisal to be done by
1.	Negligible	All the activities which have almost no impacts on the environment and those that do not use natural resources	Handlooms and retail sale	Not required
2.	Low	These projects may have limited and/or short term adverse impact on the environment and on health. However, these impacts can be mitigated by implementing recommended measures.	Livestock rearing (cattle, equine, bovine etc) agriculture stone cutting	By PFT for SHG Livelihood activities and community development plan and by DPMU for PO business plan
3.	Medium	These projects may have longer term adverse impact on environment, especially at the cumulative level. However, these impacts can be mitigated by implementing recommended measures.	Construction of agriculture and bamboo link roads	By PFT for SHG livelihood activities and Community Development Plan and by DPMU for PO business plan
4.	High	These projects have long term deteriorating impact on	Jhum Cultivation and Construction	By any external agency at State Level

Sl. No.	Impact Category	Criteria	Example	Environmental Appraisal to be done by
		environment and high level of technical intervention is required to identify specific mitigation measures to address the environmental impacts or EIA is required.	of Hydro Power	

The Executive Agency has identified and listed livelihood activities (**Annex - 1**) for the project areas requiring environmental review, to assess their magnitude of impacts. These activities have been classified under 9 broad sectors. The CDG/SHG will identify sub project and will classify the project as given in **Annex - 3.** After identification of Magnitude of impact on environment subsequent EMF steps will be followed as mentioned in following sections.

- For SHGs' livelihood activities, the environmental appraisal would be conducted by the SHG Federation in consultation with the PFT Area Coordinators. Similarly CDG facilitated by ESC and the PFT Area Coordinators will make an appraisal of activities proposed under the CDPs.
- The SHG members will participate in the appraisal process of their livelihood plans. Each SHG's livelihood plan may include proposals for a single activity to be taken up by all members or multiple activities to be taken up by members as individuals or as small groups. In either case, the appraisal process will be conducted for the SHG livelihood plan in consultation with SHG members. Similarly CGD members will participate in the appraisal process of the activities proposed under the CDPs.

The Environmental Appraisal (EAp) will be conducted to:

1. Identify the specific mitigation measures that will be implemented by each SHG member/SHG level/CDG level/producer organizations (POs) to prevent adverse environmental impacts of the proposed livelihood activity or livelihood sector.
2. Assess the requirements of various resources (financial, technical, institutional, and so on) to implement the mitigation measures.
3. Identify the relevant institutes/government departments, which can support the resource requirements for implementation of the mitigation measures.
4. To revise the budget considering all the above three points (if required).

    a. Possible environmental impact/damage which may be caused due to the livelihood activity.
    b. The mitigation measures to be practiced by the SHG (at member level, SHG level and CDG level)/Producer Organizations (POs).

1.6.4.3 Environmental Guidelines (EGs)

Guidelines are provided for major sectors for proposed livelihood activities (**Annex - 4)**. Which cover the following sectors:

I. Agro Horticulture
II. Livestock Rearing
III. Apiculture, Sericulture

IV. Fishery
V. Improved Land Management Practices
VI. Rural Infrastructure development
VII. Handlooms and Handicrafts
VIII. Village Tourism
IX. Miscellaneous

This generic sector specific guidelines (**Annex - 4**) mainly talks about the expected adverse impact on environment due to the implementation of the proposed livelihood activities. Relevant mitigation measures and responsible group or agency for implementation is also given within it. Under environmental guidelines a separate section has been developed, includes good environmental practices **(Annex – 4D)**. Shifting cultivation is one of the major livelihood activities specially in context of north-east. A separate guideline has been framed for sustainable agriculture including guidelines for shifting cultivation given in **Annex – 4A.** EGs are prepared for selected activities and subsequently, during implementation, based on information from the MIS, the State Environment Specialist will identify and prepare similar guidelines for emerging popular livelihood activity, in consultation with the relevant line departments, academic institutions and other such agencies. Guidelines have been prepared for village tourism and organic apiculture given as **Annex – 4 B and 4C** respectively.

1.6.4.4 LEA by PFT

Activities with medium to high environmental impacts will go to the PFT for limited environmental appraisal (LEA). PFT will submit CDPs (prepared by CDG) to DPMU along with filled up LEA form (**Annex - 5)** for approval. This LEA form will help to

- Assessment baseline environmental condition,
- Identify probable adverse environmental impact associated with proposed livelihood activity
- Identification of legal and regulatory requirements in compliance with the proposed activity for mitigation.

After getting approval project can be implemented following EGs. or if not approved can be resubmitted after making necessary corrections. During implementation necessary support will be provided by PFT area coordinator, CDG environmental subcommittee and different line depts. for successful implementation. PFT may also take help from DPMu and other line departments for better understanding and implementation.

1.6.4.5 Summary Appraisal by PFT

In appraisal of the SHG Livelihood Plans and CDG community development plans, the PFT will hold discussions with the SHG/CDG members on the possible impacts of the proposed livelihood activities, their mitigation measures, feasibility of implementing these measures, and the support available from relevant departments/institutes for smooth implementation. Such discussion sessions with the SHG/CDG is viewed as a capacity-building exercise which will create awareness among the SHG/CDG members on the environmental management aspects of their livelihood activities. Subsequently, the PFT would fill the Environmental Appraisal Summary Sheet (EASS) as per the **(Annex – 10 & 11)**.

Annex: 10 The EASS for an SHG Livelihood Plan includes the following:

- No. of SHG members interested in the activity.
- Scale of the activity.
- Relevant details from a natural resource assessment of village.
- Mitigation measures the SHG members are interested in adopting.
- Need for any training, technical assistance, and so on.
- Legal and regulatory requirement (if any).

Annex: 11 This summary sheet would enable the PFT/CDG to

- Understand the demand for a particular livelihood activity.
- Identify any emerging cumulative impact and pressure on natural resources.
- Provide help during the internal monitoring and evaluation process.
- Identify and Plan the proactive environment pilots.

Once the PFT fills the summary sheet, the nodal person of the SHG and CDG would be required to sign on form. The environmental appraisal for Community development plan would be facilitated by PFT in consultation with CDG, ESC and paraworkers. Once the environment appraisal summary sheet **(Annex – 11)** is filled by PFT, the DPMU would approve the same.

Since, there are many relevant government departments/institutes that promote better environmental practices and support them by providing technical/financial inputs, the prepared Environmental Guidelines (EGs) also provide guidance for the convergence of these schemes with the ongoing Govt. schemes in the respective States (**Annex** - **7).**

For activities that are categorized under high level of appraisal, a detailed environmental appraisal by an external technical agency is required. The overall process of environmental assessment for various proposed activities is depicted in **Table - 2**.

Table – 2: Process for Environmental Assessment

Sl. No.	Community Group	Relevant document for EA	EA to be conducted by	Signatory to sign on EASS	Approved by	Follow-up monitoring
1.	SHG	1. Screening list of activities 2. List of activities not to be supported 3. Village-level NRA Sheet 4. EGs. 5. EASS	PFT	Nodal person of SHG	CDG	PFT, CDG & DPMU
2.	CDG	1. Screening list of activities 2. List of activities not to be supported 3. Village-level NRA Sheet 4. NRMP format 5. LEA format 6. EGs 7. EASS	PFT	CDG	DPMU	PFT & DPMU

Sl. No.	Community Group	Relevant document for EA	EA to be conducted by	Signatory to sign on EASS	Approved by	Follow-up monitoring
3.	PO	1. Screening list of activities 2. List of activities not to be supported 3. Environmental guidelines 4. EASS	DPMU	Representative of PO	SPSU	DMPU & SPSU

1.6.5 Proactive Environmental Sub-Projects

The PFT will identify 'Proactive Environmental Sub-project' that are eco friendly in nature and have direct environment and livelihood benefits. The identified sub-projects should have the following criteria:

1. These sub-projects are directly related to the livelihood activities of SHGs/CDGs, which introduce new eco-friendly practices and adopted technologies that are especially supported by research organization / technical support agency for sustainable livelihood.
2. These sub-projects should be feasible as per the local environmental conditions.
3. These sub-projects have measurable positive impacts on local environment.
4. These sub-projects should have enough scope for sustainability.

During this process, PFT would consult DPMU Environment coordinator, and if the identified project satisfies the above criteria, a detailed plan for pilot implementation can be prepared.

These 'Proactive Environmental Sub-projects' may be implemented on a pilot testing mode (years 2-4) prior to full-scale implementation (year 5) with the following main objectives:

- To demonstrate the feasibility and advantages of sound environmental practices.
- To identify the type of intervention required for promoting sound environmental practices in "NERLP".

Pilot Sub-Projects:

It is proposed that at least 20% PFT (approximately two PFT per district) in each "NERLP" district will implement the pilot sub-projects. A total number of 50 villages (2 PFT x 25 villages) in each district will be taken up on pilot basis for implementation. The overall strategy would be as under:

- "NERLP" will identify 3–4 regional Sector Support Organizations (SSOs) which have proven expertise in implementation of environmental management in rural livelihoods (agriculture and water resources, livestock and fodder resources, forest-based livelihoods, and so on). Each SSO will provide support in 9 districts and facilitate the implementation of proactive environmental pilot sub-projects through PFTs (3 PFTs per district). Thus, each SSO will work with 8–10 PFTs.
- Each PFT will identify suitable pilot sub-projects and the villages where these would be implemented. This process would be facilitated by the identified SSOs.
- After identification of pilot sub-projects, the PFT and SSO will prepare a detailed Action Plan for the implementation in consultation with SHGs/CDGs.
- The pilot implementation of the proactive projects would target the following out comes during the implementation period:

- ✓Preparation and training of CRPs.
- ✓Training of SHGs members and CDGs.
- ✓Identification of the convergence schemes.
- ✓Exchange of experience and knowledge sharing across PFTs/districts.

Identification of intervention levels required for further scaling up in year-4 such as need for training, technical assistance, IEC materials, and so on would be worked out during implementation period.

There is no separate fund available to SHGs for implementation of activities under the pilot sub-projects. The SHG members will utilize the financial support available (for loans) from the SHG Livelihood Fund and the CDG Fund for this purpose. However, the cost towards engaging the services of the SSOs and the cost of honorarium for the CRPs has been included in the EMF budget.

Based on the field study conducted in the 4 project States of the north east region following 'Proactive Environmental Sub-projects' have been listed in **Annex - 12** for the sustainable livelihood.

1.6.6 Institutional Arrangements for "NERLP"

The successful implementation of the EMF would require involvement of environmental experts at different level i.e. State, District, Block, and Village Levels. The Institutional setup of the NERLP is given in **Figure – 3.** The overall responsibility for EMF implementation in NERLP lies with the Project Director of RPMU. The roles and responsibilities along with the respective officials at different levels is describes in **Table-3**.

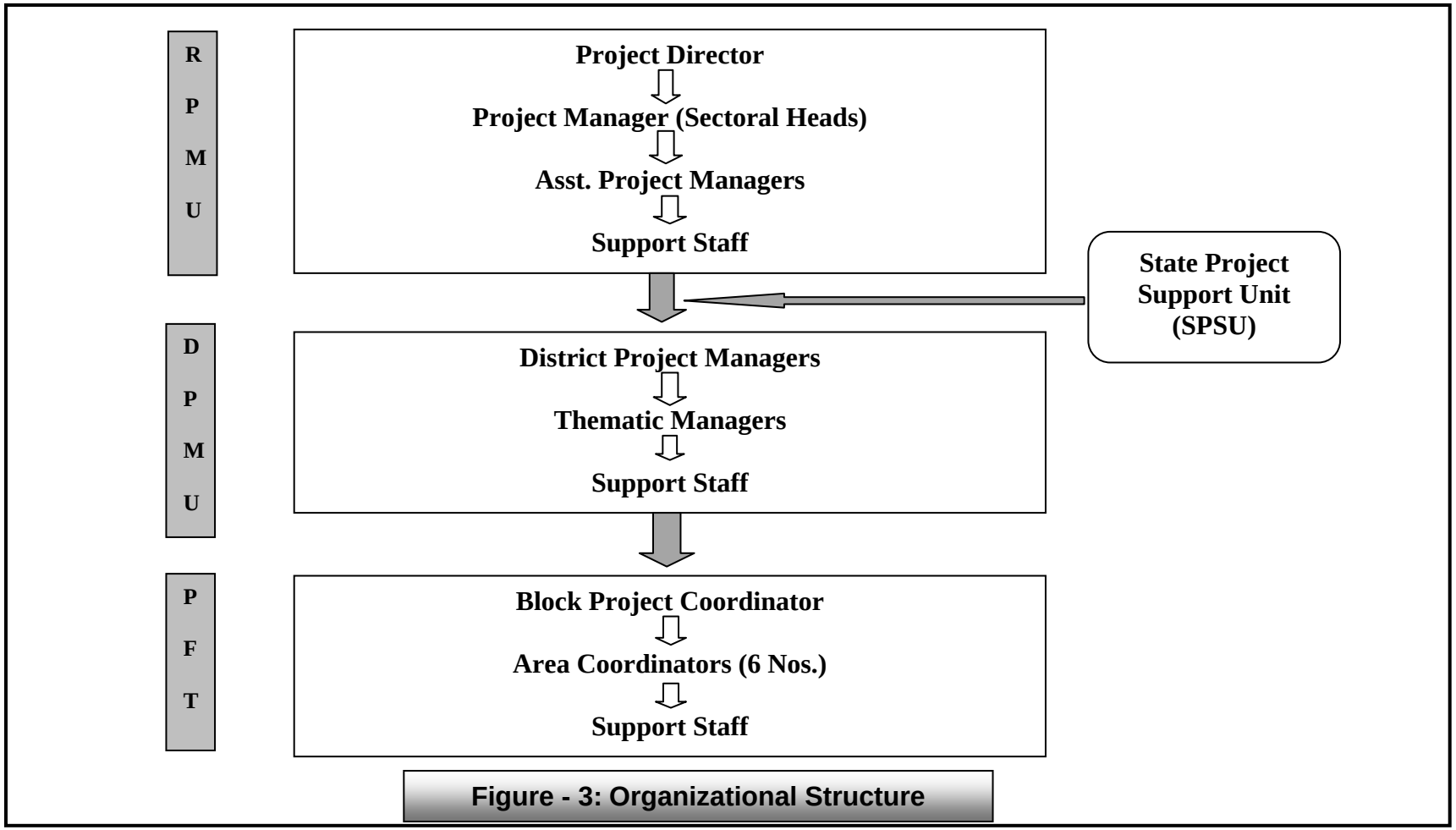


Figure - 3: Organizational Structure

Table - 3: Institutional Arrangements for smooth and effective Implementation of EMF

A. Regional Project Management Unit Level Staff

Functions of the RPMU

- Implement the programme as per PIP and COM
- Recruit, orient and train project staff
- Hire technical assistance and other people / agencies for specific purpose, tasks, activities etc.
- Guide the districts to work in accordance with the spirit and principles of NERLP
- Ensure speedy arrangement and disbursement of funds
- Monitor the work done in the field
- Carry out Internal Process Audit at the end of year 1 for better process operation
- Establish norms for partnership with NGOs and other agencies
- Ensure timely release of funds for project activities and to various institutions
- Ensure timely reporting of state level activities
- Coordinate with WB, GOI and states for smooth functioning of the Project
- Redressal of grievances
- Establish a platform for information exchange within the project
- Work with the state government for convergence with government schemes
- Environmental Assessment (EA) and preparation of EMF document for proposed livelihood activities in all project states.
- Timely and effective implementation of EMF documents with compliance of the Central/State Governments and funding agency.

Sl. No.	Designation	No.	Nature	Responsibility	Role in successful implementation of EMF
1.	Project Director	1	Overall Directions to the sub-ordinate staff for the smooth and effective	Overall responsibility for ensuring implementation of EMF under project.	Coordinate with relevant line departments/institutes to ensure their support to the EMF implementation. Ensure that sufficient procurement has been made for effective implementation of the EMF.

Sl. No.	Designation	No.	Nature	Responsibility	Role in successful implementation of EMF
			implementation of project.		Ensure that timely procurements are made for effective implementation of EMF.
2.	Project Managers	7	1. Procurement	Key responsibility for the implementation of EMF	Key functionary at State level with overall responsibility for efficient EMF implementation Ensure that all legal requirements are met at the time of implementation. Ensure periodical updating of the environmental guidelines as per location specific needs Review of progress of the EMF implementation. Ensure that all capacity building requirements of the EMF are met.
			2. Administration	To maintained the administration of the project authority.	Ensure that external audits are conducted in time and as per EMF.
			3. Livelihood & Rural Marketing	To support/guide the PFT, NGO/CBOs & SHGs related to the concerned livelihood field.	Smooth and effective implementation of the project within project tenure.
			4. Monitoring & Evaluation	Integration of M&E of EMF implementation into the overall M&E of the project and project management framework	Ensure that M&E of the environmental components are conducted regularly. Ensure that EMF is an integral part of the overall project management framework of the NERLP. 1st year internal audit with the help of other project managers and higher officials.
			5. Microfinance	To ensure the micro financial activities under project.	Smooth and effective implementation of the project within project tenure.
			6. Social Gender & Community Mobilization.	To ensure social issues under project and to follow the Social Safeguard Policy of the World Bank	Smooth and effective implementation of the project within project tenure.
			7. Environment & NRM	Natural Resource	Smooth and effective implementation of the project

Sl. No.	Designation	No.	Nature	Responsibility	Role in successful implementation of EMF
				Management and Sustainable Environmental Development. To follow the Environmental Safeguard Policy of the World Bank	within project tenure.
4.	Assistant Project Managers	8	1. Assist. Project Manager (HR)	To ensure recruitment as per project requirement	Smooth and effective implementation of the project within project tenure.
			2. Assist. Project Manager (Fin. & Account)	To assist the Project Manager on Finance and Account work.	
			3. Assist. Project Manager (L & RM)	To assist the Project Manager on Livelihood & Rural Marketing	
			4. Assist. Project Manager (Placement)	To assist the Project Manager on Placement	
			5. Assist. Project Manager (Microfinance)	To assist the Project Manager on Microfinance work	
			6. Assist. Project Manager (Social, Gender & Comm. Mob.)	To assist the Project Manager on Social, Gender & Comm. Mob.	
			7. Assist. Project Manager (NRM & Environment)	To assist the Project Manager on Natural Resources Management & Environment.	
			8. Assist. Project Manager (Communication)	To assist the Project Manager on communication.	
5.	Training Coordinator	1	Capacity Building & Skill Development	Integration of EMF training/capacity building in	Ensure that all capacity-building requirements of the EMF are integrated into the overall capacity-building

Sl. No.	Designation	No.	Nature	Responsibility	Role in successful implementation of EMF
			through Sectoral Training and Orientation Programmes.	all the training programmes as per training needs	strategy.
6.	Monitoring Evaluation and Learning (ME&L) Coordinator	1	Co-ordinate environmental monitoring evaluation and learning processes.	Integration of M&E of EMF implementation into overall M&E of the "NERLP"	Ensure M&E activities for the environmental components are conducted regularly
7.	Project Management Coordinator	1	Management and Coordination related to project and staff	Integration of EMF into the overall Project Management	Ensure that EMF is integral part of the overall management framework of the "NERLP". Coordination of project management activities
8.	Sector specific Managers • Livelihood & Marketing • Social Dev.	2	Marketing/Business and social Fields	Development of strategies for successful implementation of EMF	Provide support to the project functionaries at the district/block/panchayat levels in implementation of mitigation measures in specific sectors.
9.	Assistant Project Manager (Comm.)	1	Mass communication under project	Ensuring IEC activities in EMF implementation	Ensure that the IEC activities in EMF implementation are conducted and form an integral part of the overall IEC activities
10.	MIS Support Team (Out Source)	1	Information Technology & Management	Proper documentation & Disclosure of documents	Provide necessary IT support & managerial support
14.	Assistant to Project Manager (M & E)	1	Assistant	To assist the Project Manager	During environmental monitoring & evaluation to assist the concerned officer and other staff.

B. Project State/District Level Staff

Functions of the SPSU

- Providing strategic support to DPMU
- Identify the gaps and facilitating the process to plug the gaps
- Ensure convergence with various government schemes
- Coordinate with the heads of line departments, district administration for necessary areas with District Project Management Unit.
- To provide active support on environmental issues to RPMU through DPMU, PFTs & other line Depts. for effective implementation of EMF.
-

Functions of the DPMU

- Prepare Annual District Plan
- Coordination with State Project Support Unit
- Coordination with District Administration, Concerned line departments, local governments and banks
- Administrative and environmental guidance to the PFTs
- Support to PFTs in relevant subjects/sectors like land development and NRM, agriculture development, livestock development, business development for higher level linkages
- Monitor the work being done in the field
- Maintenance of records and MIS
- Ensure speedy disbursement of funds, both for village level implementation, as well as for administrative purposes
- Ensure need based training to Community Institutions, Community service providers and Project staff
- Ensure timely reporting of district level activities to RPMU
- Redressal of grievances

Sl. No.	Designation	No.	Nature	Responsibility	Role in successful implementation of EMF
15.	District Project Managers (DPM)	9 (1 for each Distt. under four State)	Environment and Sustainable Development of the Rural Ecosystem	Reviewing and ensuring EMF implementation at district level. To participate in District Advisory Committee (DAC).	• Ensure implementation of EMF at district level. • Ensure coordination at PFTs/CDG and PMU level. • Facilitate coordination with concerned Government Depatt/institutes.
16.	District Coordinators	45 (5 for each	1. Coordinator (L&RM) = 9	Overall coordination at district level for	• Ensure environment screening of business plan

Sl. No.	Designation	No.	Nature	Responsibility	Role in successful implementation of EMF
	(Thematic Managers)	Distt. 5x9)	2. Coordinator (Social, Gender & Comm. Mob.) = 9 3. Coordinator (M & E) = 9 1. Coordinator (NRM & Env.) = 9 2. Coordinator (Microfin.) = 9	smooth/effective implementation of EMF.	proposed by POs. • Ensure legal requirements are met • Coordinate with PFT on the training requirement and technical support. • Conduct internal monitoring for all activities in all blocks. • Identify the need and feasibility of proactive environmental subprojects.

