

Minutes of the Meeting

Meeting of REDD+ Working Group for North Eastern States of India



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On behalf of:



Federal Ministry
for the Environment, Nature Conservation
and Nuclear Safety

of the Federal Republic of Germany



NORWEGIAN MINISTRY
OF FOREIGN AFFAIRS

**Minutes of the Meeting of
REDD+ Working Group for North Eastern States of India
(06 September 2018)**

Indian Council of Forestry Research and Education
(An Autonomous Body of Ministry of Environment, Forest and Climate Change, Government of India)
P.O. New Forest, Dehradun – 248006 (INDIA)



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Editors:

Dr. Dhruba J. Das, Scientist 'E', RFRI, Jorhat

Dr. R.S. Rawat, Scientist In-charge, Biodiversity and Climate Change Division, ICFRE, Dehradun



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1. Background

Indian council of Forestry research and Education (ICFRE) in collaboration with International Centre for Integrated Mountain Development (ICIMOD) is implementing 'REDD+ Himalayas Project'. Under this project, capacity building is being focused on North-Eastern states of India. This programme is providing assistance for developing and implementing of REDD+ actions, focussing on trainings, technology sharing and knowledge dissemination. In order to initiate and scale up REDD+ actions in the North-Eastern states of India, it has been decided to form a 'REDD+ Platform' for providing guidance, knowledge sharing and support for implementation of REDD+ initiatives/ actions in these states. Accordingly, a REDD+ Working Group for North-Eastern States has been formed to facilitate REDD+ actions in North-Eastern states under the 'REDD+ Himalayas Project'. The REDD+ Working Group consists of the following officers and technical experts:

- | | |
|--|--------------------|
| 1. Director, Rain Forest Research Institute, Jorhat (Assam) | : Chair |
| 2. Assistant Director General (Biodiversity and Climate Change), ICFRE | : Member |
| 3. Regional Director, Forest Survey of India (Eastern Region, Kolkata) | : Member |
| 4. Representative of PCCF & HoFF, Assam | : Member |
| 5. Representative of PCCF & HoFF, Arunachal Pradesh | : Member |
| 6. Representative of PCCF & HoFF, Manipur | : Member |
| 7. Representative of PCCF & HoFF, Meghalaya | : Member |
| 8. Representative of PCCF & HoFF, Mizoram | : Member |
| 9. Representative of PCCF & HoFF, Nagaland | : Member |
| 10. Representative of PCCF & HoFF, Sikkim | : Member |
| 11. Representative of PCCF & HoFF, Tripura | : Member |
| 12. Prof. B.K. Tewari, North-Eastern Hill University, Shillong | : Member |
| 13. Representative from North-East based CSOs/NGOs | : Member |
| 14. Representative of Community (Khasi Hills REDD+ pilot project) | : Member |
| 15. Scientist, RFRI, Jorhat (Assam) to be nominated by the Chair | : Member Secretary |

Terms of Reference of the REDD+ Working Group are as follows:

- Advise on technical and institutional supports for REDD+ readiness in North-eastern states of India
- Provide inputs from North-Eastern regions for formulation of State REDD+ action plan, safeguard information system (SIS), reference emission level/reference level and forest monitoring system
- Guidance for implementing National REDD+ Strategy at state level, and inputs for preparation of a road map for REDD+ preparedness
- Necessary guidelines for formation of REDD+ Cell in the North-eastern States along with its structure and terms of reference
- Provide inputs for development of REDD+ Learning Platform for exchange and sharing of knowledge

- Advise on REDD+ capacity building needs of stakeholders
- Explore the possibilities of REDD+ financing and guidance for development of REDD+ projects

A REDD+ Working Group Meeting for preparation of road map for implementation of REDD+ initiatives in North Eastern States of India was organized at Rain Forest Research Institute (RFRI) on 6th September 2018 under the Chairmanship of Dr. R.S.C Jayaraj, IFS, Director, RFRI and Chair of the REDD+ Working Group. Agenda of the meeting is placed at Annexure I. The meeting was attended by all the members of the REDD+ Working Group and some other special invitees. The list of the participants is placed at Annexure II.