C. Block Level

Functions of the PFT

- Village entry and mobilization in villages
- Conducting PRA exercise – Social and Resource Mapping, Wealth Ranking etc.
- Identification of existing SHGs and other groups in the village
- Formation of CDGs
- Training and capacity building of CDG Executive Committee and Work and Oversight Committees
- Sensitization for formation of SHGs
- Capacity building of SHGs
- Grading of SHGs and CDGs
- Reviving and training of dormant SHGs
- Formation of Youth groups (YGs)
- Support to CDG for developing annual Community Development Plan and budget
- Strengthening of SHGs and CDGs
- Facilitation and support to CDGs and SHGs for implementation of activities
- Identification and selection of Community Service Providers
- Facilitation and support for skill mapping of job seekers
- Maintaining databank for youth seeking training and their placement
- Arranging training of youth – linking with DPMU for the purpose
- Sensitization of Primary Producers for federating in a Producer/Service organizations/Associations

- Support of formation of Producer/Service Organizations/Associations
- Ensure timely reporting of PFT level activities
- Coordinating with local authorities and banks
- Marketing and linkage support to the community
- Maintenance of records and MIS
- Redressal of grievances

Sl. No.	Designation	No.	Nature	Responsibility	Role in successful implementation of EMF
20.	PFT Coordinator/ Block Project Coordinator	58	Ensuring EMF implementation at block level	Assistance to DPMU at BPC (Block Project Coordinator) level	• Environmental appraisal of proposed activities • Collect data at the village level for assessment of cumulative environmental impacts • Coordinate with concerned Depatt. for training/technical support to SHG members.
21.	Area Coordinators	348 (6 per block)	To provide authentic information and data to the PFTs	Assistance to the PFT	To encourage the people for EMF implementation.

Table – 4: Roles, Responsibility and Participation of Community Institutions and Community Service Providers (CSPs) for Effective Implementation of the EMF

Sl. No.	Organization	Key Function	Member representation in the Community Groups	Project Inputs
		A. Community Institutions (CIs)		
1.	Self Help Groups (SHGs)	▪ Will do thrift and revolve their internal savings for providing credit to each other. ▪ Provide additonal loans to members from seed and activity loans sourced from the project. ▪ Participate in SHG Village Federation activities.	Women from poor and disadvantaged likeminded households will be mobilised to form affinity and activity groups known as SHGs. The group membership will be of minimum 10 households.	SHGs will be provided support in developing group norms, financial management capacity, development of solidarity and aceess skills, credit and services from a variety of service providers. These Self Help Groups will be provided support to be federated at the community level.
2.	SHG Village Federation	▪ SHG Village federation is the key community financial insitution ▪ It would provide support to the SHGs in maintenance of accouts and other books ▪ It would link up with the banks for leveraging more loan amount ▪ It would route project investments in producer organizations and provide other financial services.	There would be two representatives from each SHG. These would form the General Body of the SHG Village Federation. The General Body would elect an Executive Committee consiting of five members including a President and Vice President and a Secretary.	SHG Federation would be provided hand-holding support initially. It would ween out gradually as the Federation is able to manage its activities. The SHG Federation staff would be trained to mange accounts of SHGs.
3.	Community Development Group (CDG)	▪ Will carry out entry point activities ▪ Work for devleopment of common village social and economic assets including natural resources, agriculture and horticulure. Plan and implement for the entire village. ▪ Take-up specific social and devlopment activities requiring collective action.	All the families in the village covering husband, wife and one adult child (preferably girl child) as member of General Body of CDG. Will have nine members Executive Committee with minimum of four women as members.	CDGs will be formed by the project & provided technical support for various NRM and infrastructure activities that it would carry out. The CDG will be faciliated to take up devlopment activities that would benefit the entire village or majority of poor households.
4.	Youth Groups (YGs)	▪ Identify training needs of the members and support members in training.	All young people, male/female, in the age group of 18-35	Provide mobilization support and some early activity support.

Sl. No.	Organization	Key Function	Member representation in the Community Groups	Project Inputs
		▪ Carry out various recreational and innovative activities. ▪ Support members in taking up economic activities.	wanting to be members would form the youth group Will elect 5 members to form core committee which would have a President and Vice President.	Provide training support to members wanting to undergo training.
5.	Producer's, Organizations (POs)	▪ Purchase or procurement of inputs for production ▪ Local processing and storing of inputs and outputs ▪ Marketing and selling of produce ▪ Develop commercial and direct relationships with private, cooperative and public sector agencies.	Members will come from different SHGs, CDG and YGs and will receive technical and financial support in areas of input and output procurement, extension services, technical assistance services and marketing services.	The project will promote livelihood based activity groups and federations of members who have similar livelihoods in sectors such as agriculture, Non Timber Forest Product (NTFP), piggery, fisheries, handicrafts, etc.

Table – 5: Roles, Responsibility and Eligibility Criteria of Community Service Providers (CSPs) for Effective Implementation of the EMF

B. CSP Roles and Output Matrix

Sl. No.	Name of CSP	Eligibility criteria to be the CSP	Roles/Responsibilities Relevant to the EMF	Project Output
1.	SHG Facilitator	• Minimum 8th standard pass and be able to write minutes of meetings. • Preferably women. • From the same village. • Should have good communication skill. • Training through PFT coordinator for project specific knowledge. • Should have indigenous knowledge on village natural resources • Retired Govt. officials from various line	• To motivate the community to form SHGs • Attend all the meetings of SHGs • Ensure proper maintenance of books and records. • Conflict resolution in the group. • Facilitate preparation of SHG livelihood plan.	• Internal facilitation leads to more social acceptance. • Smooth functioning of the groups. • Confidence building within the group due to good record keeping • Sustainability of project interventions.

Sl. No.	Name of CSP	Eligibility criteria to be the CSP	Roles/Responsibilities Relevant to the EMF	Project Output
		agencies should be included in the team	• Update the M&E formats	
2.	Community Mobilizers (CMs)	• An experienced Member of SHG. • Have attended minimum 52 group meetings and have imbibed the concept of SHG • Should be ready to travel to other places away from home for 15-20 days • Good communication skills • Training through PFT coordinator for project specific knowledge. • Should have indigenous knowledge on village natural resources • Retired Govt. officials from various line agencies should be included in the team	• To mobilize the community in other areas for formation of community institutions.	• Internal facilitation leads to more social acceptance. • Faster rate of group formation • Sustainability of project interventions.
3.	Village Para-Professionals (VPPs)	• Should be able to read and write. • Has aptitude for the specified area of expertise. • Should be from the same village. • Training through PFT coordinator for project specific knowledge. • Should have indigenous knowledge on village natural resources • Retired Govt. officials from various line agencies should be included in the team	• Promote the concept and guide the community on the technical aspects of the related field • Monitor the progress of adoption of the technology • Submit regular progress reports to the SHG Village Federation	• Smooth transfer of technology • Reduce transmission loss in knowledge transfer • Sustainable project intervention. • Employment generation
4.	Bank facilitators (BFs)	• At least Class 10th pass. • Should have good communication skill • Computer literacy would be an added advantage.	• Facilitate the bank transactions of the rural people. • Support community leaders in bank documentation • Educate members about bank procedures	• Promote bank linkage • Lubricate the interface between the banks and the community. • Encourage sustainable and bankable community institutions.

1.6.7 Capacity Building

Outcomes:

- Percentage of staff trained in EMF (to total staff).
- Percentage of CRPs, paraworkers and CDGs trained on EMF.
- Percentage of districts and PFTs with Environment Coordinator.

Processes:

- No. of SHGs, community development plans, and producer organizations' livelihood plans that have gone through the specified environmental assessment process.
- No. of villages/blocks/districts for which assessment of cumulative impacts has been conducted.
- No. of SHGs/producer organizations reviewed as part of the internal monitoring and evaluation.

1.6.7.1 Capacity Building (Orientation Programmes, Thematic & Sectoral Trainings)

- The regular capacity-building training programmes need to be conducted to ensure that all the relevant project staff is well equipped with the required technical knowledge, skills, overall awareness, and sensitization on environmental assessment of the livelihood activities, community development activities, and PO's business plans for effective implementation of the EMF.
- Training to SHGs will be provided by the relevant technical experts/institutions like Krishi Vigyan Kendra. Training to PFT, DPMU staff and other relevant staff on the EMF will be provided as part of the overall "NERLP" induction/orientation training. The responsibility of ensuring the delivery of this training lies with the State Environment Coordinator. Orientation to the EMF to the CDG, CRPs and producer organizations will be provided by the District Environment Coordinator with support from external experts and the State Environment Coordinator. The entire training will be conducted by the District Environment.
- Coordinator with support from resource person(s) with proven record and expertise. The **Table - 6** provides details about the training programmes that should be conducted under "NERLP". Administrative Framework for effective implementation of "NERLP".

  A well-developed IEC strategy is recommended to support capacity-building on EMF under "NERLP". The IEC materials may include short manuals/simple guidelines with core themes related to the EMF. For the major livelihood activities (like dairy and agriculture), and proactive environmental sub-projects, development of audio-visual IEC material will be highly effective. Posters, leaflets and wall paintings may be developed for grassroots level sensitization and awareness generation on environmental impact of relevant sub-projects and mitigation measures. These materials can be displayed at DPMU offices, PFT offices, and also during the training programmes.

Table – 6: Training Schedule for effective implementation of EMF under "NERLP"

Sl. No.	Goal of Training	Training Schedule	Participants	When to be Conducted	Venue	No. and Duration
1.	Orientation on EMF to SPSU and DPMU Coordinators	Each training programme will include a session on the process of EMF including environmental appraisal, its need, how to mitigate the adverse impacts (EGs), convergence with existing schemes, process of consultation and promotion of proactive environmental subprojects. Preparatory work on SPIP and operational manual, IEC material finalization etc.	RPMU, SPSU coordinator, and DPMU coordinators related to environmental task. (No. of participants = 50 per training)	To be conducted as part of the overall "NERLP" orientation programme.	Regional Office/State Capital	9 nos. Duration 1 day
2.	DPMU Coordinators and Project Staffs	Environmental issues in the rural livelihood activities ; Promotion of better environmental management in existing livelihoods; Promotion of Proactive Environmental Subprojects; Key provisions of the EMF of the NERLP Facilitating adherence to 'regulatory requirements list' by all SHG federations, CDGs and producer organisations Facilitating development and implementation of NRMPs by CDG	DPMU coordinator and Staffs (No. of participants = 40 per training)	To be conducted as a part of all trainings on SHGs' livelihood plan and CDGs NRMPs development.	Project District Hq.	30 Nos. Duration 1 Day
3.	PFTs and Area coordinators Block Level for capability of the project staff on proactive environmental subproject and Pilot implementation ESC of CDG members	Environmental issues in the rural livelihood activities; Promotion of better environmental management in existing livelihoods; Promotion of Proactive Environmental Subprojects; Key provisions of the EMF of the NERLP Facilitating adherence to 'regulatory requirements list' by all SHG federations, CDGs Facilitating development and implementation of NRMPs by CDGs and M/LP by SHG federations; Training on pilot implementation	PFTs and Area coordinators Block Level (No. of participants = 50 per training)	Part of NRMP pilot implementation by CDG and assist Federation in EMF implementation	Project Blocks	34 Nos. Duration 2 Days

Sl. No.	Goal of Training	Training Schedule	Participants	When to be Conducted	Venue	No. and Duration
	involve in pilot implementation also included					
4.	Capacity building and give exposure training of SHG Federations on EMF implementation	This will include theme-specific skill enhancement training programme. The content of these Training programme would include hands-on trainings, exposure visits, IEC materials and technical information on the implementation of these proactive projects.	SHGs federation/ SHG members, para workrs, etc. (No. of participants = 50 per training)	This may be conducted at block /village level.	Project Blocks	116 Nos. Duration 2 Days
5.	Capacity building of CDGs on EMF implementation	This will include theme-specific skill enhancement training programme. The content of these Training programme would include hands-on trainings, exposure visits, IEC materials and technical information on the implementation of these proactive projects.	CDGs/ESCs (No. of participants = 50 per training)	This may be conducted block /village level.	Project Blocks	60 Nos. Duration 2 Days
6.	Capacity building of POs on EMF implementation	Environment-friendly practices in the key livelihood activity (agriculture, livestock, NTFP) Development and implementation of CoP for producer collective Periodic monitoring of implementation of CoP	POs, Youth groups etc. (No. of participants = 50 per training)	This may be conducted block /village level.	Project Blocks	60 Nos. Duration 2 Days

1.6.8 MONITORING AND EVALUATION

The main objective of the monitoring and evaluation (M&E) system under the project would be to provide comprehensive information on progress, constraints, farm level performance and indications or innovations and corrective measures etc to the management of the implementing agencies, which need to be taken care of under the project. It will also aid in identifying any emerging environmental issue, which needs to be addressed under the EMF.

Thus regular exercise of Monitoring & Evaluation will help in

i) Identifying and adopting good environmental practices
ii) Identifying any emerging cumulative impact
iii) Identifying the best performing SHGs / CDGs etc.
iv) Strengthening the EMF
v) Evaluation of environmental status

The monitoring & evaluation is planned in three phases:

i) Community monitoring
ii) Internal monitoring
iii) External Environmental audit

1.6.8.1 Community Monitoring

The ESC with support from PFT will monitor the implementation of the NRMPs and livelihood plans. The monitoring will be done bi-annually through a participatory mode involving the members of the SHG / CDG based on indicators identified during the preparation of the NRMPs/LPs. These may include:

Table - 7: Indicators for monitoring environmental status

Indicators of environmental status	Indicators of adoption of environmental management in livelihood activities
Soil nutrient status	• Amount of organic manure used • Number of improved compost units (pit, vermicompost, NADEP, etc.) • Ratio of N:P:K use • Area treated with green manure
Status of pesticides/insecticides	• Amount of pesticides in classes Ia, Ib, II (WHO classification) used • Expenditure on chemical pesticides
Soil and Water conservation status	• Area treated with soil moisture conservation practices • Area under drip or sprinkler irrigation • Area under crop rotation • Area under intercrops

Indicators of environmental status	Indicators of adoption of environmental management in livelihood activities
Groundwater level	• Number of percolation/recharge pits • Number of water harvesting structures • % fluctuation in water table
Livestock density	• Percentage of livestock that is stall-fed • Percentage increase in livestock health care through vaccination / percentage breed improvement through artificial insemination (AI)
Availability of green and dry fodder	• Area under fodder cultivation • Area under pasture development/protection • Number of chaff-cutters
Forest cover status/NTFP yield	• Percentage increase in forest cover • Visible signs of unsustainable NTFP extraction
Shifting Cultivation	• Area coverage under shifting cultivation • Duration of Jhum cycle • Productivity • Soil nutrient status • Soil moisture content • Area coverage under sustainable shifting cultivation

1.6.8.2 Internal Monitoring and Evaluation

Periodic internal monitoring of the EMF's implementation helps in identifying gap and helps to rectify the same as soon as it is diagnosed. It will also aid in identifying any emerging environmental issue, which needs to be addressed.

Internal monitoring by the District Environment Coordinator should be conducted on a half-yearly basis. Thus, a total of 8 internal monitoring (in four implementation years) rounds are recommended for the five-year duration of the "NERLP". Prior to each monitoring round, the village level assessment report on the cumulative impact would be provided by the SHG/CDG to the PFT for review. An indicative format for the assessment of cumulative impact is provided in **Annex - 13(A–B)** for three main activities: dairy and NTFPs. Further, **Annex - 13 (C & D)** provide the formats for cumulative impact assessment at block level (to be filled by PFT and would be submitted to the District Environment Coordinator) and at district level (to be filled by the District Environment Coordinator) **Annex - 14**. Similar formats can be developed as per need by the State Environment Coordinator for assessing the cumulative impacts of other livelihood activities. The overall strategy to conduct such a monitoring programme will have the following components.

A. Comprehensive Desk Review

Comprehensive desk review of all the information available such as activities taken up under SHG Livelihood Plans, CDG community development plans, PO business plans, the village level assessment report on the cumulative impact, and so on. This will help in identifying.

- Key environmental issues related to cumulative impacts.
- Adoption of suggested mitigation measures.
- Support received through convergence with other government schemes

B. Field Visits

The District Environment Coordinator will visit the field to gather on-site information on implementation of EMF in SHGs/CDGs, producer organizations' activities/proactive environment subprojects, and projects under community development plans. This will lead to checking if:

- Regulatory requirements are met by SHGs/CDGs/producer organizations.
- SHGs members/CDGs/producer organizations are adopting and implementing the mitigation measures suggested (EGs).
- Suggested mitigation measures are efficient in addressing environmental issues.
- Any unforeseen environmental issue is emerging.
- Cumulative impact of any set of activities is to be addressed.
- There is a need for training/capacity building/IEC activity.
- Implementation of proactive environment sub-projects

The sample has to be such that a cluster of SHGs and villages is selected for monitoring by the District Environment Manager in consultation with the State Environment Coordinator. In order to compile the representative information for all the main sectors (like agriculture, dairy etc.) a sample of 15% of the SHGs needs to be covered in the first year of "NERLP". The overall sample size recommended for the internal monitoring and evaluation process is provided in **Table - 8.** The size has been arrived at based on figures provided in the RPIP on the phasing of the "NERLP". Further, out of the total No. of SHGs visited, at least 30% should be from 'medium' category, and 70% from 'low' category. Further, these visited SHGs/CDGs/producer organizations should be representative of all main sectors (agriculture, dairy, horticulture etc.). This can be achieved by having 30% agriculture (including irrigation), 30% animal husbandry (including dairy), 20% forest-based activities and 20% remaining sub-projects in the selected sample.

Table – 8: Recommended Sample size for internal monitoring under "NERLP"

Sl. No.	Description	1st Year		2nd Year		3rd Year		4th Year		5th Year	
		*	**	*	**	*	**	*	**	*	**
1.	SHGs	15%	15%	25%	25%	25%	25%	25%	25%	25%	25%
2.	CDGs	15%	15%	10%	10%	10%	10%	10%	10%	10%	10%
3.	POs	-	-	-	-	100 %	100 %	100 %	100 %	100 %	100 %
4.	Proactive Environmental Sub-projects	-	-	-	100 %	100 %	100 %	100 %	100 %	100 %	100 %

Note: * refers to 6 Months and ** means 12 Months

Once the desk review and field visits are over, the District Environmental Coordinator will submit a detailed report to the SPSU. Each monitoring report will contain details of the sampling, (list of SHGs, CDGs, and producer organizations, and activities visited), observations of the desk reviews and field visits, analysis, recommendations for action, and a follow-up plan. **(Annex – 14)** provides the format for such a monitoring report, which would be duly filled by the District Environment Coordinator and will be submitted to the State Environment Coordinator.

The State Project Co-ordinator will prepare a comprehensive State level report based on all the district reports. Further, if required, the State Project Coordinator will conduct field visits to a limited sample of the activities, which include proactive environment sub-projects, facilities under community development investment, and producer organizations. The sample of villages, blocks, and district would be identified by the State Project Coordinator based on the district evaluation reports. In addition, feedback will be provided by the State Project Coordinator to the DPMU. The comments of the State Project Coordinator may be incorporated in the overall feedback to be provided to the concerned PFT, CDG, producer organizations, and SHGs by the District Environment Coordinator. The no. of Districts as well as States Monitoring Reports will be prepared and submitted in following order for 5 years project tenure.

A. Calculation of District Monitoring Reports

(i)	Total Project Duration	=	5 Years
(ii)	Submission of Monitoring Reports at District Level	=	Twice in a year
(iii)	No. of Project Districts in 4 States	=	9 Districts
Total No. of Reports to be submitted at District Levels		**=**	**5 X 2 X 9 = 90**

B. Calculation of State Monitoring Reports (Yearly Compilation of District Reports)

(i)	Total Project Duration	=	5 Years
(ii)	Submission of Monitoring Reports at State Level	=	Annual
(iii)	No. of Project States	=	4 States (MNST)
Total No. of Reports to be submitted at District Levels		**=**	**5 X 4 = 20**

Table – 9: Sample size for PFT Coordinator, Coordinator and Project Manager (M&E)

Sl. No.	Designation	1st Year		2nd Year		3rd Year		4th Year		5th Year	
		*	**	*	**	*	**	*	**	*	**
At DPMU /Block Level											
1.	PFT Coordinator	20%	25%	20%	25%	15%	20%	10%	15%	10%	5%
2.	Coordinator (Monitoring & Evaluation)	-	-	20%	25%	15%	20%	10%	15%	10%	5%
At RPMU Level											
3.	Project Manager (Monitoring & Evaluation)	-	-	20%	25%	15%	20%	10%	15%	10%	5%

Note: (i) * refers to 6 Months and ** means 12 Months and (ii) The PFT Coordinator will randomly assess the work during entire project tenure.

C. Internal Audit

Internal audit is an independent, objective assurance and consulting activity designed to add value and improve an organization's operations. It helps an organization

accomplish its objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of processes. Here the scope of internal auditing within NERLP is

- To involve topics such as the efficacy of operations
- Assess Organizational Strength
- Efficiency of skilled personnel
- Assess reliability of financial reporting
- Safeguarding assets
- Compliance with laws and regulations etc.

However, internal audit will not be done for the execution of NERLP activities; it is for advising management (RPMU/DPMU) regarding how to better execute their responsibilities. It is recommended at the end of first year one internal audit should be carried out by RPMU for effective and smooth operation of the project.

1.6.8.3 External Environmental Audit

Independent external audits should be conducted twice during the project duration—one at the end of the second year and another at the end of the fourth year. An external environment agency should be hired by the SPSU in accordance with the World Bank's procedures for procurement.

A. Objectives of the Environmental Audit

1. To assess the overall effectiveness of the design and implementation of the EMF.
2. To assess the level of implementation and overall effectiveness of the mitigation measures.
3. To assess the adverse impacts of the project supported activities (individual & cumulative).
4. To recommend suggestions/changes to further strengthen the EMF.

B. Scope of the Environmental Audit

1. Screening process: its suitability and categorization of sub-projects
2. Efficacy of the designed tools for environmental appraisal
3. Expertise and understanding of the relevant project staff of the environmental issues
4. Anticipated environmental impacts and suggested mitigation measures
5. Execution of the suggested mitigation measures
6. Unexpected adverse environmental impacts which might have emerged
7. Review of cumulative impact of a particular sector
8. Initiatives on combating climate change
9. Review of environmentally proactive pilots
10. Efficacy of the internal monitoring and evaluation plan
11. Efficacy of convergence with existing schemes to support mitigation measures.
12. Review of the institutional arrangement.
13. Review of the effectiveness of the Information Education and Communication (IEC) materials and training programmes.
14. Providing the necessary recommendation for strengthening the EMF.

The detailed methodology to achieve the above objectives is given below:
Frequency: Twice during the project, once at the end of 2nd year and another at the end of the 4th year of "NERLP".

D. Methodology

The Environmental Management Framework (EMF) has been prepared based on the environmental assessment studies conducted in 25 sampled villages (6 villages from Mizoram, 7 from Nagaland, 6 from Sikkim and 6 from Tripura) from 4 project States. The District and village level officials and persons like SHGs, YGs members were consulted during environmental assessment study in the month of October and November, 2010. The Stakeholders consultation meeting to be conducted separately for each project State. The environmental issues and observations based on the field studies to be address in front of the various line Departments for minimization of the possible environmental impacts to be generated by the proposed livelihood activities under "NERLP".

i. Desk review of documents on environmental assessment

The SPSU, DPMU, and PFT would provide all the necessary information, internal monitoring reports, and feedback to the agency conducting audit. This will include review of the environmental appraisal process, EGs, environment appraisal summary sheets (EASS), District and State level internal monitoring reports, and strategy for IEC and so on. This will help auditors understand the status of overall EMF implementation.

ii. Field Visits

These will include visits to the sample SHGs/producer organizations to evaluate the effectiveness and adoption of the EMF. The sample should be selected in such a way that it ensures representation of sector wise subprojects at district/block/SHG/producer organizations level. The sample to be covered for the external audit would include:

- Number of Districts: 100% of the "NERLP" District.
- Number of blocks: 1 Block/District.
- Number of SHGs: 2.5% of SHGs across three villages in each block.
- Number of proactive environment sub-projects: 100%.
- Number of infrastructure created under community development investment: 10%.
- Number of producer organizations: 10% in each District

Further, the sample should be finalized in consultation with the "NERLP" and the inclusion of all major sectors like agriculture, dairy, forest-based livelihoods, and so on should be ensured.

iii. Stakeholder Consultation

This will include open interviews with the SHGs members, CDGs, producer organizations, relevant staff (PFT, DPMU). The relevant government departments, institutes, academic institutes, research organizations, and SSOs should also be consulted. The external environmental audit should be completed within three months.

iv. Performance Indicators

This section details the performance indicators developed to assess the environmental performance of the "NERLP". These indicators may be integrated into the project MIS to ensure that periodic information to be gathered by the PFTs and sent to the DPSU, and finally to the SPSU. The indicators developed are as follows:

Environmental Outcomes		
• Number of SHGs / CDGs and members who have adopted environment-friendly livelihood practices • Percentage of producer organisations members in compliance with the Environmental Code of Practices of their organisation • Number of SHGs / CDGs and members undertaking activities that are not in compliance with the regulatory requirements list		
Thematic Performance Indicators		
Sl. No.	**Sectors**	**Indicators of adoption of environmental management in livelihood activities**
	Agriculture	• Number of SHG members implementing sustainable agriculture practices as a percentage of the total members in the sampled SHGs • Extent of area under sustainable agriculture practices supported by the project as a percentage of all agricultural area supported by the project in the sample villages • Increase in expenditure on agro-chemicals by households supported by the project (as compared to the pre-project situation and as compared to a control group)
	Soil & Water Conservation	• Number of SHG/CDG members undertaking water conservation measures as a percentage of the total members in the sampled SHGs/CDGs • Extent of area under water conservation (recharge, harvesting, drip/sprinkler irrigation, etc.) as a percentage of all area that has been brought under irrigation through the project support in the sample villages
	Livestock	• Number of SHG members undertaking better fodder management as a percentage of the total members in the sampled SHGs • Percentage increase in number of livestock (in sample villages) as a result of the livestock funded through the project support.
	Fishery	• Number of SHG members undertaking sustainable fishery approach of the total members in the sampled SHGs • Percentage increase in fish production and income (in sample villages) as a result of the fisheries funded through the project support.
	Infrastructure Development	• Area covered under various infrastructure development projects • No of trees felled and compensatory afforestation done • Estimated quantity of generated solid waste
	Institutional arrangements and capacity building	• Percentage of project staff trained in EMF (to total staff). • Percentage of SHGs/CDGs that have received the training on environmental management of livelihoods. • Percentage of producer organisations that have received the training on environmental management of livelihoods.

Figure – 4: Institutional Arrangements for Monitoring and Evaluation (M & E) is as follows:

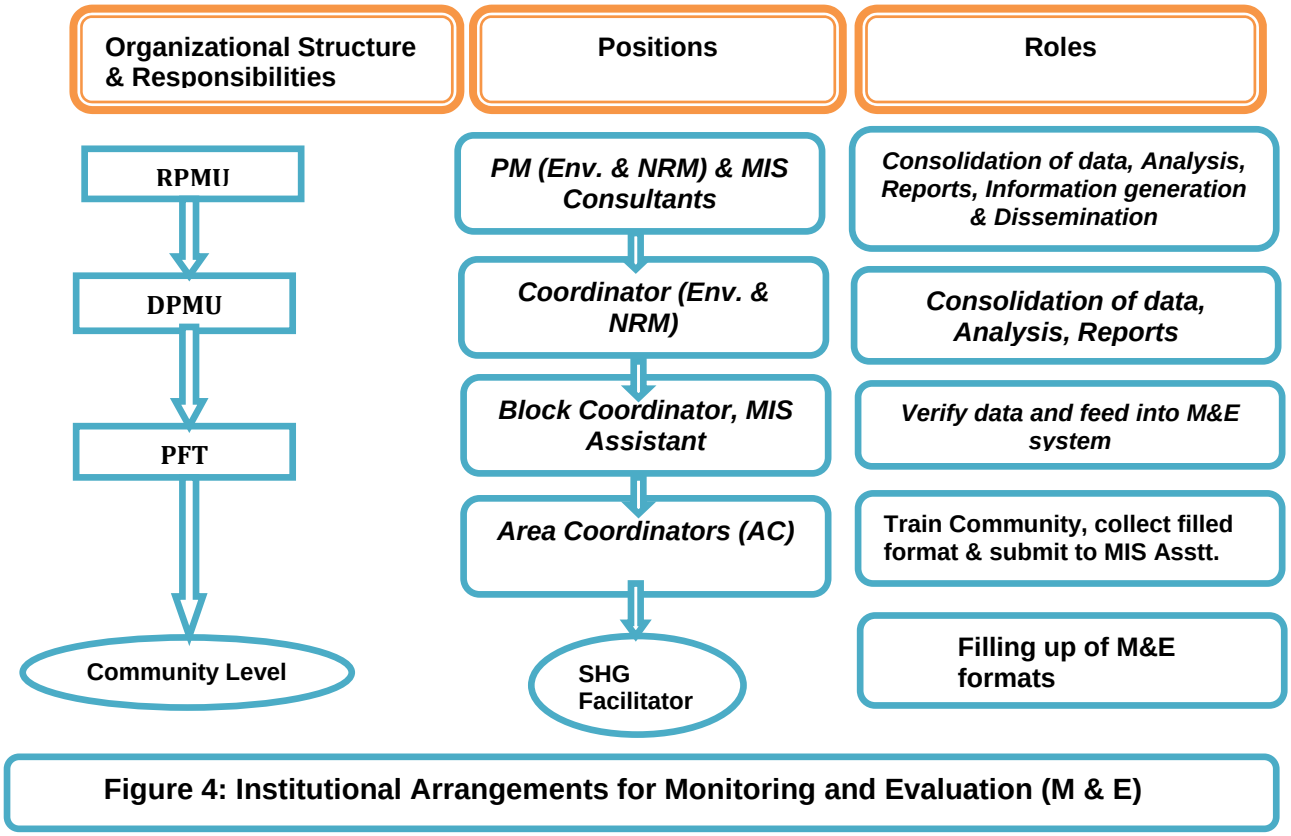


Figure 4: Institutional Arrangements for Monitoring and Evaluation (M & E)

1.7 TIME FRAME FOR EMF IMPLEMENTATION

Based on the experience gathered from existing livelihood projects within the country implementation phasing has been done. Training/workshop, pilot implementation and ultimate implementation of livelihood subprojects have been taken into account during development of the EMF implementation phasing. The planned phasing is as follows:

Table - 10: Phasing of EMF Implementation

	Year 1	Year 2	Year 3	Year 4	Year 5
Establishment of Capacity Building System	• Identification of training agencies • Development of training modules • Development of Operational manual • Development of IEC materials				
Trainings and workshops at RPMU level	• Regional Workshop on development of SPIP • Regional Workshop on review of SPIP	• Regional Workshop on review of SPIP • Regional Workshop on implementation of SPIP	• Regional Workshop on implementation of SPIP	• Regional Workshop on implementation of SPIP	• Regional Workshop on implementation of SPIP
Setting up of SPMU/DPMU	• SPMU Coordinator in all four states • DPMU Environmental specialist in all the Project Districts				
Training of staff at SPMU / DPMU level	• Training for DPMU Env. Coordinator	• Training for DPMU Env. Coordinator	• Training for DPMU Env. Coordinator		

	Year 1	Year 2	Year 3	Year 4	Year 5
Setting of PFTs	• In 4 district • 25 blocks	• In 5 districts • 33 blocks			
Training of PFTs		• In 4 district • 25 blocks	• In 5 districts • 33 blocks		
Setting of PFTs, SHG federation, CDG Env. Sub-committee	• In 2 district • 8 blocks	• In 2 districts • 20 blocks	• In 3 districts • 20 blocks	• In 2 districts • 10 blocks	
Training of PFTs, SHG federation, CDG Env. Sub-committee		• In 2 district • 15 blocks	• In 4 districts • 25 blocks	• In 3 districts • 18 blocks	
EMF implementation	• DPMU Environmental Coordinator rolls out the training programme to the DPMU staff and the PFT • Internal Audit • IEC activity	• Training to DPMU staff and PFT • Compliance with regulatory requirements • Implementation of proactive environmental sub projects • Monitoring and Evaluation • Environmental Audit • IEC activity	• Training to DPMU staff and PFT • Compliance with regulatory requirements • Implementation of proactive environmental sub projects • Monitoring and Evaluation • IEC activity	• Compliance with regulatory requirements • Implementation of proactive environmental sub projects • Monitoring and Evaluation • Environmental Audit • IEC activity	• Compliance with regulatory requirements • Implementation of proactive environmental sub projects • Monitoring and Evaluation • IEC activity
Pilot Implementation of NRMP	• Selection of CDG Environmental Sub Committee	• Implementation in 1 district • 2 blocks	• Implementation in 2 districts • 4 blocks	• Implementation in 3 districts • 6 blocks	• Implementation in 3 districts • 6 blocks

	Year 1	Year 2	Year 3	Year 4	Year 5
	• Training of Environmental Sub Committee on implementation of NRMP • Finalization of monitoring indicators for the pilot studies	• 40 CDG Environmental sub committees	• 80 CDG Environmental sub committees	• 120 CDG Environmental sub committees	• 120 CDG Environmental sub committees

1.8 CONSOLIDATED BUDGET FOR ENVIRONMENTAL SAFEGUARDS

The 'Environmental Budget' which should be allocated to ensure effective implementation of the EMF is depicted in **Table – 10**. Following are the major heads which have been taken into account during budget preparation:

Technical assistance to the RPMU and States
External Environmental Audit
Internal Process Environmental Audit (by RPMU end of 1st year)
Preparation of IEC material
Specialised Training for DPMu for EMF implementation
NRMP Pilot implementation
State Review Workshop
Contingency fund (5% of total project cost)

The budget estimated for EMF implementation is:

Rs. 43585000/-

IN WORDS (INR): Four crore thirty five lakh eighty five thousand only, **(43.58 million)**
for 4 project states **Note:** M - Mizoram, N - Nagaland, S - Sikkim & T - Tripura State

The detailed budget is given in **Annex – 15.**

Annex – 1

PROPOSED LIVELIHOOD ACTIVITIES FOR PROJECT STATES

Organization	Project States (MNST) with Proposed Activities			
	1. Mizoram (M)	**2. Nagaland (N)**	**3. Sikkim (S)**	**4. Tripura (T)**
(A) Activities at SHG Level	1. Backyard Piggery 2. Backyard Poultry 3. Floriculture 4. Incense Stick Making 5. Bamboo shoot production 6. Sheep/Goat, Dairy Cows) 7. Fish farming 8. Silkworm rearing 9. Bee keeping, 10. Ginger cultivation 11. Passion fruit cultivation, 12. Mandarin Orange Cultivation (Inter crop with banana) 13. Hartkora cultivation (Intercrop with Banana) 14. Aloe vera plantation (Intercrop with banana) 15. Pineapple 16. Floriculture 17. Handicrafts 18. Rubber plantation, 19. Red Oil Palm plantation 20. Mushroom cultivation 21. Food processing	1. Backyard Piggery 2. Backyard Poultry 3. Fishery 4. Sericulture/Silk handloom production 5. Perennial cash crops 6. Horticulture 7. Homestead garden 8. Animal husbandry 9. Improved land management practices,	1. Backyard Piggery 2. Backyard Poultry 3. Floriculture 4. Incense Stick Making 5. Bamboo shoot production 6. Small holder dairy farming 7. Village tourism 8. Horticulture (Ginger, Large Cardamom, Fruit plants, Rose & cymbidium) 9. Offseason vegetable, 10. Bee keeping 11. Handicrafts 12. Land development 13. Fodder development,	1. Backyard Piggery 2. Backyard Poultry 3. Incense Stick Making 4. Floriculture 5. Bamboo-shoot production 6. Pineapple 7. Fishery 8. Puffed-rice preparation 9. Rubber plantation 10. Milk production
Sub-total (A)	***21***	***9***	***13***	***10***
(B) Activities at CDG Level	1. Construction of Agriculture Link Roads, 2. Rainwater Harvesting	1. Renewable Power 2. Link Roads 3. Appropriate technology for	1. Spring-shed development, 2. Water storage tanks 3. Stream shed development	1. Handicrafts 2. Bamboo Plantation 3. Rubber plantation.

Organization	Project States (MNST) with Proposed Activities			
	1. Mizoram (M)	**2. Nagaland (N)**	**3. Sikkim (S)**	**4. Tripura (T)**
	structures 3. Rural Godowns 4. Irrigation canals 5. Rural Market buildings 6. Cold Storages	value addition, 4. Environmental governance		
Sub-total (B)	***6***	***4***	***3***	***3***
(C) Activities at YG Level	1. Vocational training for self employment in different trades for entrepreneurship development	1. Providing seed capital and tools for trade for entrepreneurship 2. Para techs, 3. Post harvest technology, 4. Market chain analysis 5. Operation of micro-macro business plans 6. Establishing Market Cell 7. Establishment of Collection Centre	1. Vocational trainings 2. Entrepreneurship seed funds 3. Placement support	1. Vocational training for self employment in different trades for entrepreneurship development 2. Agriculture and 3. Horticulture Products Processing Plants
Sub-total (C)	***1***	***7***	***3***	***3***
(D) Activities at Federation Level	1. Marketing, 2. Support Service 3. Management & wider enabling of environmental preservation & protection, procurement of Fish and Animal feeds, 4. Marketing of products of SHGs, 5. Development of SHGs	1. Marketing, 2. Providing support services to village market committee, 3. Establish collection centre 4. Villages cluster formation 5. Collaboration with SEZ and business partners, 6. Rural Godowns 7. Cold Storage,	1. Marketing, 2. Village tourism promotion 3. Value addition plants 4. Para technicians 5. Bulk procurement of raw material, 6. Rural Godowns 7. Cold storage.	1. Marketing of products of SHGs 2. Support Service 3. Management & wider enabling of environment (State level policies & processes in accordance with the principles of good inter-project collaboration)
Sub-total (D)	***5***	***7***	***7***	***3***
Total	**33**	**27**	**26**	**19**

Annex – 2

REGULATORY REQUIREMENTS FOR ENVIRONMENTAL SAFEGUARDS

There are several livelihood activities which, if taken up, would contravene the laws and regulations of The Government of India State Government, as well as Safeguard Polices of the World Bank. Such activities will not be supported under the "NERLP". Given below is a list of attributes that would disqualify an activity from being supported under "NERLP". This list shall be treated as the regulatory requirement list for the activities planned to be taken up by SHGs, SHG federations, and Producer Organizations.

LIST OF THE PERMISSIBLE AND NON-PERMISSIBLE ACTIVITIES AS PER REGULATORY REQUIREMENTS FOR ENVIRONMENTAL SAFEGUARDS

Sl. No.	Livelihood Sectors	Non-permissible Activities	Compliances for non permissible activities
1.	Agri-horticulture	• Indiscriminate Jhum Cultivation. • Purchase, stock, sale, distribution or exhibition of pesticides and chemical fertilizers will not be supported: 1. Pesticides Under Class – Ia, Ib & II of WHO classification 2. Pesticides banned by Govt. of India. Refer **Annex 2.(A)-** for list of Banned pesticides. • Purchase, stock, sale, distribution or exhibition of pesticides and chemical fertilizers will not be supported without the requisite licenses. • Use of non certified seeds by Govt. of India. • Digging of irrigation tubewell without taking required permission from the relevant authority • Digging of irrigation tubewell within a distance of 250 meters from the nearest tubewell will not. • Conversion of forest land for non forest activities • Felling of trees without prior permission from Forest Dept. • Unauthorized import and export of large cardamom	**Govt. of India Acts.** • Indian Forest Act, 1927 • Forest Conservation Act,1980,88 • National Forest Policy, 1988 • Environmental Protection Act, 1986. • Insecticide Act, 1968. • Water (Prevention and Control of Pollution) Act, 1974,88 • Water (Prevention and Control of Pollution) Cess Act, 1977 • National Water Policy 1987, 2002 • The Biological Diversity Act, 2002 • Hazardous Wastes Management (Management and Handling) Rules 1989. • The seed act 1966

Sl. No.	Livelihood Sectors	Non-permissible Activities	Compliances for non permissible activities
		• Indiscriminate large cardamom cultivation within forest area • Disposal of agriculture wastes in water bodies (rivers, ponds, lakes *etc.*)	**State Govt. Acts and Rules** • Sikkim Private and Other Non Forest Lands Tree Felling Rules, 2001 (Sikkim) • Compensatory Plantation Rules, 2001 (Sikkim) • Cardamom Act 1965 (Sikkim) • Sikkim Non Bio-degradable garbage (Control) Act 1997 and Rules 2001 (Sikkim) • Nagaland Jhum Land Act, 1970,74 (Nagaland) • Tree Plantation through Jhum Cultivation 1998 (Nagaland) • The Nagaland Forest Act, 1969,72,74,94 • Mizo District (Agricultural Land) Act (Mizoram) **World Bank Policies and Guidelines** • OP/BP 4.01, 4.36 • OP 4.04, 4.09
2.	Livestock Rearing	• Grazing of livestock within reserve forest, sanctuary, national parks, wildlife reserves, and other notified areas. • Grazing of livestock in forest areas without taking required permission from the Forest Department. • Grazing of livestock that have not been vaccinated in forest areas • Without prior permission from Forest Dept. Fodder collection within reserve forest and other notified forest area.	**Govt. of India Acts.** • **As per Wild Life (Protection) Act, 1972:** 33A. Immunization of live-stock **State Govt. Acts and Rules** • The Nagaland Livestock and Poultry Contagious Disease Act, 1980 (Nagaland) • The Nagaland Cattle Trespass Act, 1985 (Nagaland) • The Mizoram Animal (Control and Taxation) Act, 1980 (Mizoram) **World Bank Policies and Guidelines** • OP/BP 4.01, 4.36

Sl. No.	Livelihood Sectors	Non-permissible Activities	Compliances for non permissible activities
			• OP 4.04
3.	Fisheries	• Fishing in the Government declared prohibited/closed time period i.e.during spawning & breeding season. • Fishing by the use of poison and explosive materials. • Fishing from the prohibited sites declared by the State as well as Central Govt. • Fishing using nets with mesh size smaller than the permissible size (by district Fishery Dept.) will not be supported • Culture of invasive species (e.g., African Catfish).	**Govt of India Acts. :** • The Indian Fishery Act, 1897 **State Govt. Acts and Rules :** • The Nagaland Fisheries Act
4.	Forest and Biodiversity	• Activities that involve use of forest land for non-forest purposes without the permission of the Forest Department. • Extraction, transport, processing, sale of forest produce including non timber forest produce without taking required8 permission from the Forest Department • Felling of trees without taking required9 permission from the Forest Department. • Activities that involve destruction of wildlife or of wildlife habitat. • Clearing, kindling fire, damaging trees (felling, girdling, lopping, topping, burning, stripping bark and leaves), quarrying stone, etc., in reserved and protected forests. • Use of explosive materials for blasting and mining operations nearby forests and protected areas.	**Govt. Of India Act.** • Wild Life (Protection) Act, 1972 • Schedule Tribe and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 **State Govt. Acts and Rules** • Sikkim Forest , Water Courses and Road Reserve (Preservation and Protection) Act, 1988 • Forest (Right) Act 2006 (Nagaland) • The Mizoram (Forest) Act (as passed by Mizo District Council) 1955, (Mizoram) • Bamboo Policy of Mizoram, 2002, (Mizoram) • Forest (Right) Act, 2006 (Mizoram) • Mizoram Wildlife (Protection) Rules 1990 (Mizoram) • Tripura Land Reforms and Land Records Act, 1960 (Tripura) • Tripura forest Transit Rules, 1998 (Tripura)