2. Minutes of the Meeting

2.1 Inaugural Session

At the outset, Dr. Dhruba J. Das, Head, Forest Ecology & Climate Change (FE&CC) Division, RFRI and Member-Secretary of REDD+ Working Group welcomed all the participants. He briefly highlighted the broad theme and purpose of the meeting.

Dr. R. S. C. Jayaraj, Director, RFRI and Chair of the REDD+ Working Group welcomed all the members and participants of meeting. He focused on the recent developments in the national scenario and stressed on creation of State REDD+ Cells. He stated that until now, only a few projects have been started (e.g. Khasi Hills REDD+ Project, REDD+ pilot project in Mizoram, etc.) and that more and more projects (at least one in each state) have to be initiated. He further informed the participants that the REDD+ Secretariat of the Working Group established under REDD+ Himalayas Project at RFRI would provide necessary technical support, updated information on REDD+, guidance and knowledge sharing/ dissemination to the states. The State REDD+ Cell would implement the REDD+ actions in accordance to the National REDD+ Strategy as well as the need of the respective states and community. He wound up with the message that the States would have to act at large for developing projects for REDD+ and harness technical know-how from the Secretariat.

Shri V.R.S. Rawat, Expert Consultant, REDD+ Himalayas Project, Indian Council of Forestry Research & Education made a presentation on “Introduction to REDD+ and its implementation at international and national level”. He traced the history of REDD+ evolution under UNFCCC system and highlighted that REDD (Reducing Emission from Deforestation in Developing countries) was first introduced into the United nations framework Convention on Climate Change (UNFCCC) Conference of Parties (CoP) agenda at its eleventh session in Montreal in December 2005. He elaborated India’s response and consequent negotiations in subsequent CoPs of UNFCCC. In CoP 13 at Bali, Indonesia, REDD became REDD+, which is primarily an Indian initiative supported by the likeminded countries. He narrated that in Cancun Agreements the scope of REDD+ was finalized. The scope of “REDD+” includes reducing emissions due to deforestation, and forest degradation, conservation of forest carbon stocks, sustainable forest management and enhancement of forest carbon stocks. Further, he informed about the pre-requisite of REDD+ implementation viz. National strategy or action plan, National forest reference level, National forest monitoring system for the monitoring and reporting of the REDD+ activities and safeguard information system.

He highlighted that ICFRE on behalf of Ministry of Environment, Forest and Climate Change, Government of India has prepared and published a National REDD+ Strategy for India and same has been released by the Hon’ble Minister for Environment, Forest and Climate

Change on 30 August 2018. Forest Survey of India has prepared national forest reference level and same is under technical review of UNFCCC. Further, he stressed that National Forest Monitoring System and Safeguard Information System for REDD+ are still be finalized. Next, he deliberated on the structure and contents of National REDD+ Strategy and opined that the Key Players in REDD+, in the Indian Context are FSI (focused on MRV of forest carbon stock), ICFRE (focused on Capacity building for stakeholders) as well as the Local communities (focused on protecting and regenerating the forests apart from gaining technical expertise) along with State Forest Departments.

After the inaugural session of the meeting, a 'REDD+ Secretariat for North Eastern States of India' was inaugurated at RFRI, Jorhat jointly by Prof. B. K. Tiwari, North Eastern Hill University and Shri V. R. S. Rawat, Expert Consultant REDD+ Himalayas Project, ICFRE.

2.2 Technical Session I

The Technical Session-I began with presentation of **Dr. R.S. Rawat**, Scientist In-charge, Biodiversity & Climate Change Division, ICFRE on "REDD+ Working Group for North Eastern States and Future Road Map". He initiated his presentation with the background that ICFRE in collaboration with International Centre for Integrated Mountain Development (ICIMOD) and GIZ is implementing a REDD+ Himalayas Project in north-eastern part of the country and especially in the state of Mizoram. Further, he highlighted the necessity for formation of REDD+ working group and discussed the details of Terms of Reference of the REDD+ Working group. He also elaborated tentative Future Road Map of REDD+ actions in the North-Eastern parts of the country. Formation of State REDD+ Cell, preparation of State REDD+ action Plans, capacity building on various aspects of REDD+, and development of a web-based REDD+ learning platform for knowledge/ information sharing were some of the key points of his presentation.