Sl. No.	Livelihood Sectors	Non-permissible Activities	Compliances for non permissible activities
5.	Water Conservation	• Discharge of effluent and dumping of solid waste within natural water bodies from various livelihood activities • Digging of tubewell without taking required permission from the relevant authority • Digging of irrigation tubewell within a distance of 250 meters from the nearest tubewell	**Govt. Of India Act:** • Water (Prevention and Control of Pollution) Act, 1974,88 • Water (Prevention and Control of Pollution) Cess Act, 1977 • National Water Policy 1987, 2002
6.	Infrastructure	• Activities that involve use of forest land for non-forest purposes without the permission of the Forest Department. • Felling of trees without taking required9 permission from the Forest Department. • Construction of link roads, Cold storages, godowns, etc. irrigation channels without prior approval of the design by a qualified Engineer. • Activities involving discharge into any water body any effluent, sewerage or other polluting substance • Any processing unit without requisite permission from the Government (Pollution Control Board). • Mining activities	**Govt. Of India Act:** • Forest Conservation Act, 1980. • EIA notification 2009. **State Govt. Acts and Rules** • Sikkim Forest , Water Courses and Road Reserve (Preservation and Protection) Act, 1988
7.	Miscellaneous activities	Activities likely to have significant adverse environmental impacts that are irreversible, diverse, or unprecedented, with impacts that may affect an area broader than the site of the activity are not to be supported	

Annex – 2 (A)

LIST OF THE PESTICIDES (AS PER WHO)

Sl. No.	Pesticides Classes	Nature	Remark
1.	Class – I a	Extremely hazardous	technical grade active ingredients of pesticide
2.	Class – I b	Highly hazardous	
3.	Class – II	Moderately hazardous	
4.	Class – III	Slightly hazardous	technical grade ingredients of pesticides

PESTICIDES BASED ON THEIR CLASSES OR HAZARDOUS NATURE

Sl. No.	Class – I Pesticides		Class – II Pesticides (Moderately Hazardous)	Class – III Pesticides (Slightly Hazardous)
	Class – I a (Extremely Hazardous)	Class – I b (Highly Hazardous)		
1.	Aldicarb [ISO]	Lead arsenate [C]	Diquat [ISO]	Methylarsonic acid [ISO]
2.	Bradifacoum [ISO]	Paris green [C]	Paraquat [ISO]	Dimethylarsinic acid [C]
3.	Bromadiolone [ISO]	Sodium arsenite [C]	Alanycarb [ISO]	Fenothiocarb [ISO]
4.	Difenacoum [ISO]	Calcium asenate [C]	Bendiocarb [ISO]	XMC
5.	Flocoumafen	Butocarboxim [ISO]	Benfuracarb [ISO]	Copper hydroxide [C]
6.	Mercuric chloride [ISO]	Butoxycarboxim [ISO]	Carbaryl [ISO]	Copper oxychloride [C]
7.	Phenylmercury acetate[ISO]	Carbuforan [ISO}	Carbosulfan [ISO]	Dinocap [ISO]
8.	Hexachlorobenzene [ISO]	Ethiofencarb [ISO]	Fenubocarb [ISO]	Dichlorophen [ISO]
9.	Chlorethoxyfos [ISO]	Formetanate [ISO]	Isoprocarb [ISO]	Dicofol [ISO]
10.	Chlormephos [ISO]	Furathiocarb	Metolcarb [ISO]	Dienochlor [ISO]
11.	Disulfoton [ISO]	Methiocarb [ISO]	Pirimicarb [ISO] Propoxur	Fomesafen [ISO]
12.	EPN	Methomyl [ISO]	Thiodicarb [ISO]	Acephate [ISO]
13.	Ethoprophos [ISO]	Oxamyl [ISO]	Xylylcarb Copper sulfate [ISO]	Azamethiphos [ISO]
14.	Fonofos [ISO]	Thiofanox [ISO]	Cuprous oxide [ISO]	Malathion [ISO]
15.	Mevinphos [ISO]	Coumatetralyl [ISO]	Mercurous chloride [C]	Pirimiphos-methyl [ISO]
16.	Parathion [ISO]	Warfarin [ISO]	Dinobuton [ISO]	Pyridaphenthion

Sl. No.	Class – I Pesticides		Class – II Pesticides (Moderately Hazardous)	Class – III Pesticides (Slightly Hazardous)
	Class – I a (Extremely Hazardous)	Class – I b (Highly Hazardous)		
17.	Parathion-methyl [ISO]	Mercuric oxide [ISO]	Chlordane [ISO]	Cyhexatin [ISO]
18.	Phorate [ISO]	Dinotreb [ISO]	DDT [ISO]	4-CPA [ISO]
19.	Phosphamidon	DNOC [ISO]	Endosulfan [ISO]	MCPA [ISO]
20.	Sulfotep [ISO]	Azinphos- ethyl [ISO]	Gamma-HCH [ISO]	MCPA- thioethyl [ISO]
21.	Tebupirimfos[ISO*]	Azinphos-methyl [ISO]	HCH [ISO]	Allethrin [ISO]
22.	Terbufos [ISO]	Cadusafos [ISO]	Heptachlor [ISO]	Empenthrin[(1R)isomers]
23.	Bromethalin [ISO]	Chlorfenvinphos [ISO]	Anilofos [ISO]	Resmethrin
24.	Calcium cyanide [C]	Coumaphos [ISO]	Butamifos [ISO]	Ametryn [ISO]
25.	Captafol [ISO]	Demeton-S-methyl [ISO]	Chlorpyrifos [ISO]	Dimethametryn [ISO]
26.	Chlorophacinone [ISO]	Dichlorvos [ISO]	Cyanophos [ISO]	Simetryn [ISO]
27.	Difethialone [ISO]	Dicrotophos [ISO]	Diazinon [ISO]	Cycloate [ISO]
28.	Diphacinone [ISO]	Edifenphos [ISO]	Dimethoate [ISO]	Dimepiperate [ISO]
29.	Sodium fluoroacetate [C]	Famphur	Ethion [ISO]	Esprocarb [ISO]
30.	-	Fenamiphos [ISO]	Etrimfos [ISO]	Tri-allate
31.	-	Heptenophos [ISO]	Fenitrothion [ISO]	Acetochlor [ISO]
32.	-	Isazofos [ISO]	Fenthion [ISO]	Acifluorfen [ISO]
33.	-	Isofenphos [ISO]	Formothion [ISO]	Alachlor [ISO]
34.	-	Isoxathion [ISO]	Methacrifos [ISO]	Amitraz [ISO]
35.	-	Mecarbam [ISO]	Naled [ISO]	Bensultap [ISO]
36.	-	Methamidophos [ISO]	Phenthoate [ISO]	Bentazone [ISO]
37.	-	Methidathion [ISO]	Phosalone [ISO]	Bromofenoxim [ISO]
38.	-	Monocrotophos [ISO]	Phosmet [ISO]	Butroxydim [ISO]
39.	-	Omethoate [ISO]	Phoxim [ISO]	Chinomethionat [ISO]
40.	-	Oxydemeton-methyl [ISO]	Piperophos [ISO]	Chlormequat (chloride) [ISO]
41.	-	Pirimiphos-ethyl [ISO]	Profenofos [ISO]	Chloroacetic acid [C]
42.	-	Propaphos	Prothiofos [ISO]	Chlorthiamid [ISO]
43.	-	Propetamphos [ISO]	Pyraclofos [ISO]	Cymoxanil [ISO]
44.	-	Thiometon [ISO]	Quinalphos [ISO]	Cyproconazole

Sl. No.	Class – I Pesticides		Class – II Pesticides (Moderately Hazardous)	Class – III Pesticides (Slightly Hazardous)
	Class – I a (Extremely Hazardous)	Class – I b (Highly Hazardous)		
45.	-	Triazophos [ISO]	Sulprofos [ISO]	Dazomet [ISO]
46.	-	Vamidothion [ISO]	Trichlorfon [ISO]	2,4-DB
47.	-	Zeta-cypermethrin [ISO]	Azocyclotin [ISO]	Desmetryn [ISO]
48.	-	Flucythrinate [ISO]	Fentin hydroxide [ISO]	Dicamba [ISO]
49.	-	Tefluthrin	2,4- D [ISO]	Dichlormid
50.	-	Acrolein [C]	Bifenthrin Bioallethrin [C]	Dichlorobenzene [C]
51.	-	Allyl alcohol [C]	Cyfluthrin [ISO]	Dichlorprop [ISO]
52.	-	Blasticidin-S	Beta-cyfluthrin [ISO]	Diclofop [ISO]
53.	-	3-chloro-1,2-propanediol[C]	Cyhalothrin [ISO]	Diethyltoluamide [ISO]
54.	-	Fluoroacetamide [C]	Cypermethrin [ISO]	Difenoconazole [ISO]
55.	-	Nicotine [ISO]	Alpha-cypermethrin [ISO]	Dimethachlor [ISO]
56.	-	Pentachlorophenol [ISO]	Cyphenothrin [(1R)-isomers] Deltamethrin [ISO]	Dimethipin [ISO]
57.	-	Pindone [ISO]	Esfenvalerate [ISO]	Diniconazole [ISO]
58.	-	Sodium cyanide [C]	Fenpropathrin [ISO]	Diphenamid [ISO]
59.	-	Strychnine [C]	Fenvalerate [ISO]	Dithianon [ISO]
60.	-	Thallium sulfate [C]	Lambda-cyhalothrin	Dodine [ISO]
61.	-	Zinc phosphide [C]	Permethrin [ISO]	Etridiazole [ISO]
62.	-	-	Prallethrin [ISO]	Ferimzone [ISO]
63.	-	-	Cyanazine [ISO]	Fluazifop-p-butyl [ISO]
64.	-	-	Terbumeton [ISO]	Fluchloralin [ISO]
65.	-	-	EPTC [ISO]	Flufenacet [ISO]
66.	-	-	Molinate [ISO]	Fluoroglycofen
67.	-	-	Pebulate [ISO]	Flurprimidol [ISO]
68.	-	-	Prosulfocarb [ISO]	Flusilazole
69.	-	-	Thiobencarb [ISO]	Flutriafol [ISO]
70.	-	-	Vernolate [ISO]	Furalaxyl [ISO]
71.	-	-	Azaconazole	Glufosinate [ISO]

Sl. No.	Class – I Pesticides		Class – II Pesticides (Moderately Hazardous)	Class – III Pesticides (Slightly Hazardous)
	Class – I a (Extremely Hazardous)	Class – I b (Highly Hazardous)		
			Bensulide [ISO]	
72.	-	-	Bilanafos [ISO]	Hexazinone [ISO]
73.	-	-	Bromoxynil [ISO]	Hydramethylnon Iprobenfos Isoprothiolane [ISO]
74.	-	-	Bromuconazole Bronopol Butylamine [ISO]	Isoproturon [ISO]
75.	-	-	Cartap [ISO]	Isouron [ISO]
76.	-	-	Chloralose [ISO]	MCPB [ISO]
77.	-	-	Chlorfenapyr [ISO]	Mecoprop [ISO]
78.	-	-	Chlorphonium chloride [ISO]	Mecoprop-P [ISO]
79.	-	-	Clomazone [ISO] Difenzoquat [ISO]	Mefluidide [ISO]
80.	-	-	Endothal-sodium [ISO]	Mepiquat [ISO]
81.	-	-	Fenazaquin [ISO]	Metalaxyl [ISO]
82.	-	-	Fenpropidin [ISO]	Metamitron [ISO]
83.	-	-	Fluxofenim [ISO]	Metconazole [ISO]
84.	-	-	Fuberidazole [ISO]	Metolachlor [ISO]
85.	-	-	Guazatine Haloxyfop Imazalil [ISO]	Myclobutanil
86.	-	-	Imidacloprid [ISO]	2-Napthyloxyacetic acid
87.	-	-	Iminoctadine [ISO]	Nitrapyrin [ISO]
88.	-	-	Ioxynil [Iso]	Nuarimol [ISO]
89	-	-	Ioxynil octanoate Metaldehyde [ISO]	Octhilinone [ISO]
90	-	-	Metam-sodium [ISO]	N-octylbicycloheptene dicarboximide
91	-	-	Methasulfocarb [ISO]	Oxadixyl

Sl. No.	Class – I Pesticides		Class – II Pesticides (Moderately Hazardous)	Class – III Pesticides (Slightly Hazardous)
	Class – I a (Extremely Hazardous)	Class – I b (Highly Hazardous)		
				Paclobutrazol [ISO]
91	-	-	Methyl isothiocyanate	
92	-	-	Metribuzin [ISO]	Pendimethalin [ISO]
93	-	-	Nabam [ISO]	Pimaricin Prochloraz [ISO]
94	-	-	Propiconazole [ISO]	Propachlor [ISO]
95	-	-	Pyrazophos [ISO]	Propanil [ISO]
96	-	-	Pyrethrins [ISO]	Propargite [ISO]
97	-	-	Pyroquilon [ISO]	Pyrazoxyfen [ISO]
98	-	-	Quizalofop-p-tefuryl[ISO]	Pyridaben [ISO]
99	-	-	Rotenone [C] Sodium fluoride [ISO]	Pyridate [ISO]
100	-	-	Sodium hexafluorosilicate	Pyrifenox [ISO]
101	-	-	Spiroxamine [ISO]	Quinoclamine [ISO]
102	-	-	Tetraconazole[ISO]	Quizalofop
103	-	-	Thiacloprid	Sethoxydim [ISO]
104	-	-	Thiocyclam [ISO]	Sodium chlorate [ISO]
105	-	-	Triazamate [ISO]	Sulfluramid [ISO]
106	-	-	Tricyclazole [ISO]	2,3,6-TBA [ISO]
107	-	-	Tridemorph [ISO]	Tebuconazole
108	-	-	Fipronil	Tebufenpyrad [ISO(*)]
109	-	-	-	Tebuthiuron [ISO]
110	-	-	-	Thiram [ISO]
111	-	-	-	Tralkoxydim [ISO]
112	-	-	-	Triadimefon [ISO]
113	-	-	-	Triclopyr [ISO] Triflumizole Undecan-2-one [C]
114	-	-	-	Uniconazole [ISO]
115	-	-	-	Ziram [ISO]

DETAILS OF THE PESTICIDES USE, BANNED, IMPORT/EXPORT AND RESTRICTED PESTICIDES by Govt. of INDIA

Sl. No.	Pesticides Categories					
	A (27 Nos.)	B (2 Nos.)	C (4 Nos.)	D (7 Nos.)	E (18 Nos.)	E (13 Nos.)
	Pesticides Banned for manufacture, import and use	Pesticide formulations banned for use but their manufacture is allowed for export	Pesticide formulations banned for import, manufacture and use	Pesticide Withdrawn	List of Pesticides Refused for Registration	Pesticides Restricted for use in India
1.	Aldrin	Nicotin Sulfate	Methomyl 24% L	Dalapon	Calcium Arsonate	Aluminium Phosphide
2.	Benzene Hexachloride	Captafol 80% Powder	Methomyl 12.5% L	Ferbam	EPM	DDT
3.	Calcium Cyanide	-	Phosphamidon 85% SL	Formothion	Azinphos Methyl	Lindane
4.	Chlordane	-	Carbofuron 50% SP	Nickel Chloride	Lead Arsonate	Methyl Bromide
5.	Copper Acetoarsenite	-	-	Paradichloro benzene (PDCB)	Mevinphos (Phosdrin)	Methyl Parathion
6.	CIbromochloropropane	-	-	Simazine	2,4, 5-T	Sodium Cyanide
7.	Endrin	-	-	Warfarin	Carbophenothion	Methoxy Ethyl Mercuric Chloride (MEMC)
8.	Ethyl Mercury Chloride	-	-	-	Vamidothion	Monocrotophos
9.	Ethyl Parathion	-	-	-	Mephosfolan	Endosulfan
10.	Heptachlor	-	-	-	Azinphos Ethyl	Fenitrothion
11.	Menazone	-	-	-	Binapacryl	Diazinon
12.	Nitrofen	-	-	-	Dicrotophos	Fenthion
13.	Paraquat Dimethyl Sulphate	-	-	-	Thiodemeton / Disulfoton	Dazomet
14.	Pentachloro	-	-	-	Fentin Acetate	-

Sl. No.	Pesticides Categories					
	A (27 Nos.)	B (2 Nos.)	C (4 Nos.)	D (7 Nos.)	E (18 Nos.)	E (13 Nos.)
	Pesticides Banned for manufacture, import and use	Pesticide formulations banned for use but their manufacture is allowed for export	Pesticide formulations banned for import, manufacture and use	Pesticide Withdrawn	List of Pesticides Refused for Registration	Pesticides Restricted for use in India
	Nitrobenzene					
15.	Pentachlorophenol	-	-	-	Fentin Hydroxide	-
16.	Phenyl Mercury Acetate	-	-	-	Chinomethionate (Morestan)	-
17.	Sodium Methane Arsonate	-	-	-	Ammonium Sulphamate	-
18.	Tetradifon	-	-	-	Leptophos (Phosvel)	-
19.	Toxafen	-	-	-	-	-
20.	Aldicarb	-	-	-	-	-
21.	Chlorobenzilate	-	-	-	-	-
22.	Dieldrine	-	-	-	-	-
23.	Maleic Hydrazide	-	-	-	-	-
24.	Ethylene Dibromide	-	-	-	-	-
25.	TCA (Trichloro acetic acid)	-	-	-	-	-
26.	Metoxuron	-	-	-	-	-
27.	Chlorofenvinphos	-	-	-	-	-

Annex - 3

CLASSIFICATION OF THE ACTIVITIES ACCORDING TO LEVEL OF ENVIRONMENTAL IMPACT

Organization	Negligible/ Low	Medium/ High
(A) Activities at SHG Level	1. Backyard Piggery 2. Backyard Poultry 3. Fishery 4. Fish Farming 5. Homestead Garden 6. Incense Stick Making 7. Bamboo shoot production 8. Bee keeping, 9. Handicrafts 10. Mushrooms production. 11. Food processing 12. Puffed-rice preparation 13. Small Holder Dairy farming 14. Improved Land Management Practices 15. Perennial Cash Crops 16. Horticulture 17. Sericulture 18. Small scale NTFP collection 19. Floriculture 20. Sheep and Goat rearing 21. Silkworm rearing 22. Ginger cultivation 23. Passion fruit cultivation, 24. Mandarin Orange Cultivation 25. (Inter crop with banana) 26. Hartkora cultivation 27. (Intercrop with Banana) 28. *Aloe vera* plantation 29. (Intercrop with banana) 30. Pineapple Cultivation 31. Mixed Rubber plantation, 32. Mixed Red Oil Palm plantation 33. Fodder Development 34. Land development 35. Offseason vegetable 36. Village tourism 37. Renewable Power Generation	1. Rural Link Roads 2. Rural Godowns 3. Cold Storage 4. Irrigation Canal 5. Use of Pesticides for HYVs 6. Indiscriminate Jhum Cultivation 7. Dairy units more than 100 cattle 8. Agro farm more than 10 Ha. 9. Monoculture of Rubber 10. Monoculture of Oil Palms

Organization	Negligible/ Low	Medium/ High
(B) Activities at CDG Level	1. Spring-shed development, 2. Water storage tanks 3. Stream shed development 4. Handicrafts 5. Bamboo Plantation 6. Environmental governance 7. Mixed Rubber plantation. 8. Rainwater Harvesting structures	1. Construction of Agriculture Link Roads, 2. Rural Godowns 3. Irrigation canals 4. Rural Market buildings 5. Cold Storages 6. Renewable Power 7. Link Roads

Annex– 4

GENERIC ENVIRONMENTAL MANAGEMENT PLAN (EMP) FOR PROPOSED LIVELIHOOD ACTIVITIES UNDER "NORTH EAST RURAL LIVELIHOOD PROJECT"

Sl. No.	Livelihood Details		Possible Environmental Impacts	Recommended Mitigation Measures	Action to be taken
	Major Sectors	Proposed Activities			
1.	Agro-horticulture	• Horticulture plantations • Floriculture (Rose & Cymbidium) • Off-seasonal Vegetables Production • Mushroom Cultivation • Perennial Cash Crops • Bamboo Shoot Production • Ginger Cultivation • Turmeric Cultivation • Large Cardamon Cultivation • Mandarin Orange Cultivation	Soil erosion and sedimentation due to cultivation of agriculture and horticulture crops like cereals, pulses, fruits, vegetables, spices *etc.* on the sloppy land	• Introduce contour plowing and/or terracing to minimize crop and soil losses • Avoid growing crops on sloppy land • Use intercropping to protect soil from erosion, reduce risk of crop failure, mix food and fodder crop cultivation, maximize output per arable area • Use bunds for tree crops and fodder production	• The farmers and SHG members will take action by adopting better management of Agro-horticulture practices for the sustainable livelihood with eco-friendly approach under technical guidance of the Department of Agriculture, Horticulture and Krishi Vigyan Kendra (KVK), • The Block level staff under "NERLP" (like area co-
			Reduction in Soil moisture due to unsustainable agricultural practices	• Introduce minimum/zero tillage to reduce water loss • Add organic material to the soil through manure application and/or compost to increase water infiltration and water retention capacity	
			Deterioration of water quality and soil due to excessive and regular use of agro-chemicals (fertilizers	Organic farming (vermin- compost) may be promoted instead of additional use of agro-chemicals like	

Sl. No.	Livelihood Details		Possible Environmental Impacts	Recommended Mitigation Measures	Action to be taken
	Major Sectors	Proposed Activities			
		(Inter Crop with Banana) • Passion fruit Cultivation • Hartkora Cultivation (Inter Crop with Banana) • Homestead Garden • *Aloe vera* Plantation (Inter Crop with Banana) • Pineapple Cultivation • Rubber Plantation • Red Oil Palm Plantation	& pesticides) on fields to obtain high yields	Urea, NPK, DDT, BHC *etc.*	coordinators) will assist the farmers and SHG members, for adopting proposed activities under project. will assist the farmers and SHG members, for adopting proposed activities under project.
			Loss of soil nutrients and fertility due to mono-cropping	Diversify Cropping Pattern (reduce water demanding crops, use short duration crop varieties, use leguminous crops for nitrogen fixation, introduce fodder crops in cropping cycle)	
			Spreading of pathogens on crops/plants from species to species on availability of suitable hosts	Crop-rotation can control the spreading of some diseases on crops due to unavailability of the suitable host	
			Environmental degradation & ecological loss due to shifting cultivation and felling of trees	• Do not clear forest patches for shifting cultivation • Do not allow jhum on hill ridges • No tillage and plant residue mulches • Mixed crops of high yielding varieties that are disease and pest free • Fertilizers to replace the phosphorus and other nutrients • Legumes with highly active nitrogen fixing rizobium to supply nitrogen to the soil and other crops • Control of acidity by means of ash or mulches of deep rooted	