Prof. B.K. Tiwari, Member, North Eastern Hill University (Meghalaya) deliberated on "Prospects of REDD+ Projects in North East India". He initially presented some features of North-East India, pertaining to the diversity with respect to ethnic composition, language, cultural, landscape, etc. He highlighted that the tribal communities with their indigenous governance systems, must be taken into consideration for formulation of capacity building measures. The State REDD+ Cells have to imbibe the tribal and ethnic diversity of North-East India. Dr. Tiwari while appreciating the National REDD+ Strategy focused on some of the issues not brought up in the strategy like forest fires, forest-agriculture overlap, community controlled forests in the North Eastern India, the large area under Un-classed State Forests (with ambiguous ownership), etc. He also discussed about the opportunities, challenges and future prospects of REDD+ projects in North-East India.

During discussion, Shri V. R. S. Rawat emphasized that while implementing REDD+, the agency/institution must have REDD+ Safeguards in place. These are mainly governance, environmental and social safeguards. The safeguards must have respect for knowledge and rights of Indigenous Peoples and local communities. Dr. Jayaraj highlighted that, in the National strategy, there is a clear demarcation of the duties of the Government as well as the need of the community while formulating projects. Shri Rawat added the example of pilot REDD+ project in Mizoram for reference.

Shri M. Z. Singson, Head, Forest Research Centre for Bamboo and Ratan, Aizawl (Mizoram) made a presentation on the activities done under REDD+ Himalayas Project in the state

of Mizoram. He highlighted the REDD+ Himalayas project is trans-boundary project and implemented in Bhutan, India, Myanmar and Nepal. He further informed about the activities conducted under the project such as orientation programme for development of State REDD+ Action Plan (SRAP), installation of solar dryer for turmeric drying for the local communities of Rieik Village, establishment of shaded coffee plantation etc. for addressing the drivers of deforestation and forest degradation in the state of Mizoram. He informed that bi-lingual (English-Mizo) brochures were also brought out for capacity building and trainings of villagers on REDD+. He informed that the preparation of State REDD+ Action Plan is one of the activities under REDD+ Project, and that Mizoram became the first state for which the Action Plan has been prepared. He detailed the methodology, specifically on the multi-stakeholder consultation, along with the steps, i.e. Preparation, Analyses, Planning, and Monitoring along with Budget required for the same. He opined that shifting cultivation, forest fires and lack of motivation of Government departments are the key challenges. Mr. Singson informed about the minimised shifting cultivation in the project area during the project period that proved helpful to address the issues of degradation and deforestation.

Shri Tambor Lyngdoh, Chief Community Facilitator, Mawphlang Khasi Hills Community REDD+ project, Meghalaya made a presentation on “Experience of Mawphlang Khasi Hills Community REDD+ Project”. He informed that during the pilot project, carbon sales assessment was done, REDD+ awareness programmes were conducted as well as drivers of deforestation and forest degradation, and mitigation measures for addressing the drivers were assessed. He detailed the methods and activities adopted, including calculation of above ground and below ground biomass, controlled burning, establishment of home-based nurseries to capacitate the community etc. He further informed that substantial amount of carbon stocks were sold to various buyers in different countries. Funds directed to community development projects for training on piggery and poultry, vermi-composting and forestry, for distribution of grants for LPG & smokeless *chullahs* etc.

Apart from these, Shri Lyngdoh informed that there was also revival of sacred groves, development of eco-tourism spots, confluence of herbal healers, organizing of skill development programmes, convergence initiatives etc. He also informed that there is a strong community allocation of forest in East Khasi Hills, where there is problem of excessive fuel wood collection and degradation due to charcoal making. He stressed that community should be additionally involved for successful REDD+ implementation.