Sl. No.	Livelihood Details		Possible Environmental Impacts	Recommended Mitigation Measures	Action to be taken
	Major Sectors	Proposed Activities			
				species or by lime and trace elements where lime is readily available	
			Accumulation of chemicals in water bodies (If fertilizers are being used) / Eutrophication problem	• Optimum use of fertilizer • Try to avoid nitrogen and phosphorus containing fertilizers on the field • Practice organic farming • Adopt surface runoff minimization measures on field	
2.	Livestock Rearing/Piggery and Poultry	• Animal Husbandry (Cattle) • Dairy (Milk Production) • Small Scale Dairy Farming • Procurement of Animal Feeds • Sheep and Goat Rearing • Backyard Piggery Backyard Poultry	Over grazing beyond carrying capacity due to finite pasture land, which promotes soil erosion, loss of vegetation due to their frequent movement	• Rearing of stall feeding animals (cattle) can be promoted instead of open grazing like sheep and goats (bovine) in absence of suitable grazing land adjoining to the project villages. • Secure year round availability of good quality fodder	• The SHGs members will make efforts for better management of Livestock rearing for the sustainable livelihood with the technical guidance of the Department of Animal Husbandry and Animal Breeding Centers. • The Block level staff under "NERLP" (like
			At times animals dug the roots of the plants with their sharp hoofs. That is a cause of soil erosion especially in sloppy land.	The Piggery and Poultry farms should be away from the residential and commercial structures. There should be separate sheds for cattle, equine, bovine, pigs and poultry farms.	
			Backyard pig rearing and poultry practices induce or spread dirty smell nearby the residential and commercial structures	The animal/cow dung should not be thrown nearby houses and shops. That can be dump in manure-pits. This can also be used to produce	

Sl. No.	Livelihood Details		Possible Environmental Impacts	Recommended Mitigation Measures	Action to be taken
	Major Sectors	Proposed Activities			
				bio-gas as a good source of fuel energy in rural areas. Likewise, the places where LPG is not in supply the dependency of household fuel on forest trees as a fuel wood can be minimized. The well decomposed matter from the Bio-gas plant can be a good source of Farm Yard Manure (FYM).	area co-coordinators) will assist the SHG members, who have adopted the livestock rearing and associated activities
			The animal/cow dung can be a cause of spreading various diseases (malaria *etc.*) especially during summer season.	• Regular cleaning of animal sheds • Maintain hygiene • Adopt vector control measures to prevent vector born diseases • Introduce an animal health service, including vaccination schemes, able to act quickly to counteract any emerging animal health issues	
3.	Apiculture, Sericulture and	• Bee Keeping • Silk-worm Rearing	• Decreasing Production • Spreading of Diseases • Biodiversity loss	• Bee hives shall be situated in organically managed fields and/ or wild natural areas. • Hives shall not be placed close to field or other areas where chemical pesticides and herbicides are used. • Each bee hive shall primarily consist of natural materials. Wing clipping and veterinary	SHG Federations and Area Coordinators with the technical guidance of Departments of Apiculture, Sericulture, Fishery, Horticulture and

Sl. No.	Livelihood Details		Possible Environmental Impacts	Recommended Mitigation Measures	Action to be taken
	Major Sectors	Proposed Activities			
				medicines are not allowed. While working with bees no repellent consisting of prohibited substances shall be used. • For pest and disease control and for hive disinfection following products are allowed: Caustic soda, lactic, oxalic, acetic and formic acids, sulphur, enteric oils and *Bacillus thuringensis*.	Rural Development.
4.	Fishery	• Fish Farming/ Cultural Fishery • Artisanal Fishery	• Decreasing Production • Biodiversity loss	• Avoid fishing in areas prohibited / closed by the Government during breeding season • Use permissible net size as prescribed by the Govt • Avoid using destructive fishing practices like use of explosives and poison • Identification and protection of breeding grounds • Allow free migration of brooders and juveniles during breeding time	SHG federations and Area Coordinators with the technical guidance of Fishery Department and Rural Development.
				• Control of weeds and water hyacinth in the fish ponds • Use of fertilizers in recommended doses in	

Sl. No.	Livelihood Details		Possible Environmental Impacts	Recommended Mitigation Measures	Action to be taken
	Major Sectors	Proposed Activities			
				coordination with authorized fishery officials for better fish production • Stocking of appropriate fish species in coordination with local fishery officials • Proper feeding as recommended by the fishery department • Introduction of indigenous fish species with technical guidelines by Fishery Dept.	
5.	Improved Land Management Practices	• Land Development • Countour Trenching • Check bunds • Bench Terracing • Bunding • Drainage Line Treatment	Soil erosion	In addition to the improved agricultural practices provided under serial no. 1 of this table Restoration of existing ecosystems through plantation, construction of retaining walls to minimize the land degradation, soil erosion, planning and land reclamation programme	SHG Federations and Area Coordinators through SHG members and YGs with the technical guidance of the concerned Forest and Rural Development Departments
			Excessive runoff	• Plantation of fodder trees or MPTS on degraded land • Construct retaining walls and terraces to check soil erosion and • Construction of proper drainage channel to reduce soil loss	
			Formation of gullies	Adoption of agro-forestry practices on the degraded land	
6.	Rural	• Construction of	• Diversion of agriculture,	• The forest land to be diverted as	The civil work

Sl. No.	Livelihood Details		Possible Environmental Impacts	Recommended Mitigation Measures	Action to be taken
	Major Sectors	Proposed Activities			
	Infrastructure Development	Link Roads for Agriculture Marketing of produce and field operations • Construction of Irrigation Canals • Renewable Power Development • Rural Storage Godowns • Rural Market Buildings • Cold Storage • Establishment of Market • Construction of Water Tanks • Construction of Rain Water Harvesting Structures	private and forest land for non-forest use. • Land degradation, soil erosion, sedimentation and siltation due to road cutting and blasting operation. • Loss of regional bio-diversity. • Loss of State/National Forest cover due to diversion of forest land for link road construction. • Impact on water bodies/resources and forests due to illegal activities of workers such as disposal of wastes on water bodies, and tree cutting for fuel wood, hunting and poaching of wildlife during construction. • Obstacle due to link road construction for free movement of wildlife. • Environmental pollution like air, water and noise due to road cutting and operations of heavy machineries during construction period.	per the guidelines of the Forest (Conservation) Act, 1980. • Compensatory Afforestation (CA) to be done as per rules of the Forest (Conservation) Act, 1980. • The construction camps and site offices to be established away from the protected areas, (WLS, NPs, BRs, TRs *etc)*, water bodies and human settlement areas to avoid the impact from every aspects. • Use of pollution prevention equipments on hot and batch mixing plants, stone crushers, heavy machineries and vehicles. • Proper disposal of the wastes generated by the construction camps, site offices, Rural Godowns, Market Buildings, Cold Storage, Collection Centers *etc* on pits. • The civil work contractor will provide toilet to the workers to avoid the contamination on water bodies.	contractor and project proponent will taken action or get NOC from the concerned State Departments of Forests, Revenue, State Pollution Control Boards (SPCBs), Central Ground Water Board (CGWB), Mining and Explosion *etc.*
7.	Handlooms and Handicrafts	• Silk Handloom Production • Incense Stick	• Though, there are negligible or low level environmental impacts but due to promotion	• The natural species of Bamboo to be promoted through nurseries development in the	• SHG Federations and Area

Sl. No.	Livelihood Details		Possible Environmental Impacts	Recommended Mitigation Measures	Action to be taken
	Major Sectors	Proposed Activities			
		Making • Bamboo Handicrafts • *Production of wools and woolen garments etc.*	of Bamboo handicrafts, the natural species of Bamboo can be extinct due to excessive and unplanned collection of Bamboo sticks for making handicrafts. • Non-scientific apiculture may affect the bee population and honey production	existing States for sustainable recovery of the species in terms of both its quality and quantity. • Separate Guideline is given in Annex 4 (C) for Organic Apiculture	Coordinators through SHG members and YGs with the technical guidance of the Departments of Rural Development, Forests and Local NGOs/CBOs.
8.	Tourism	• Village Tourism Promotion	• Environmental Degradation • Biodiversity loss • Change in the life-style of the indigenous people which may adversely affect unique culture of these groups	• Separate Guideline is given in Annex 4 (B) for village tourism.	• SHG Federations and Area Coordinators through SHG members and Ygs with the technical guidance of the Departments of Rural Development, Tourism and Local NGOs/CBOs.
9.	Miscellaneous	Identify Activity	Identify Possible adverse	After identification classify	• SHG

Sl. No.	Livelihood Details		Possible Environmental Impacts	Recommended Mitigation Measures	Action to be taken
	Major Sectors	Proposed Activities			
			impact on environment due to the proposed activity with the help of SHG federation/ESC members of CDG, if required then PFT coordinator	activity and follow guideline given for that specific sector	Federations and Area Coordinators with the technical guidance of Departments of Rural Development, Forest, Revenue, Agriculture, Horticulture.

Annex – 4 (A)

GUIDELINES ON ECO-FRIENDLY SOIL AND WATER CONSERVATION MITIGATION MEASURES TO CHECK DEGRADATION OF SLOPING LAND AGRICULTURE FOR NORTH EASTERN HILLY REGION (INCLUDING SHIFTING CULTIVATION)

1. Introduction

1.1 Agriculture is the mainstay of the economies of the nort east India. Inspite of covering 8.8% of the country's total geographical area, NER produces only 1.5% of the ountry's foodgrain production. The pressure on land in mountain areas has increased considerably in recent years as a result of a variety of factors including the increasing human population, the continuing loss of cropland to other uses, and erosion and degradation of existing crop land. It is both the cause and the result of a general degradation of the environment. Poor transport and communication system has left vast stretches of the region inaccessible.As a natural sequel, the agriculture production system is mostly rainfed, mono-cropped ans at subsistence level. However, this has also meant that the region is natirally organicand this fact can be leveraged both for the domestic and global markets.

1.2 Shifting (Jhum) cultivation is a primitive practice of cultivation in States of North Eastern Hill Region of India. Shifting cultivation involves clearance of forest on sloppy land (usually before December), drying and burning debris (Mid-February to Mid-March before onset of monsoon) and cropping. After harvest, land is left fallow and cultivators repeat the process in a new plot designated for the year for Jhum cultivation. First plot remains fallow and vegetative regeneration takes place till the plot is reused for same purpose in a cycle. People involved in Jhum cultivation are called Jhumia. Jhum cultivation causes serious land degradation and ecological problems. As reported by Indian Council of Agricultural Research (ICAR) Complex for North Eastern Hill Region, Shillong, Meghalaya, about 14.66 lakh ha. area is affected by Shifting Cultivation mainly in States of Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, and Tripura.

1.3 The ill effect of jhum cultivation has intensified due to the diminishing 'Jhum cycle' which has shrunk from 30 years of earlier decades to 5 to 8 years presently, which is hardly sufficient for rebuilding the soil fertility. The loss of soil due to erosion and reduction in organic carbon due to burning contributes serious decline in the productivity of hill areas, besides causing heavy siltation in the lower reaches of river systemsof the region leading to heavy anual floods in the area.

2. Degradation on Hill Slopes

2.1 Soil erosion and degradation are widely regarded as a major threat to sustainable growth in agricultural production in both developed and developing countries. Soil erosion is one of the most important factors contributing to land degradation and the decline in soil fertility of sloping croplands. Farmers in the mountains are facing problems of land degradation and low productivity as a result of topsoil loss and nutrient leaching.

2.2 The natural resources of Soil and Water are most important for sustaining agricultural production. The conservation of these resources is being given the top priority at the national level. The conservation measures would vary from place to place depending upon the topography, soil type, land terrain, etc. In general, the soil and conservation measures in hilly terrain can broadly be classified as: (i) Higher Reaches / hill top soils (ii) Middle Reaches (iii) Lower reaches / valley area. The soil & water conservation measures to develop the above areas vary from one location to another mainly because of vegetation cover and slope of the terrain. Some of the general features of hilly region are as under:

2.2.1 Higher Reaches:

Mainly forest cover is taken up on high lands with plantation of location specific forest tree species adaptable according to the climatic conditions and depending on avilable soil depth. Depending of land slope some of the common soil & water conservation measures adopted are contour trenches, staggered trenches, nala training, check bunds, etc.

2.2.2 Middle Reaches:

The area on middle reaches on the hilly terrain has better soil depth and is normally found congenial to grow horticultural plant species with tall to medium-small height combination of plantation. The food and other crops can also be grown successfully on some gentle slopes avilable on the hill side. In such areas, water flow is required to be harvested / stored for the purpose of growing plantations and for domestic consumption. The common soil and water conservation measures include terracing, contour bunding, check dams, rain water harvesting, water ponds etc.

2.2.3 Lower Reaches:

The lower reaches portion of hilly areas is more or less undulated lands which need land leveling, shaping and smothening mainly to grow food and other crops for domestic consumption. With growing trend of human and animal population, some more livelihood activities are also required to be taken up for supplimenting household income. The soil depth is fairly good and conservation activities, which can be taken up are agro-forestry, land smoothening, land leveling, rain water harvesting, well recharging, dugout pond, farm pond, sprinkler / drip irrigation etc.

3. Eco-friendly Soil & Water Conservation Activities to be taken up to check degradation of lands on sloppy terrain on NE Hilly Region

3.1 The country in general and NE States in particular has limited land available for growing foodgrain crops and vast area on hilly terrain is prone to soil erosion and runoff water losses.

Therefore to check degradation eco-friendly activities are required to taken up in such terrain. Soil & water conservation measures have been categorized on the bases of land use. These are classified as measures adopted on (a) Arable Lands and (b) Non-arable Lands. The details of eco-friendly activities under these two categories are as under:

A. ARABLE LANDS

- **Mechanical Measures:**

3.2 Series of mechanical barriers are constructed across the slope to reduce or break the length of slope only and/or both the length and degree of slope. Since the soil loss is proportional to the square root of length of slope, doubling the length of slope increases erosion by about 1.4 times. If the length of slope is not broken at suitable intervals, surface runoff would pick up the erosive velocity. Thus by reducing the length of slope alone, considerable amount of erosion can be checked. Mechanical measures like bunding, terracing, leveling etc. are adopted in arable lands on relatively moderate to steep slopes. These measures are also supported by diversions, grassed water ways and surpassing weir or outlets for safe disposal of water away from the bunded area.

3.2.1 Bunding

Bunding may be defined as construction of small embankments or bunds across the slope of the land. Bunds decrease the length of slope and help intercept the runoff flowing down the slope thereby conserving moisture and reducing soil erosion. Bunds may be of different types such as contour / graded bunds, lateral bunds, site bunds etc.

3.2.2 Bench terracing

Bench terracing consists of transforming steep lands into a series of level or nearly level strips or steps running across the slope, supported by risers. It has been a popular practice to cultivate on hill slopes over the ages. It breaks length of slope and reduces degree of slope as well thereby conserving moisture and soil for better crop production. Bench terraces are necessary for proper irrigation water management.

3.2.3 Diversions and grassed waterways

Diversion drains are placed at the top of the arable area to intercept the water running off the slope above and divert it across the slope to a grassed waterway. Grassed waterways are used as outlets to safely convey runoff from fields, surface and sub-surface drainage systems and serves as emergency spillway for farm ponds or other structures. Grassed waterways, therefore, run down slope and conduct the surplus water safely from these sources into natural drainage courses.

3.2.4 Land leveling

Land leveling or grading is the process of preparing or modifying (re-shaping) the land surface to a planned grade to provide a suitable field surface to control the flow of water, check soil erosion, provide better surface drainage, conserve moisture and ensure uniform application and distribution of water. It is widely adopted practice of soil conservation in areas having mild slopes, moderate to deep soils and for cash crops. It can also be done along with

bunding. If land is very steep and undulating and the soils are shallow, it may not be possible to shape the surface to the required grades and moreover it may not be economically feasible.

- **Biological measures**

3.3 Biological or vegetative measures for resource conservation have gained momentum recently due to many inherent advantages over mechanical measures. These measures are normally adopted on lands having milder slope without any disturbance/movement of surface soil or modification of land surface. Biological measures consist of vegetative barriers, contour farming, strip cropping, land smoothening, mulching and residue management.

3.3.1 Vegetative Contour Barrier

Vegetative barriers, also known as live bunds, are closely-spaced plantations usually of a few rows of grasses or shrubs grown along contours for erosion control in agricultural lands. These barriers provide much needed biomass for meeting day-to-day needs of the rural communities in various socio-cultural and agro-ecological regions.

3.3.2 Contour Farming

It is one of the easiest and most effective low-cost method of controlling erosion, conserving moisture and improving crop yields. Carrying out farm operations such as ploughing, seeding, planting and interculturing along the contour lines results in creation of furrows which act as miniature reservoirs to hold the excess runoff, dissipate the energy of flow and provide increased opportunity time for runoff absorption. Thus, the erosive velocity of runoff is considerably reduced, and soil and nutrients are conserved.

3.3.3 Strip Cropping

Strip cropping is the method of growing alternate strips of different crops in the same field. The crops are raised in relatively narrow strips alternately of erosion permitting and resisting crops across the slope of the land. In general, the strips of erosion-permitting crops are separated by strips of erosion-resisting crops. This practice not only ensures higher returns from the field but also reduces runoff and soil loss. The strips are invariably laid out on the contour for controlling erosion. Strip cropping on contours shortens the length of slope, checks the movement of runoff, helps to arrest the soil loss by providing a biological barrier/filter, and increases absorption of rainwater by the soil.

3.3.4 Land smoothening

This operation is carried out by using bullock/tractor-drawn levelers where humps are cut and depressions are filled. A bullock-drawn wooden float is the implement used for smoothening the land or rough grading across length as well as breadth of the ploughed field. The leveler is used while working with tractor. After carrying the above operation, the land is once again tilled to create rough surface for increasing absorption of rain.

3.3.5 Mulching and Residue management

Mulching is the process of covering the soil between crop rows with a layer of crop residues, manures and other litter to reduce runoff, evaporation losses and to increase crop production.

Mulching is an important agronomic practice that not only dissipates the kinetic energy of rain drops and prevents soil erosion but also facilitates infiltration, and reduces runoff and evaporation losses. Mulch reduces the impact of raindrops on the soil, hinders runoff flow and checks wind erosion. Mulching helps in reducing evaporation by its physical presence on the soil. Thus, more moisture is conserved in the soil profile as a result of mulching. Indirectly, mulching improves soil fertility and builds up useful soil biology. Organic residues as mulch prevent splash of soil particles, reduce evaporation, keep down weeds, help in maintaining favourable soil structure, enhance biological activity and impart resistance to crust formation, thereby increasing infiltration, reducing runoff and soil loss, and increasing crop yields. Use of crop residues helps in improving moisture conservation and soil nutrients for higher crop production. However, the crop residues have multiple uses in agriculture. When residues are returned to the soil, they help to retain plant nutrients, maintain soil porosity and tilth, enhance water infiltration, and act as an effective control against water erosion. Crop residues may contain substantial amount of biomass as well as nutrients.

3.4 In the hilly areas, the farmers resort to mulching with organics, such as FYM for moisture conservation in summer for cultivation of high value crops like ginger, colocasia and turmeric. Mulching of crop residues of non-economic value such as dry grass, wheat straw and pigeonpea stalks and/or timely cultivation to create adequate dust mulch is recommended to improve the moisture availability and yield of crops. Although mulching is the most effective soil and water conservation measure in agricultural lands, the availability of vegetative material poses limitation on its adoption.

B. NON-ARABLE LANDS

3.5 Providing a good vegetative cover to a degraded site is the final answer for its rehabilitation. However, in highly degraded lands, establishment of vegetation is difficult due to high runoff / debris movement, lack of moisture and absence of fertile soils. Engineering or mechanical measures are therefore often needed before regeneration programme to stabilize the slopes and create conditions conducive to plant growth by arresting fine soil and improve moisture status. The main activities taken up on such lands are as under:

3.5.1 Diversion Drains

Diversion drains are made across the slope to divert runoff water from non arable lands away in order to protect the downstream area and discharge it safely into a natural waterway or vegetated water course.

3.5.2 Contour trenching

Contour trenching is a practice of excavating trenches along a uniform level across the slope of land. Bunds are formed along the trenches on the downstream side with material taken out of them. Contour trenches break the velocity of runoff and store whole or a part of runoff. The intercepted runoff percolates through the soil slowly and made available to the plants. Contour trenches may be of (i) continuous and (ii) staggered

3.5.3 Continuous trenches

The trenches are called continuous when there is no break in length and can be 10 – 20 m long across the slope depending upon width of field. Generally, trenches are dug with a cross-section varying from 30cm x 30 cm to 50 cm x 50 cm.

3.5.4 Staggered trenches

When the trenches are laid scattered with a maximum length of 2 – 4 m with interspace between them, these are called staggered contour trenches. In staggered trenching, the trenches are located directly below one another in alternate rows and in a staggered fashion. Staggered trenches may be made to a length of 2-3 m and spacing between the rows may vary from 3-5 m.

3.5.5 Orchard Terraces

Orchard terraces are also a discontinuous type of narrow reverse-sloped bench terraces which are applicable on slopes upto 30^{o} (58 percent). The space between two terraces is determined by the planting distance of the tree crops or for the convenience of the crop management. As they are generally used on steep slopes, the spaces between them should normally be protected by a permanent vegetative cover such as grass, legumes, or other cover crops. The main tree crops are planted in individual basins.

3.5.6 Half -Moon Terraces

Individual basins called 'half-moon' or 'semi- circular terraces' are small round benches for planting individual plants. The diameter of the basin is adjusted to the needs of the crop. They are particularly useful for establishing semi-permanent or permanent tree crops on steep slopes for erosion control.The basins retain soil moisture, particularly if they are mulched, and reduce the need for weeding. They also prevent soil nutrients being washed away. With shoulder bund at the lower periphery of the circular bench, the bed serves as a good conservation measure.

3.5.6 Stone Walls

Stone walls are constructed across the hill slopes at pre-determined spacing for developing land for cultivation. When this wall is made on contour, it is called contour stone wall and when it is laid on some grade, it is called graded stone wall.

3.5.7Retaining Walls

The retaining walls are constructed for stabilizing precipitous hill slopes and stability of banks. A general rule of thumb method for calculating the bottom width of gabion walls upto 6 m high is to take two-third the height.

3.5.8 Gunny Bag Structures (low cost measure)

Used cement gunny bags filled with nala bed sand / gravel can be used for construction of barriers for slope stabilization. For longer durability of the structure sand and cement mixture may be used in the ratio of 1:20. The filled gunny bags are laid in a row over one another in three layers to make a height of about 0.6 m. On unstable slopes gunny bags filled in GI wire crates may be more suitable.

3.5.9 Vegetative measures for Slope Stabilization

The vegetative techniques as well as the choice of species should aim not only at re-greening of the area but to rehabilitate the site ecology in a way which ensures sustainable utilization of the eco-system components in ecologically and socio-economically compatible way. The reclamation approach should be of ecological succession through natural evolution of the site, supported by artificial means. Therefore, species which are found locally and those which are capable of colonizing degraded areas should be preferred.

4. Drainage Line Treatment

4.1 Drainage lines are the natural carriers of runoff and sediment. Drainage channels/gullies in the arable and non-arable lands, natural / artificial waterways, streams, rivers or torrents are different forms of drainage lines. Network of these drainage lines, if not controlled or stabilized, may go on extending and render adjoining lands degraded. Drainage line treatment therefore assumes a special significance in the treatment plan. This reduce the channel gradient (or bed slope) in order to reduce flow velocity, protect banks /side slopes from undercutting or scouring, check soil erosion, recharge ground water and store water wherever feasible and needed. This is essential to guide the stream/ torrent flow in the desired direction in the flatter downstream reaches in order to prevent bank erosion and flooding as well as to reclaim the adjoining lands. The measures for drainage line treatment may be mainly grouped as:

- Gully/ Channel stabilization measures
- Permanent structures for gully stabilization/ water harvesting
- Torrent and stream bank erosion control measures

4.1.1 Gully/Channel Stabilization Measures:

4.1.1.1 Check dams

Channel gradient needs to be reduced in order to bring the runoff velocities within permissible limits. Series of check dams are most commonly used to transform the longitudinal gradient from a steep slope to a succession of flat steps with low drops. These checks help store water and debris on their upstream. Depending upon the size of drainage line, its slope, catchment area, land use, peak runoff and severity of the problem, suitable type of check dams can be selected.

4.1.1.2 Live check dams

Vegetative barriers are planted across the rills in the initial stage/ starting of the gully to retain fine soil and moisture. Locally adaptable soil conservation species may be used for the purpose. These are the barrier created by planting suitable vegetation such as grasses, shrubs and trees across the rills/ gully to check erosion, retain fine soil and moisture.

4.1.1.3 Temporary check dams

First order gullies/channels receiving small quantities of runoff can be stabilized by temporary check dams, constructed of loose stone masonry, brush wood, log wood etc.

Brushwood check dams: These check dams are constructed by using locally available brushwood and supported by wooden stakes. The check dams may be of two types: (i) Single row post brush dam and (ii) Double row post brush dam

Loose stone /dry stone masonry check dams: If fairly good size of stones inlarge quantities is available in the area, they can be used for constructing dry stone masonry or loose stone check dams. They have a relatively longer life and usually require less maintenance. These structures are effective for checking runoff velocity in steep and broad gullies.

Earthen Gully Plugs: An earthen gully plug is constructed out of local soil across the stream to check soil erosion and flow of water.

4.1.1.4 Gabion Check Dams

Gabion structures are made with stones/boulders packed closely in wire mesh cages made with G.I. wire of 10 gauge thicknesses. Gabion structures are preferred in soil conservation works as they are: a) Flexible (bend without breaking), b) Porous (water can seep through them), c) Stable, and d) Economical, as compared to cement structures.

4.1.2 Permanent structures for Gully Stabilization / Water Harvesting:

Permanent soil conservation structures such as Drop, Drop Inlet and Chute spillways are often used for runoff and sediment control as well as storage of water for irrigation in arable and non-arable lands. These structures can be constructed of cement masonry or gabion. Their use becomes necessary when the runoff from the catchments is too large to be handled with vegetative measures/temporary structures or where high degree of safety is warranted against the loss of life and property.

4.1.2.1 Drop Spillway

Drop spillway is a weir structure. Flow passes through the weir opening, drops to an approximately level apron or stilling basin & then passes into the downstream channel. The different components of the drop spillway are: (1) head wall and head wall extension, (2) side walls, (3) wing walls, (4) apron (5) longitudinal sills

4.1.2.2 Drop Inlet Spillway

A drop inlet spillway is a closed conduit generally designed to carry water under pressure from above an earthen embankment to a lower elevation. An emergency spillway is provided with drop inlet spillway. The drop inlet spillway consists of inlet, conduit and outlet. An earthen embankment helps in storing the water and the drop inlet essentially lets out the excess water safely.

4.1.2.3 Chute Spillway

Chutes or chute spillway carry the flow down steeps slopes through a concrete or masonry channel. Chutes are used at gully heads to safely convey the water from the land surface to the

gully bed. Chute structures are particularly adopted for gully head control and they could be adopted for gully head control.

4.1.3 Torrent and Stream Bank Erosion Control Measures:

Hill torrents and streams cause extensive damage to adjoining lands, life and property as a result of the frequent changes in their course and associated flash flows during monsoon. Spurs, retaining walls etc. are used at such downstream reaches for training the torrent flow.

4.1.3.1 Spurs

Spurs are the commonly used structures for torrent and stream training. These structures are constructed transverse to river flow extending from one the of the banks at an angle to the flow. According to the function served spurs may be of three types (i) attracting type (pointing downstream at an angle of 30 - 45^o), (ii) deflecting type (at 90^o) and (iii) repelling type (pointing upstream, 5–20^o normal to flow).

5. Rain Water Harvesting Techniques

5.1 India is characterized with wide variations in physio-graphic, climatic, soil, environmental and socio-economic conditions. Therefore, rainwater harvesting technology is highly location specific and practices evolved in a given region have a limited applicability in other regions. Of the various factors affecting water harvesting technology, rainfall is the most important parameter due to its erratic temporal and spatial variation. The undependable rainfall, introduces an element of risk, uncertainty and instability in crop production.

6. Water Harvesting practices in NE Region

6.1 Bamboo Drip Irrigation System

Water application on slopes for irrigation of plantation crops poses a serious problem of soil erosion. Tribal farmers in Jaintia hill district of Meghalaya have evolved indigenous technique of bamboo drip irrigation. Betel leaf crop planted with arecanut is irrigated with this system, in which, water trickles/drips drop by drop. In this system, water from natural streams located at higher elevation is conveyed with the use of bamboo channels supported on ground surface by wooden or bamboo supports to the site of the plot through gravity flow. Water distribution in the system is done with the use of bamboo channels, channels supports, water diversion pipes and then bamboo strips. The whole system enables the distribution of 15-25 litres of water per minute entering the main channel to 10-80 drops per minute at the site of water application without any leakage at any point. The system is laid out in which a way that ground clearance of channels reduces from few meters to 10-15 cm (main to last stage channel) and this is done with the use of reducing height of channel support.

6.2 Zabo System

Zabo system of farming is practiced by Chakhachang tribe of Mikruma village in the Phek district of Nagaland. The system is a combination of agriculture, forestry and animal husbandry

with well founded conservation base for erosion control, water resource development and water management as well as protection of environment. The rain water is collected from the catchment of protected hill tops of above 100% slopes in a pond with seepage control. Silt retention tanks are constructed at several points before the runoff water enters into the pond. The cultivation fully depends on the amount of water stored in the pond.

GUIDELINES ON SCIENTIFIC SHIFTING CULTIVATION

The main objectives of scientific shifting cultivation are

i) Maintain fertility of the soil and
ii) Check soil erosion.

To attain these objectives the following activities are suggested to be followed during the cultivation period:

i) Zero tillage and plant residue mulches
ii) Mixed crops of high yielding varieties that are disease and pest resistant
iii) Fertilizers to replace the phosphorus and other nutrients
iv) Legumes with highly active nitrogen fixing rhizobia to supply nitrogen to the soil and other crops
v) Control of acidity by means of ash or mulches of deep rooted species or by lime and trace elements where lime is readily available

(Reference: Shifting cultivation in North-East India: policy issues and options by B. P.Maithani)

Based on schemes taken up by the State Governments and pilot projects under the North Eastern Council, **the Seventh Five Year Plan** formulated the following guidelines for controlling shifting cultivation

i) Where the existing land under shifting cultivation is agriculturally productive and has already been well developed, in-situ settlement of tribal cultivators should be taken up.
ii) Ex-situ settlement of shifting cultivators should be attempted in case not falling under above. Suitable land for such resettlement schemes will have to be found out
a) Within forest areas in denuded patches whether around adjoining revenue villages or elsewhere
b) Within the revenue villages
c) The programme of comprehensive development to be undertaken for settlement / resettlements of the shifting cultivators should include agriculture, forestry, animal husbandry and village and small industries units besides providing much needed community and social services. Making the tribal families economically viable should be the main aim of this programme. Specific project reports of a group of villages or Gram Panchayats should be drawn up with this end in view.

Annex - 4 (B)

GUIDELINES ON VILLAGE TOURISM

Broad Guidelines on Environmental Management for Village Tourism

Before tourism development takes place in rural areas, we must be sure that the type and level of development is in keeping with the capacity of rural communities to absorb visitors. The number of tourists should be limited in order to prevent any harmful impact. The appropriate carrying capacity can probably be identified on the basis of the capacity of the most sensitive variable factors and the minimum social cost. There are three variations in capacity, linked to costs and benefits. These are:

- Whether a limiting factor can be overcome in pursuing such goals as economic growth;
- To what extent ecological problems should be tolerated in the pursuit of the goals;
- Whether an optimum balance can be found between the costs and the benefits.

There are inconsistencies between types of tourism, as well as between levels of tourist activity, measures of the temporal dispersion of business may be of use in rural destinations. These measures include:

- The maximum number of visitors who can be tolerated without undue stress at any one time. Two - thirds of the maximum number of recorded visits is recommended
- The level of crowding can be assessed by taking the number of arrivals over a given period, and dividing this by the total number of arrivals over a longer time period;
- The carrying capacity is probably based on the calculation of space required by a tourist;
- The number of tourists that can be catered for may also be calculated according to the capacity of available utilities such as the water and electricity supply, divided by the consumption per tourist per day.
- Another measure is the host - visitor ratio, the popular function of which is Defert's tourist function:
- number of bed spaces in a region
- Df = x 100
- population of the region

With reference to ecology, economy and culture of rural communities, the number of tourists should also depend on the particular characteristics of each rural area. After carrying capacity is assessed, the number of visitors must be controlled to ensure that it remains below this number.

Annex - 4 (C)

GUIDELINES FOR ORGANIC APICULTURE

Recommendations for modern day apiculture says that if products from an apiculture operation are to be sold as organic, the bees and hives have to be managed in compliance with the organic livestock standards for at least 270 days prior to removal of products from the hive. This includes developing an organic apiculture plan for your organic certification agency and observing all the national organic provisions. For example:

- Origin of the livestock — Hives have to be under continuous organic management for no less than 270 days prior to removal of honey or other products, or hives need to be purchased from organic sources.
- Supplemental feed — Organic honey and organic sugar syrup are allowed up to 30 days prior to honey harvest.
- Forage area — Hives have to be located at least 4 miles from any area using prohibited materials listed in the standards or from any contaminated sites.
- Living conditions — Hives must be made of natural materials, such as wood or metal, but not with treated lumber.
- Health care practices — Make sure all therapeutic products are listed on the National List of Allowed and Prohibited Substances, or are approved by your organic certification agency.

Record keeping — Necessary for documenting movement of hive, health care, and sale of products, as well as for monitoring.

Annex – 4 (D)

GUIDELINES SUGGESTING GOOD PRACTICES

Sl. No.	Activity	Possible Issues	Good Practices
1.	Agri – Horticulture	Sustainable land development and agricultural practices	• Contour farming • Crop rotation • Strip cropping • Land grading • Use soil moisture conservation techniques • Proper fertilizer scheduling and efficient application following recommended safety measures and gears • Integrated nutrient management • Integrated pest management / non chemical pest management • Irrigation scheduling • Use of bio fertilizers / organic manures / vermi compost
		Scientific shifting (jhum) cultivation	• Zero tillage and plant residue mulches • Mixed crops of high yielding varieties that are disease and pest free • Fertilizers to replace the phosphorus and other nutrients • Legumes with highly active nitrogen fixing rizobia to supply nitrogen to the soil and other crops • Control of acidity by means of ash or mulches of deep rooted species or by lime and trace elements where lime is readily available
2.	Livestock Rearing	Fodder scarcity	• Cultivate fodder crops • Establish a system of bulk purchase, storage and supply of fodder during scarcity • Store fodder in clean and dry place • Adoption of fodder cutting through chaff cutters • Chop fodder and use trough to prevent wastage • Practice fodder treatment after technical consultation with local agricultural extension personnel • Use supplementary animal feed after technical consultation with agriculture extension personnels • Make use of Govt schemes such as distribution of fodder seeds, procurement of chaff cutters, various training programmes on fodder management
		Cattle grazing	• Graze animals only in authorized grazing land • Practice rotational grazing • Stall feeding of animals • Undertake pasture land development

Sl. No.	Activity	Possible Issues	Good Practices
		Water scarcity	• Practice roof top rainwater harvesting • Practice recycling of water as far as possible
		Animal health care	• Timely vaccination of animals • Participate in the animal health camps organized by Govt agencies • Remove and bury dead animals at a safe distance from the animal sheds to prevent spread of diseases
		Poor arrangement of animal shelter	• The animal sheds should be constructed at a safe distance away from the living quarters. The shed should be at least 15 m away from drinking water source (hand pump) • The animal shelters should be well ventilated • The animal litter should be cleared from the cattle sheds regularly
		Waste disposal	• The animal litter should be collected and disposed in manure pits
3.	Any livelihood activity that involves Forest land and other Protected Areas (National park, Sanctuaries *etc*) and use of natural resources like timber, NTFPs etc.	Collection NTFPs	• Prior permission from the forest department should be taken before extraction of non-timber forest produce. • Certain areas or trees should be identified for closure for NTFP collection on rotational basis • Ensure proper storage of NTFPs to prevent wastage of produces • Encourage sustainable NTFP harvesting amongst potential users • Coordinate with forest dept. and other technical agencies for sustainable NTFP harvesting • For collection of leaf tree or branches should not be felled / cut;. New leaves should not be plucked; Reasonable amount of leaf should be left for plant's survival and health. • For fruit only ripe fruit should be collected; Felling or lopping of trees should not be done; certain amount (about 25%) of fruit should be left for wild animal pecies and for regeneration • For flower it should be collected at the end of the flowering season; felling or lopping of trees hould not be done; about 25 % of the flowers without collection • For bark the tree for bark collection should be above 60- 90 cm girth (check with Forest Dept. for girth specification) • For gum only mature trees should be selected for tapping (check with Forest Dept. for girth

Sl. No.	Activity	Possible Issues	Good Practices
			specification); The tapping should not be done on the same tree every year; Depending on the species tapping regime of 3-4 ears should be followed; The blaze should not be deep enough to cause injury to the stem of the tree • For root only mature rhizome should be collected; 1/3 rd of the rhizome shall be left for regeneration; The seed clad species shall be uprooted only after falling of seeds; Species that are rare/threatened should not be harvested (take guidance on rare and threatened species from the Forest Dept.) • For bamboo only collect desirable species for specific purpose • Follow bamboo harvesting cycle for proper regeneration • For all species rare and endangered species should not be collected.
		Grazing inside the forest	• Avoid cattle grazing within reserve forest and protected areas • If grazing the cattle nearby protected areas in that case proper vaccinization of cattle should be done to prevent spreading of vector borne diseases within the wild animals
		Clearing of forest land for non forest activities (especially shifting cultivation)	• No fire should be ignited for ground clearing • No felling of trees for expansion of agricultural land • Afforestation on abandoned jhum patches is a very good practice • Do not take up any indiscriminate agricultural practices which leads to destruction of forest land and other natural resources
		Tree felling to meet up fuel wood demand	• No tree should be felled for fuel wood collection • Collect only dead stems and branches for fuel wood purpose • Avoid collection of fuel wood within reserve and protected areas • Practice proper storage of fuel wood to minimize waste • Programme for taking up social forestry initiatives at the federation level • Promotion of fuel wood plantations, fuel efficient cooking devices • Use of dung as fuel
4.	Water	Water scarcity	• Practice roof top rainwater harvesting

Sl. No.	Activity	Possible Issues	Good Practices
	Conservation		• Use pipes to convey water to avoid seepage and evaporation loss • Practice recycling of water
		Over utilization of ground water and surface water for irrigation purpose	• Proper scheduling of irrigation • Assess crop water requirement • Design proper irrigation canals to prevent water loss during conveyance • Keep field channels free from weeds to avoid water loss • Maintain minimum distance of 250 m between two tube wells
		Pollution of water bodies from various livelihood activities	• Avoid uncontrolled use of chemical fertilizers in the fields • Do not dispose debris and wastes in natural water bodies
	Fishery	Fishing practices (Capture fisheries)	• Avoid fishing in areas prohibited / closed by the Government during breeding season • Use permissible net size as prescribed by the Govt • Avoid using destructive fishing practices like use of explosives and poison • Identification and protection of breeding grounds • Allow free migration of brooders and juveniles during breeding time
		Fish culture practices (Culture fisheries)	• Control of weeds and water hyacinth in the fish ponds • Use of fertilizers in recommended doses in coordination with authorized fishery officials for better fish production • Stocking of appropriate fish species in coordination with local fishery officials • Proper feeding as recommended by the fishery department • Introduction of indigenous fish species with technical guidelines by Fishery Dept.
2.	Miscellaneous	Bee Keeping	• Bee hives shall be situated in organically managed fields and/ or wild natural areas. • Hives shall not be placed close to field or other areas where chemical pesticides and herbicides are used. • Each bee hive shall primarily consist of natural materials. Wing clipping and veterinary medicines are not allowed. While working with bees no repellent consisting of prohibited substances shall be used.

Sl. No.	Activity	Possible Issues	Good Practices
			• For pest and disease control and for hive disinfection following products are allowed: Caustic soda, lactic, oxalic, acetic and formic acids, sulphur, enteric oils and *Bacillus thuringensis*.
		Village Tourism	• Avoid felling of trees as much as possible for construction of tourism infrastructure • Avoid erecting major structures in rural areas • Practice proper solid waste disposal methods • Use of biodegradable disposables • Use of smokeless chulhas in catering facilities • Less use of fuel wood • Avoid polluting water bodies by throwing garbage into it • Avoid overcrowding of tourists during peak seasons • Maintain ambient noise level
		Handloom and Handicrafts	• Coordinate with appropriate authority while executing the projects • Sustainable use of natural resources • Avoid using toxic chemicals and hazardous substances
3.	Infrastructure	Major Construction	• Construction of link roads roads, rural godowns, cold storages, processing plants, rural markets, water tanks etc., will not be supported without prior approval of the design by a qualified Engineer. • Avoid felling of trees for construction • Avoid construction on steep hill slopes • Follow environmental guidelines of SPCB during any major construction • Activities involving discharge into any water body, sewerage or other polluting substance will not be supported. • Avoid mining activities within forest areas

Annex – 5

LIMITED ENVIRONMENTAL ASSESSMENT (LEA) FORMAT

PART 1—PROJECT INFORMATION

This document is designed to assist in determining whether the action proposed may have a significant effect on the environment. Please complete the entire form, Parts A through D. Answers to these questions will be considered as part of the application for approval and may be subject to further verification and public review. Provide any additional information you believe will be needed to complete Parts 2 and 3.

It is expected that completion of the full LEA will be dependent on information currently available and will not involve new studies, research or investigation. If information requiring such additional work is unavailable, so indicate and specify each instance.

Sl. No.	Description		
1.	Name of the Project		
2.	Name of the Local Govt.		
3.	Project Location	Name of the Place: ……..	Ward No. ……
4.	Outlay and Duration	Outlay (Rs.): ……..	Duration: ……

Please Complete Each Question—Indicate N.A. if not applicable

A.SITE DESCRIPTION

Physical setting of overall project, both developed and underdeveloped areas.

1. Present Land Use: ☐ Urban ☐ Industrial (suburban) ☐ Commercial ☐ Residential

☐ Rural (non-farm) ☐ Forest ☐ Agriculture ☐ Other (specify) _____

_____

2. Total acreage of project area: _____ acres.

Approximate acreage	presently	after completion
Forested	_____ acres	_____ acres
Agricultural (includes orchards, cropland, pasture, etc.)	_____ acres	_____ acres

Wetland	_____	acres	_____	acres
Water Surface Area	_____	acres	_____	acres
Un-vegetated (Rock, Earth or fill)	_____	acres	_____	acres
Roads, buildings and other paved surfaces	_____	acres	_____	acres
Other (Indicate type)	_____	acres	_____	acres

3. What is predominant soil type(s) on project site? _____

a. Soil drainage: ☐ Well drained _____% of site ☐ Moderately well drained _____% of site.

☐ Poorly drained_____% of site

4. Are there bedrock outcroppings on project site? ☐ Yes ☐ No

a. What is depth to bedrock _____(in feet?)

5. Approximate percentage of proposed project site with slopes:

☐ 0-10% ____% ☐ 10-15% _____% ☐ 15% or greater _____%

6. Is project substantially contiguous to, or containing a building, site, or district, listed on the State or National Registers of Historic Places? ☐ Yes ☐ No

7. What is the depth of water table? _____ (in feet)

8. Is site located over a primary, principal, or sole source aquifer? ☐ Yes ☐ No

9. Do hunting, fishing or shell fishing opportunities presently exist in the project area?

☐ Yes ☐ No

10. Does project site contain any species of plant or animal life that is identified as threatened or endangered?
According to:

Identify each species:

11. Is the project site presently used by the community or neighborhood as an open space or recreation area? ☐ Yes ☐ No

12. Does the present site include scenic views known to be important to the community?

☐ Yes ☐ No

13. Streams within or contiguous to project area:

a. Name of stream and name of River to which it is tributary

14. Lakes, ponds, wetland areas within or contiguous to project area:

15. Is the site located in or substantially contiguous to a Critical Environmental Area designated by Govt.

☐ Yes ☐ No

16. Has the site ever been used for the disposal of solid or hazardous wastes? ☐ Yes ☐ No

B. PROJECT DESCRIPTION

1. Physical dimensions and scale of project (fill in dimensions as appropriate).

a. Total contiguous acreage owned or controlled by project sponsor: _____ acres.

b. Project acreage to be developed: _____ acres initially; _____ acres ultimately.

c. Project acreage to remain undeveloped: _____ acres.

d. Dimensions (in feet) of largest proposed structure: _____ height; _____ width; _____length.

e. Linear feet of frontage along a public thoroughfare project will occupy is? _____ ft.

2. How much natural material (i.e. rock, earth, etc.) will be removed from the site? ____ tons/cubic yards.

3. Will disturbed areas be reclaimed ☐ Yes ☐ No ☐ N/A

a. If yes, for what intended purpose is the site being reclaimed?

b. Will topsoil be stockpiled for reclamation? Yes ☐ No ☐ N/A ☐

c. Will upper subsoil be stockpiled for reclamation? Yes ☐ No ☐

4. How many acres of vegetation (trees, shrubs, and ground covers) will be removed from site? _____ acres.

5. Will any mature forest (over 100 years old) or other locally-important vegetation be removed by this project? ☐ Yes ☐ No

6. Anticipated period of construction: _____months (including demolition).

7. Will blasting occur during construction? Yes ☐ ☐

8. Number of jobs generated: during construction: _____; after project is complete _____

9. Number of jobs eliminated by this project _____

☐ ☐

10. Will project require relocation of any projects or facilities? Yes No

If yes, explain:

11. Is surface liquid waste disposal involved? ☐ Yes ☐ No

a. If yes, indicate type of waste (sewage, industrial, etc)and amount _____
b. Name of water body into which effluent will be discharged _____

12. Is project or any portion of project located in a 100 year flood plain? ☐ Yes ☐ No

13. Will the project generate solid waste? ☐ Yes ☐ No

a. If yes, what is the amount per month?_____ Tons

b. If yes, will an existing solid waste facility be used? ☐ Yes ☐ No

c. If yes , give name _____ ;location _____

d. Will any wastes not go into a sewage disposal system or into a sanitary landfill?
☐ Yes ☐ No

e. If yes , explain:

14. Will the project involve the disposal of solid waste? ☐ Yes ☐ No

a. If yes, what is the anticipated rate of disposal? _____ tons/month.
b. If yes, what is the anticipated site life? _____ years.

15. Will project use herbicides or pesticides? ☐ Yes ☐ No

16. Will project routinely produce odors (more than one hour per day)? ☐ Yes ☐ No

17. Will project produce operating noise exceeding the local ambient noise levels?
☐ Yes ☐ No

18. Will project result in an increase in energy use? Yes ☐ No ☐

If yes, indicate type(s)

19. If water supply is from wells, indicate pumping capacity _____ litre/minute.

20. Total anticipated water usage per day _____ litre/day.

22. **Approvals required**:

			Type	Submittal Date
State Forest Department	☐ Yes	☐ No	_____	_____
State Pollution Control Board	☐ Yes	☐ No	_____	_____
Rural Development Department	☐ Yes	☐ No	_____	_____
State Agriculture Department	☐ Yes	☐ No	_____	_____
State Livestock & Veterinary Dept.	☐ Yes	☐ No	_____	_____
State Fishery Department	☐ Yes	☐ No	_____	_____

Other Relevant Departments and other statutory agencies

1. ☐ Yes ☐ No _____ _____

2. ☐ Yes ☐ No _____ _____

C. Information Details

Attach any additional information as may be needed to clarify your project. If there are or may be any adverse impacts associated with your proposal, please discuss such impacts and the measures which you propose to mitigate or avoid them.

D. Verification

I certify that the information provided above is true to the best of my knowledge.
Applicant/Sponsor Name _____ Date _____
Signature _____
Title _____

PART 2 – PROJECT IMPACT AND THEIR MAGNITUDE

1. Project Evaluation

Objectives	Components	Resource Requirements	Technology
Project activities critical to environment	1.	1.	1.
	2.	2.	2.
	3.	3.	3.
Mitigation measures inherent in the project (if any)	1.	1.	1.
	2.	2.	2.
	3.	3.	3.

2. Environmental Impact Scenario

A. Impact on Air (Tick if applicable)

Put √ mark	Expected Impacts (Tick applicable impacts and fill corresponding cells)	Proposed Mitigation measures	Cost (Rs)
☐	Dust and Particulate matter in the air		
☐	Smoke and fumes		
☐	Emission of contaminants		
☐	Increase in land for industrial use		
☐	Erosion of land due to air velocity		
☐	Incineration of refuse per hour		
☐	Any other (specify)		

B. Impact on Water (Tick if applicable)

Put √ mark	Expected Impacts (Tick applicable impacts and fill corresponding cells)	Proposed Mitigation measures	Cost (Rs)
☐	Increased siltation in water bodies		
☐	Affect protected water body (wetland, lake, pond, etc.)		
☐	Affect non-protected existing or new water body		
☐	Reduced availability of water		
☐	Soil erosion/land due to run-off		
☐	Depletion of ground water		

Put √ mark	Expected Impacts (Tick applicable impacts and fill corresponding cells)	Proposed Mitigation measures	Cost (Rs)
☐	Depletion of water in surface water bodies		
☐	Affect surface or groundwater quality or quantity		
☐	Deduction in ground water recharge capacity		
☐	Discharge solid and liquid waste or other pollutants in to water bodies		
☐	Any other (Specify)		

C. Impact on Land (Tick if applicable)

Put √ mark	Expected Impacts (Tick applicable impacts and fill corresponding cells)	Proposed Mitigation measures	Cost (Rs)
☐	Disfiguration of landscape due to land modification or soil erosion		
☐	Disruption in service and utilities		
☐	Break or interference in natural drainage		
☐	Interferences with existing drainage pathways leading to water logging		
☐	Dumping of wastes or littering in open areas		
☐	Solid or liquid based discharge		
☐	Loss of open space		
☐	Loss of top soil and impact pertaining to soil erosion		
☐	Soil quality deterioration		
☐	Any other (Specify)		

D. Impact on Health and Safety (Tick if applicable)

Put √ mark	Expected Impacts (Tick applicable impacts and fill corresponding cells)	Proposed Mitigation measures	Cost (Rs)
☐	Accumulations of domestic wastes (Solid and liquid)		
☐	Accumulation of biomedical wastes		
☐	Inadequate maintenance of public toilet facilities		
☐	Risks of accidents and hazards		
☐	Hazard of vector borne diseases		
☐	Hazard of communicable diseases		
☐	Hazard of increases diseases burden due to inadequate sanitation		

☐	Absence or inadequate use of occupational safety equipments		
☐	Fugitive emissions		
☐	Any other (specify)		

E. Impact on Biodiversity (Tick if applicable)

Put √ mark	Expected Impacts (Tick applicable impacts and fill corresponding cells)	Proposed Mitigation measures	Cost (Rs)
☐	Tree felling		
☐	Conversion of forest land for non forest purpose		
☐	Collection of NTFPs		
☐	Presence of threatened or endemic species of plants		
☐	Presence of threatened or endemic species of animals		
☐	Presence of migratory birds		
☐	Presence of wildlife habitat		
	Presence of Eco-sensitive zones (National Parks, Wildlife sanctuaries, wetlands, etc.)		
☐	Threat from pests or improper pest management		
☐	Any other (specify)		

F. Impact on Community and Society (Tick if applicable)

Put √ mark	Expected Impacts (Tick applicable impacts and fill corresponding cells)	Proposed Mitigation measures	Cost (Rs)
☐	Nuisance due to excessive noise to residential areas or schools/hospitals		
☐	Accumulation of bio-medical waste		
☐	Inadequate maintenance of public toilet facilities		
☐	Possibilities of resource conflict		
☐	Displacement of any indigenous community or vulnerable group		
☐	Any other (specify)		

G. Impact on Agricultural Land Resources

Put √ mark	Expected Impacts (Tick applicable impacts and fill corresponding cells)	Proposed Mitigation measures	Cost (Rs)

☐	Sever, cross or limit access to agricultural land (includes cropland, pasture, vineyard, orchard etc.)		
☐	Excavation or compaction of the soil profile of agricultural land		
☐	Disrupt or prevent installation of agricultural land management systems (e.g. subsurface drain lines, outlet ditches, strip cropping)		
☐	Any other (specify)		

H. Impact on Aesthetic Resources

Put √ mark	Expected Impacts (Tick applicable impacts and fill corresponding cells)	Proposed Mitigation measures	Cost (Rs)
☐	Proposed land uses, or project components different from or in sharp contrast to current land use pattern, whether man-made or natural		
☐	Elimination or reduction of the enjoyment of the aesthetic qualities of that resources		
☐	Elimination or screening of scenic views known to be important to the area		
☐	Any other (specify)		

I. Impact on Historic and Archaeological resources

Put √ mark	Expected Impacts (Tick applicable impacts and fill corresponding cells)	Proposed Mitigation measures	Cost (Rs)
☐	Site or structure of historic, prehistoric or paleontological importance		
☐	Occurring wholly or partially within or contiguous to any facility or site listed on the State or National Register of historic places		
☐	Archaeological site or fossil bed located within the project site		
☐	Occurring in an area designated as sensitive for archaeological sites		
☐	Any other (specify)		

J. Impact on Open space and Recreation

Put √ mark	Expected Impacts (Tick applicable impacts and fill corresponding cells)	Proposed Mitigation measures	Cost (Rs)
☐	Affect the quantity or quality of existing or future open spaces or recreational opportunities		
☐	Permanent foreclosure of a future recreational opportunity		
☐	Reduction of an open space important to the community		
☐	Any other (specify)		

K. Impact on Transportation

Put √ mark	Expected Impacts (Tick applicable impacts and fill corresponding cells)	Proposed Mitigation measures	Cost (Rs)
☐	Effect to existing transportation systems		
☐	Alteration of present patterns of movement of people and/or goods		
☐	Major traffic problems		
☐	Any other (specify)		

L. Impact on Energy

Put √ mark	Expected Impacts (Tick applicable impacts and fill corresponding cells)	Proposed Mitigation measures	Cost (Rs)
☐	Affect the community's sources of fuel or energy supply		
☐	Increase (> 5%) in the use of any form of energy in the municipality		
☐	Requirement of the creation or extension of an energy transmission or supply system to serve more than 50 single or two family residences or too serve a major commercial or industrial use		
☐	Any other (specify)		

M. Noise and Odor Impact

Put √ mark	Expected Impacts (Tick applicable impacts and fill corresponding cells)	Proposed Mitigation measures	Cost (Rs)
☐	Creation of Objectionable odors, noise, or vibration		

☐	Noise or vibration due to blasting within 500 meters of a hospital, school or other sensitive facility		
☐	Occurrence of odors routinely (more than one hour per day)		
☐	Increase in local ambient noise levels for noise outside of structures		
☐	Removal of natural barriers that would act as a noise screen		
☐	Any other (specify)		

Part 3 - EVALUATION OF THE IMPORTANCE OF IMPACTS

Responsibility of Lead Agency

Part 3 must be prepared if one or more impact(s) is considered to be potentially large, even if the impact(s) may be mitigated.

Instructions (If you need more space, attach additional sheets) Discuss the following for each impact identified in Column 2 of Part 2:

1. Briefly describe the impact.
2. Describe (if applicable) how the impact could be mitigated or reduced to a small to moderate impact by project change(s).
3. Based on the information available, decide if it is reasonable to conclude that this impact is **important.** To answer the question of importance, consider:

- The probability of the impact occurring
- The duration of the impact
  Its irreversibility, including permanently lost resources of value Whether the impact can or will be controlled
- The regional consequence of the impact
- Its potential divergence from local needs and goals
- Whether known objections to the project relate to this impact.

A. Analysis of Alternative

1. 2. 3.		
Overall Recommended Mitigation Plan		
Overall cost, if any of implementing recommended mitigation		

ANNEX - 6

TEMPLATE FOR NATURAL RESOURCE MANAGEMENT PLAN (NRMP) OF THE SHG PRIMARY FEDERATION

1. Profile of Village Organization

Sl. No.	Location:	State:
		District:
		Block:
		Village:
1.	No. of affiliate SHGs, and SHG members:	
2.	Year of formation:	
3.		
4.		

2. Status and issues with respect to the natural resources of the village:

Sl. No.	Availability (No. and Extent)	Uses	No. of Household Dependent	Issues
5.	Agricultural land			
6.	Wasteland			
7.	Forest land			
8.	Grazing land			
9.	Fodder			
10.	Fodder land			
11.	Livestock			
12.	Surface Water bodies			
13.	Groundwater			

3. Details of any Protected Areas (Wildlife Sanctuaries, National Parks, Tiger and Biosphere Reserve) adjoining of the village:

4. Details of the groundwater zone that the village is in: Safe/Semi-critical /Critical/Overexploited

5. Key livelihoods of the poor in the village and issues with environmental sustainability:

Sl. No.	Livelihood Activities	Issues related to environmental sustainability
1.	Agriculture	
2.	Livestock	
3.	Fisheries	
4.	Forest-based Livelihoods	
5.	Handlooms and Handicrafts	
6.	Cottage industries	
7.	Others	

6. Measures required at individual household level, SHG level, primary federation level to promote Sustainability:

Sl. No.	Livelihood Activities	Measures to be implemented by			
		Individual SHG members	SHG	Green CRPs	SHG Federation
1.	Agriculture				
2.	Livestock				
3.	Fisheries				
4.	Forest-based Livelihoods				
5.	Handlooms and Handicrafts				
6.	Cottage industries				
7.	Others				

7. Plan for implementation of identified measures:

Sl. No.	Sub-Plans	Issues related to environmental sustainability
1.	Sub-plan for facilitating measures to be implemented by individual SHG members and SHGs	Training programmes; Exposure visits; Extension; Credit Support
2.	Sub-plan for measures to be implemented by Green CRPs	Community norms; Activities/Works

8. Support required by Green CRPs for implementation of the NRMP:

Sl. No.	Livelihood Activities	Details Technical Support Required	Details of Financial Support Required	Sources of Support (Convergence Scheme, Line Dept. NERLP *etc.*)
1.				
2.				
3.				

9. Institutional arrangements in the federation for implementation of the NRMP:

Sl. No.	Names of NRMP sub-committee members	Key Responsibilities
1.		
2.		
3.		
4.		
5.		

10. Monitoring Plan:

1	Frequency of review meetings by NRMP sub-committee	
2	Frequency of site visits by NRMP sub-committee	
3	Indicators for monitoring by Green CRP / NRMP sub-committee	
4		

Annex- 7

POTENTIAL SCHEMES FOR CONVERGENCE

Sl. No.	Name of Schemes	Chief Objective	Relevant Activities
1.	MGNREGA (Mahatma Gandhi National Rural Employment Guarantee Act)	It is a job guarantee scheme, enacted by a central legislation on 25th August 2005. The scheme provides a legal guarantee for one hundred days of employment in every financial year to adult members of any rural households willing to do public work at the Statutory minimum wage of Rs. 100/per day.	The MGNREGA programme is ongoing in 4 States. It promoted to the following activities. • Goat and sheep rearing, • Rural godowns, • Cold storage and • Horticulture *etc.*
2.	IAY (Indira AwasYojana)	The aim of this program is to provide dwelling units free of cost to schedule castes, schedule tribes and free bonded laborers and also non SC/ST BPL families.	The programme is ongoing in all 4 States (MNST) to provide permanent accommodation to rural poors especially SC/ST&BPL.
3.	SGSY (Swarnjyanti Gram SwarozgarYojana)	The SGSY is the only self employment program for rural poor. The objective is to bring the self employed above poverty line by providing the income generating assets through bank credit and Government subsidy.	The programme is ongoing in all 4 States (MNST) for establishment of small entrepreneurship.
4.	BADP (Border Area Development Progarmme)	Established in 1993-1994 and covered 4 Rural Blocks then along Indo-Bangladesh border. In 1997-1998 the programme was extended on the eastern side of Mizoram bordering Myanmar. Currently, the BADP is implemented in 16 Rural Dev. Blocks whose geographical area totals 12665.09 Sq. Kms. of these, 11 Blocks are situated along the Indo-Myanmar border and the rest 5 Rural Blocks are along the Indo-Bangladesh border.	The developmental programme is ongoing in Mizoram state only covering the rural blocks having majority of tribal population.
5.	NWDPRA (National	Land development activities to check soil erosion and	Multiple activities for development of

Sl. No.	Name of Schemes	Chief Objective	Relevant Activities
	Watershed Development Project of Rainfed Areas)	runoff water in rain fed areas in the country.	arable, non-arable lands, drainage line treatment, livelihood support and farm production system.
6.	IWDP (Integrated Wasteland Development Programme)	The main aim is rainwater harvesting for supplementary irrigation, plantations including dry land horticulture, pasture development and other livelihood support activities including crop production system in rain fed rural areas.	The programme is ongoing in all 4 States (MNST) for integrated watershed development for sustainable use of water resources.
7.	BRGF (Backward Region Grant Fund)	It is designed to redress regional imbalances in development. The fund aims to supplement and converge existing developmental inflows into identified districts especially in Lawngtlai and Saiha Districts of Mizoram.	The Fund is not for the project Districts (Aizawl&Lunglei) under NERLP.
8.	NLUP (New Land Use Policy)	To aim at keeping 60% of Mizoram total land area under rain forest. To wean away farmers from destructive Jhum practices and assist the workforce hitherto engaged in Jhuming to be employed in sustainable economic venture to create productive assets in each family. To improve income for both urban and rural poor through sustainable farming, non farming, micro enterprises including promotion and modernization of small scale and cottage industries.	The Policy is beneficial for the “NERLP”.
9.	Bamboo Policy	Formulated to fully tap the ecological and economic potentials of the bamboo resource in the State.	The policy is beneficial for the “NERLP”.
10.	Power Policy	To provide greater thrust on overall development and promotion of renewable energy technologies in the State.	The policy is beneficial for the “NERLP”.
11.	National Rural	The SwarnaJayantiSwarozgarYojna (SGSY) has been	The SHG approach helps the poor to build

Sl. No.	Name of Schemes	Chief Objective	Relevant Activities
	Livelihood Mission (NRLM)	renamed as National Rural Livelihood Mission (NRLM). With this the scheme will be made universal, more focused and time bound for poverty alleviation by 2014. Accordingly, a target has been fixed to enrol 50% cent of rural women in self-help groups over the next five years. The objective of Swarnjayanti Gram SwarozgarYojana (SGSY) is to assist poor families (Swarozgaries) above the Poverty Line by ensuring appreciable sustained level of income over a period of time. This objective is to be achieved by inter alia organizing the rural poor into SHGs through the process of social mobilization, their training and capacity building and provision of income generating assets.	their self-confidence through community action. Interactions in group meetings and collective decision making enable them in identification and prioritization of their needs and resources. This process would ultimately lead to the strengthening and socio-economic empowerment of the rural poor as well as improve their collective bargaining power.
12.	NBM (Nagaland Bamboo Mission)	To offered a platform for employment of the rural population for alternative livelihood options since its inception in 2004.	Similar to the Bamboo Policy of Mizoram
13.	NBHM (Nagaland Beekeeping & Honey Mission)	To promote livelihood options in apiculture	Relevant for sustainable development
14.	NBRM (Nagaland Bio-Resource Mission)	The NBRM was launched by the Govt. of Nagaland on 26th July 2007 with a view to harness the rich potential of bio-resources of the state. The main objectives of the Mission are to conserve, promote and develop the bio-resources to fulfil the economic, social and environmental objectives besides to provide an alternative source of livelihood through development of Bio-resources into an enterprise. The Mission has adopted the following strategy namely: (i) Survey,	It is playing a critical role in addressing poverty reduction in small pockets of rural Nagaland.

Sl. No.	Name of Schemes	Chief Objective	Relevant Activities
		documentation, identification and inventorisation of the bio-resources of Nagaland (ii) Conservation of Bio-resources both in-situ and ex-situ conservation and (iii) Development and promotion of Bio-resources as an enterprise.	
15.	NEPED (Nagaland Empowerment of People through Economic Development)	Crucial role in addressing the issues of poverty reduction and environment.	Relevant for sustainable development
16.	VDB (Village Development Board)	Many government schemes are being implemented by the Boards. To promote microfinance Nagaland has launched a pilot project to create corpus fund with each VDB that can be used to provide credit to the rural people.	A village level Board for Development in Mizoram
7.	IREP (Integrated Rural Energy Programme)	Renewable source of energy programme emphasized in the field of saving of Rural Energy both indoor and outdoor lighting. The scheme also includes Biogas Chulas etc.	Proposed in rural blocks of Sikkim
18.	JGSY (Jawahar Gram SamridhiYozana)	To develop village economy through rural infrastructural development.	The programme directly related to livelihood of the rural people/poor and relevant to “NERLP”.
19.	SREDA (Sikkim Renewable Energy Development Agency)	With the dawn of the 21st Century, it has become ever more evident that economic development based on excessive consumption of conventional fossil fuel cannot be sustained for long.	The programme directly related to livelihood of the rural people/poor and relevant to “NERLP”.
20.	SGRY (SampoornaGramee	The SGRY is additional wage employment program in rural areas. It provides food security alongside socio	The programme directly related to livelihood of the rural people/poor and

Sl. No.	Name of Schemes	Chief Objective	Relevant Activities
	nRojgarYozana)	economic infrastructure in the rural areas.	relevant to "NERLP".
21.	CDPS (Community Development and Panchayat Scheme)	To ensure effective administration and developmental activities in each district and providing necessary infrastructure in view of devotions of powers to Panchayati Raj Institutions.	The programme directly related to livelihood of the rural people/poor and relevant to "NERLP".
22.	RWSSS (Rural Water Supply & Sanitation Scheme)	To provide clean safe drinking water all the remaining habitation @40 ipcd and improve the sanitation facilities in the rural areas. The Government of India has introduced the scheme called Pilot Project 1999-2000 onwards.	The programme directly related to livelihood of the rural people/poor and relevant to "NERLP".
23.	RRBS (Rural Roads and Bridges Scheme)	To improve the rural economy rural connectivity is an important part	Important developmental activity in Sikkim relevant to the infrastructure of project.
24.	RHS (Rural Housing Scheme)	Providing shelter to economically weaker section is the main element for socio-economic development programme.	The scheme is common in Sikkim.
25.	PMGSY (PradhanMantriGraminSadakYojana)	To provide connectivity by way of an all weather road to the eligible unconnected human settlement in rural areas.	The programme is ongoing in all 4 states (MNST) which provide connectivity in rural & remote areas.
26.	WDPSCA (Watershed Dev. Project in Shifting Cultivation Areas)	To promote permanent cultivation practices having negligible or low environmental impacts.	Relevant activities for minimization of shifting cultivation.
27.	IWMP (Integrated Waste Land Management Programme)	Use of waste land for livelihood and sustainable development.	Improvement of production & management system by way of Soil & Water Conservation activities.
28.	PPT (Peoples plan of	To give a clear direction to policy formulation and planning process for all round development.	Specific plan for the development of rural people in Tripura

Sl. No.	Name of Schemes	Chief Objective	Relevant Activities
	Tripura)		
29.	TDP (Tribal Development Plan)	To promote the basic packages for education, economic infrastructure, socio-cultural development & health services.	A developmental plan for the tribal people in Tripura
30.	TTPRS (Three Tier Panchyati Raj System)	To promote and implement the development schemes through good functioning of panchayats.	Tripura is first among the States of India in utilization of MGNREGA scheme essentially because of good functioning of panchayats. Within Tripura the less accessible tribal villages have higher relative poverty.

Annex - 8

TEMPLATE FOR CODE OF PRACTICE (COP) BY PRODUCER ORGANISATIONS

The Code of Practice is a simple concise document which must be easy to understand and implement. This process will have to be developed through a participatory process involving the individual members of the Producer Organisation through the facilitation of the DMMU team and technical experts. Following things should be considered while preparing CoP :

1. Profile of the Producer Organisation (Name of the organization (if any), location, profile of members, Place, year of formation, Cost, etc.)
2. Environmental Guidelines for the Producer Organisation
3. Environmental Guidelines for the individual members of the Producer Organisation
4. Individual members' roles and responsibilities
5. Appraisal Worksheet
6. Non-compliance Guidelines i.e. Formats for 'Approvals' for non-compliance of individual members
7. Visits and Consultations may be conducted for Pos for developing better CoP.

Other necessary Guidance:

- The Participatory Organic Guarantee System for India 4 is a useful reference for developing the CoP.
- The Environmental Guidelines provided in this EMF (annex) may be referred to for developing the CoP.

Annex – 9

ENVIRONMENTAL GUIDELINES (SAMPLES) FOR PRODUCER ORGANISATION

AGRICULTURE

Compulsory actions

- Take license to sell, stock, exhibit and distribute pesticides from the competent authority.
- If pesticides are to be sold or stocked at more than one place, take separate licenses for every such place.
- Display the license in a prominent part of the premises that is open to public.
- Do not sell pesticides in classes Ia, Ib, and II (WHO Classification of Pesticides by Hazard) (**see Annex**).
- Do not sell pesticides without ISI Mark Certification.
- Do not stock or sell any insecticide unless it is: properly packed, properly labeled (including name of active ingredient, expiry date, toxicity level, etc.) and the package includes information leaflet (including safety guidelines).
- Do not change or remove any inscription or mark made by the manufacturer on the container, label or wrapper of any pesticide.
- For sale of the insecticide Sulphur and its formulations, maintain a separate register showing names and addresses of all the persons to whom it has been sold or distributed and the quantities to be sold or distributed.
- Do not sell or store pesticide in the same building where any articles consumable by human beings or animals are manufactured, stored or exposed for sale. Store in a separate room which is well built, dry, well-lit and ventilated and of sufficient size.
- Immediately after the date of expiry segregate and stamp all such stocks as 'not for sale' and keep in a separate place with clear sign displaying that it is date-expired pesticide. Dispose these stocks in an environment friendly manner taking advice from the Pollution Control Board.
- Take license to sell fertilizers from the competent authority (Dy. Director, Agriculture).
- Do not sell fertilizers without ISI Mark Certification.
- For seed production obtain license from the competent authority.

Good practices

- Maintain proper records of procurement and sale of pesticides specifying the brand name and name of active ingredients.
- Stock and promote sale of safety gear to be used while handling pesticides (for example, hand gloves, plastic masks, etc.).
- Stock and sell inputs/equipment for non-chemical pest management (neem oil, pheromone traps, etc.).
- Stock and sell bio fertilizers and organic manures such as neem seed cake, vermicompost, etc.
- Provide soil testing and fertilizer recommendation services to member farmers.
- Coordinate with Department of Agriculture and Krishi Vigyan Kendra to provide training to farmers on integrated pest and nutrient management suitable for the region.

LIVESTOCK REARING

Compulsory actions
- Take required permission from Pollution Control Board to establish and operate a milk processing unit.
- Coordinate with Forest Department for permission to member farmers for grazing of livestock in forest area (as per applicability).

Good practices
- Encourage fodder management practices among member farmers including – fodder cultivation, rotational grazing, fodder enrichment, etc.
- Encourage composting by member farmers.
- Ensure hygiene in the milk cooling / processing unit premises.
- Dispose waste water from the milk cooling / processing unit premises into a soak pit located at least 15 metres away from any drinking water hand pump or tubewell.
- Coordinate with Department of Agriculture/Animal Husbandry for training/technical support to member farmers on fodder management and composting.

NTFP

Compulsory actions
- Take required permission from Forest Department for collection, storage, transport, sale, processing of forest produce including NTFP.
- Coordinate with Forest Department for permission to members for collection of NTFP if required.

Good practices
- Ensure proper storage of NTFP (ventilation, humidity control, etc.) to prevent wastage of produce and to avoid health risk.
- Encourage sustainable NTFP harvesting practices among members.
- Coordinate with Forest Department or other technical support agencies (NGOs) for training/technical support to members on sustainable NTFP harvesting.

Annex – 10

ENVIRONMENTAL APPRAISAL SUMMARY SHEET (EASS) - LIVELIHOOD/COMMUNITY DEVELOPMENT PLAN

Name of SHG/CDG: …… Village: .....…….....……
Block: …… District: …… State : …….....……

Sl. No.	Livelihood Activities	No. of Members	Scale of activity	Relevant Information from NRA of Village	Actions on which SHG members agreed to execute (based on EGs)	Identified needs (technical assistance, convergence, training etc)
1.						
2.						
3.						
4.						
5.						

Are any of the proposed activities included in the 'Activities not to be promoted under NERLP? Yes / No
Have the Environmental Guidelines been referred to for identifying impacts and mitigation measures? Yes / No
Does the SHG agree to implement all the non-negotiable actions listed in the Environmental Guidelines? Yes / No

(.....) **(.....)** **(.....)**
Signature **Signature** **Signature**
1. Name of SHG/CDG Nodal Person **2. Name of PFT** **3. Name of CDO**
…… **……** **……**
Date: …… ***Date: ……*** ***Date: ……***

Annex– 11

ENVIRONMENTAL APPRAISAL SUMMARY SHEET (EASS) FOR HIGH IMPACT ACTIVITIES

Name of Organization (CDO/PO): …… **Village :** ……
Block : …… **District :** ……
State : ……..

Sl. No.	Proposed Activity	Response
1.	Scale of activity (please provide estimated production)	
2.	Resource requirement and sources (ex. water, energy, raw materials, etc., and the source where the resources will be procured)	
3.	Baseline environmental status (with reference to the resources required, the nature of the activity being proposed and its likely impacts)	
4.	Identified adverse impacts on environment: Surface water (availability, quality) Ground water (availability, quality) Air pollution Based on the identified impacts, coordinate with District Environmental Specialist and the relevant line department for technical support in identification of required mitigation measures. Solid waste Land use and soil status Agriculture and livestock Forests and biodiversity Health and safety issues Hazardous chemicals.	
5.	Proposed plan to mitigate adverse impacts (provide in detail)	
6.	Is the activity in compliance with all relevant laws/regulations/safeguard policies? Give details.	

1. Name and Signature of Environmental Expert: ……

(Who conducted this appraisal) : ……

2. Name and Signature of PO/CDO Nodal Person : ……
: ……

3. Name and Signature of DPMU : ……
: ……

4. Name and Signature of NERLP : ……

Date : ……

Annex: 12
IDENTIFIED 'PROACTIVE ENVIRONMENTAL SUB-PROJECTS' FROM PROJECT STATES

Sl. No.	Proactive Environmental Sub-projects	Associated Livelihood Sectors for which Proactive Environmental Sub-projects to be required	Research Back-up and Technical Support Organisation	Name of the State under "NERLP"
1.	Slope Agriculture Land Technology (SALT)	Agriculture Sector: Promotion of new agriculture technology for sustainable food grain production	Deptt of Agri, KVKs, ICAR Research Complex for NE Region, Barapani Shillong, Local NGO/CBO	Mizoram, Nagaland, Sikkim & Tripura
2.	Contour Farming	Agriculture Sector: Most effective low-cost method of controlling soil erosion and improving crop yields	Deptt of Agri, KVKs, ICAR Research Complex for NE Region, Barapani Shillong, Local NGO/CBO	Mizoram, Nagaland, Sikkim & Tripura
3.	Vegetative Barriers	Agriculture Sector: Closely spaced plantations of grasses or shrubs (bio-mass) grown along contours for erosion control	Deptt of Agri, KVKs, ICAR Research Complex for NE Region, Barapani Shillong, Local NGO/CBO	Mizoram, Nagaland, Sikkim & Tripura
4.	Agri-Horticulture	Agriculture & Horticulture Sector: Agricultural crops provide seasonal revenue, while fruit trees give regular returns of fruits and in some cases fuel wood from pruned wood and fodder	Deptt. of Horticulture, Deptt. of Agriculture, KVKs, ICAR Research Complex for NE Region, Barapani Shillong,	Mizoram, Nagaland, Sikkim & Tripura
5.	Agro-forestry	Forest & Agriculture Sector: Envisage to conserve and improve the land and optimise combined productivity of trees and agricultural crops	Deptt. of Forest, Deptt. of Agriculture, KVKs, ICAR Research Complex for NE Region, Barapani Shillong,	Mizoram, Nagaland, Sikkim & Tripura
6.	Rainwater Harvesting	Agriculture Sector: Promotion of Agriculture / Horticulture and Livestock Rearing	ICAR Research Complex for NE Region, Barapani Shillong, KVKs, Local NGO/CBO	Mizoram, Nagaland, Sikkim & Tripura
7.	Spring-shed Development	Agriculture Sector: Promotion of Agriculture/ Horticulture and Livestock Rearing	ICAR Research Complex for NE Region, Barapani Shillong, Local NGO/CBO	Mizoram, Nagaland, Sikkim & Tripura

Sl. No.	Proactive Environmental Sub-projects	Associated Livelihood Sectors for which Proactive Environmental Sub-projects to be required	Research Back-up and Technical Support Organisation	Name of the State under "NERLP"
8.	Stream-shed Development	Agriculture Sector: Promotion of Agriculture/ Horticulture and Livestock Rearing	ICAR Research Complex for NE Region, Barapani Shillong, Local NGO/CBO	Mizoram, Nagaland, Sikkim & Tripura
9.	Bamboo-Shoot Production	Horticulture & Income genrating activities in form of Handicrafts	ICAR Research Complex for NE Region, Barapani Shillong, Local NGO/CBO	Mizoram, Nagaland & Tripura
10.	Fodder Development	Livestock rearing and milk production improvement	Deptt. of Animal Husbandry, ICAR Research Complex for NE Region, Barapani Shillong,	Sikkim
11.	Vermicompost	Improve Soil fertility through Organic Farming based activity in Agriculture and Horticulture	Deptt. of Agriculture and Krishi vigyan Kendra (KVK), ICAR Research Complex for NE Region, Barapani Shillong	Mizoram, Nagaland, Sikkim & Tripura
12.	Flower Production	Imcome genrating Floriculture based activity	Deptt. of Horticulture, ICAR Research Complex for NE Region, Barapani Shillong, KVKs	Mizoram, Sikkim & Tripura
13.	Bee Keeping	Sustainable Apiculture activity for honey production and better polination in cross pollinated crops	Deptt. of Horticulture, ICAR Research Complex for NE Region, Barapani Shillong, KVKs	Mizoram, Sikkim
14.	Silk worm rearing	Sustainable Sericulture through silk worm rearing as an enterpreneurship	Silk Board, Deptt. of Horticulture, KVKs	Mizoram, Nagaland
15.	Off-seasonal vegetable Production	Sustainable Olericulture activity for supplimenting food requirement and nutritional diet	National Horticulture Mission (NHM), Central Potato Research Station, Shillong, KVKs	Sikkim
16.	Puffed-Rice Preparation	Sustainable Agriculture products for local varieties of the region	Deptt. of Agriculture, KVKs, Local NGO/CBO	Tripura
17.	Mushroom Production	Sustainable Horticulture produce for nutritional values and marketing	Deptt. of Horticulture, ICAR Research Complex for NE Region, Barapani Shillong, KVKs	Mizoram

APPENDIX – 13 (A)

ASSESSMENT OF CUMULATIVE IMPACTS – DAIRY

(TO BE FILLED BY PFT IN CONSULTATION WITH CDO AND SUBMITTED TO DISTRICT ENVIRONMENT SPECIALIST/COORDINATOR AT DPMU ONCE EVERY SIX MONTHS)

Village : ..... Block : ..... District : .....
State : ..... Period: From……To…….....

NO. of SHGs/CDGs	NO. of members who received support for dairy activity	No. of cattle/buffalos sanctioned (during the period for which assessment is being conducted)	Total No. of cattle/buffalo approved till date under NERLP in the village	Total No. of cattle/buffalos in village (NERLP+Non-NERLP)	Observed Cumulative Impacts	Mitigation measures currently being practised (give details) Mitigation measures required for mitigating cumulative impact (give details)	Required measures for mitigating cumulative impact (give details)

Name of PFT member : .....
Signature PFT member : .....
Date : .....

APPENDIX – 13 (B)

ASSESSMENT OF CUMULATIVE IMPACTS – NTFP

(TO BE FILLED BY PFT IN CONSULTATION WITH CDO AND SUBMITTED TO DISTRICT ENVIRONMENT SPECIALIST/COORDINATOR AT DPMU ONCE EVERY SIX MONTHS)

No. of SHGs/CDGs involved in the sub projects	Members who received support for NTFPs activity. Names of NTFPs species and part (seed, fruit, leaf, root etc.) involved (mention separately for each NTFPs species)	Total quantity of NTFPs harvested (mention separately for each NTFP species) till date under NERLP	Total quantity of NTFPs harvested in village (NERLP+Non-NERLP)	Observed Cumulative Impacts	Mitigation measures currently being practised (give details) Required measures for mitigating cumulative impact (give details)	Required measures for mitigating cumulative impact (give details)

Name of PFT : .....
Signature of PFT : .....
Date : .....

APPENDIX – 13 (C)

ASSESSMENT OF CUMULATIVE IMPACTS – BLOCK LEVEL

(TO BE FILLED BY PFT AND SUBMITTED TO DISTRICT ENVIRONMENT SPECIALIST/COORDINATOR AT DPMU EVERY SIX MONTHS)

Number of Villages : ..... Total number of SHGs/CDGs : .....
Block : ..... District : .....
State : ..... Period : From……..... to .....

Sl. No.	Description	
1.	**Livestock**	
	Total number of SHG/CDG members involved Observed cumulative impacts Mitigation measures currently being practised Recommendations for mitigating	
2.	**NTFPs**	
	Total number of SHG/CDG members involved Observed cumulative impacts Mitigation measures currently being practised Recommendations for mitigating cumulative Impact	
3.	**Others**	
	Activity Total number of SHG/CDG members involved Observed cumulative impacts Mitigation measures currently being practised Recommendations for mitigating cumulative Impact	

District Environment Specialist/Coordinator (DEC): .....District Project Coordinator/Manager (DPM): .....

Name of the DPMU: ..... Date: .....

APPENDIX – 13 (D)

ASSESSMENT OF CUMULATIVE IMPACTS – DISTRICT LEVEL

(TO BE FILLED BY DPMU AND SUBMITTED TO SPSU EVERY SIX MONTHS)

Total No. of Blocks : ..... Total No. of Villages :.....
Total number of SHGs/CDGs : ..... District : .....
State : ..... Period : From……..... to .....

Sl. No.	Description	
1.	**Livestock**	
	Total number of SHG members involved Observed cumulative impacts Mitigation measures currently being practised Recommendations for mitigating cumulative impact	
2.	**NTFPs**	
	Total number of SHG members involved Observed cumulative impacts Mitigation measures currently being practised Recommendations for mitigating cumulative impact	
3.	**Others**	
	Activity Total number of SHG members involved Observed cumulative impacts Mitigation measures currently being practised Recommendations for mitigating cumulative impact	

District Environment Specialist/Coordinator (DEC): ..... District Project Coordinator/Manager (DPM): .....
Name of the DPMU: ..... Date: .....

APPENDIX – 14

FORMAT FOR INTERNAL MONITORING

(TO BE FILLED BY DISTRICT ENVIRONMENT SPECIALIST/COORDINATOR AND SUBMITTED TO STATE ENVIRONMENT SPECIALIST/COORDINATOR AT SPSU)

Name of the District : ……
Name of the State : ……
Period : From ……... To…….

Sl. No.	A. Desk Review	
1.	Number of Villages	
2.	Number of PFTs	
3.	Number of Producer Organizations	
4.	Number of Cluster Development Plans	
5.	Total number of SHGs plans	
6.	Total number of SHGs livelihood activities (sector wise)	1. Agriculture, 2.Cattle/Buffalo 3. Goat/sheep, 4. NTFP, 5. Others
7.	Total number of cluster development plans (with details of the activities)	
8.	Producer Organizations' Business plans (with details of the activities)	
9.	Number of villages for which Natural Resource Assessment has been conducted	
10.	Activities in Medium impact category	
11.	Number of SHGs plans with duly filled Environment Appraisal Summary Sheet	
	B. Field visits	
12.	Names of Villages and Blocks visited	
13.	Name of Producer Organizations	1. 2.
14.	Activities undertaken by POs	1.

		2.
15.	Status of implementation of agreed mitigation actions by POs (refer Environment Appraisal Summary Sheet)	1. No. of CDOs implementing the agreed actions 2. Issues in implementing the agreed actions. 3. Recommendations
16.	Name of Cluster Development Organizations	
17.	Activities undertaken by CDOs	
18.	Status of implementation of agreed mitigation actions by CDOs (refer Environment Appraisal Summary Sheet)	1. No. of CDOs implementing the agreed actions 2. Issues in implementing the agreed actions 3. Recommendations
19.	Name of SHGs	
20.	Activities undertaken by SHGs	
21.	Status of implementation of agreed mitigation actions by SHGs (refer Environment Appraisal Summary Sheet)	1. No. of CDOs implementing the agreed actions 2. Issues in implementing the agreed actions 3. Recommendations
22.	Remarks on Cumulative Impacts (Refer Cumulative Assessment Sheet)	
23.	Remarks on any unforeseen emerged impact	
	C. Recommendations	
24.	Need for training/technical support	
25.	Recommendations given to PFT	1. 2. 3. 4.
26.	Remark on progress of Proactive Environment Sub-projects (if existing)	
27.	Any other observation	

District Environment Specialist/Coordinator (DEC): Signature:.....Name: .....

District Project Coordinator/Manager (DPM) : Signature:.....Name: .....

Name of the DPMU: .....

Date: .....

APPENDIX – 15:

EMF BUDGET

S. No.	Major heads	Components			Year 1		Year 2		Year 3		Year 4		Year 5		Totals in INR
			Unit	Unit cost	No.	Cost	No.	Cost	No.	Cost	No.	Cost	No.	Cost	
		RPMU													
1	**Technical Assistance to RPMU & States**	Development of Operational Manuals and Training Modules	LS	500000	1	500000									500000
		Development and Promotion of Proactive environmental Subprojects	LS	1000000	1	1000000									1000000
		Regional workshop on development of SPIP	LS	400000	1	400000	1	400000	0	0	0	0	0	0	800000
		Regional workshop for review of SPIP Preparation	LS	200000	1	200000	1	200000	0	0	0	0	0	0	400000
		Regional workshop for review of SPIP implementation	LS	200000	0	0	1	200000	1	200000	1	200000	1	200000	800000
2	**External environmental audit**	External environmental audit	LS	1200000	0	0	1	1200000		0	1	1200000		0	2400000
	Internal Audit	Internal Audit by RPMU (end of year one)	LS	400000	1	400000									400000
		SPSU/DPMU/PFTS and other field staffs of 4 States													
3	**IEC materials**	Production and printing of training and IEC materials	LS	200000	4	800000									800000
4	**Specialized training on EMF to DMMU Environment/Livelihood Coordinators**	Training - DMMU Environment Coordinators and Livelihood Coordinators (all project districts)	Batch	100000	6	600000	12	1200000	12	1200000	0	0	0	0	3000000
		Training of SHG Federations for EMF implementation	Batch	50000			30	1500000	50	3000000	36	1800000			6300000
		Training - of CDG members including members of ESC	Batch	50000			20	1000000	20	1000000	20	1000000			3000000
		Training - Producer Organizations for EMF implementation	Batch	50000			10	500000	25	1250000	25	1250000			3000000
5	**NRMP Pilot Implementation**	Training - Block/PFTs in NRMP pilot	Batch	100000			6	600000	8	800000	10	1000000	10	1000000	3400000
		Training - of CDG members in NRMP pilot including members of ESC	Batch	50000			10	500000	8	400000	10	500000	10	500000	1900000
		Hire External agencies/service providers to support CDGs for NRMP pilot	LS	500000			4	2000000	8	4000000	10	5000000	10	5000000	16000000
6	**State review workshops**	State level review and learning workshops	LS	200000	4	800000	4	800000	4	800000	4	800000	4	800000	4000000
7	**Contingency**	Misc. (5% of the total project cost)	LS	2185000											2185000
	Total														**43585000**