Dr. Dhruba J. Das, Member-Secretary, enquired whether the study on drivers of deforestation was done for Khasi Hills REDD+ Project. Shri Lyngdoh informed that such a study was conducted under the guidance of Prof. B. K. Tiwari. During the discussion, Shri V. R. S. Rawat opined that any project contributing to afforestation can be bought under the ambit of REDD+, but it needs to be done in the prescribed framework.

Representatives of the Principal Chief Conservator of Forests & Head of Forest Force of the North-Eastern States expressed their views on the problem, prospects and scope of REDD+ in their respective states. On behalf of Assam State Forest Department, **Ms. Davinder Suman**, IFS informed about the existence of a State REDD+ Cell in Assam and that pilot projects at two locations namely Majuli and Nagaon have been launched. The REDD+ Project activities are respectively named as Lowering Emissions, Enhancing Forests (LEEF) in Nagaon and Sustainable Actions for Climate Resilient Development (SACReD) in Majuli. Baseline works like selection of landscape, stakeholder mapping and synchronising working plan and REDD+ design have been completed, Interventions as well as Safeguards have been incorporated in

the Project Design Document. Funding is expected from Oil India Limited (OIL), GIZ/MoEF & CC etc. for implementing Non-Agricultural Market Access (NAMA) in the forestry sector. GCF has been identified as plausible financial source besides others.

Dr. Lokho Puni, IFS, Member (Manipur) elaborated about the forest scenario in Manipur. He also detailed on future plans of the state forest department including Identification & development of spring sheds, formation of Community Forest in unclassified forest areas, review of wood based industries, regulation of fuelwood consumption, finalization of Forest Development Corporation, revival of Joint Forest Management Committees, planting of long-rotation trees, planting more trees which bear Non-timber forest products, ways of involving private parties, expanding Protected Area Networks and strategy for short rotation crops to reduce wood-dependence in the state. During discussion, Shri V.R.S. Rawat added that REDD+ is not carbon-centric, but non carbon benefits and livelihood options of communities are equally respected.

Shri W.S. Manner, IFS, Member (Meghalaya) elaborated on Umket REDD+ Project. The project was focused on identification and addressing of drivers of deforestation & degradation. He detailed the improved Forest Management activities that were taken up with regard to tree planting, Forest fire management (creation of fireline, engagement of firewatchers), improved *chullahs* etc. He shared the results in terms of Economic benefits, Job creation, capacity building as well as biodiversity conservation. He informed that the villages have community based forest management mechanism that has to be appreciated. Shri Rawat informed that a minimum area of 10,000-15,000 hectares will only be economically viable for REDD+ projects.

Shri Supongnukshi, IFS (Nagaland) informed the house about the scenario of Nagaland. He highlighted the positive aspects for REDD+ implementation in Nagaland. During discussion, Prof. Tiwari opined that in natural forests, annual increment of carbon is not substantial, resulting in little sequestration and therefore, net benefit will be less. Further, mature forests (in many studies) have proven to be carbon sources rather than Carbon sink. Shri Supongnukshi opined that conversion of *jhum* to conserved areas (under JICA project) is more conducive for REDD+.

Shri Ravi Kumar, IFS (Sikkim) began with his observations that stakeholder engagement is very crucial. He highlighted the progress made in Sikkim so far regarding REDD+ that include staff training, canopy monitoring, canopy density based forest classification, development of an application based carbon stock measurement through *m-forest* etc. Till date, 22 REDD+ interventions (e.g. bio briquettes with NABARD) were planned in Sikkim apart from inter-departmental convergence. Shri Kumar also informed that State REDD+ Action Plan for Sikkim has been prepared under an USAID sponsored project.

Shri S. Soorya Narayan, IFS (Tripura) informed that there is no State REDD+ Cell, with respect to Tripura. The State Action Plan on Climate Change was framed by the Department of Science & Technology, Government of Tripura. He opined that there is non-familiarity and poor understanding with respect to REDD+ in the State and suggested the organisation of a similar workshop in Tripura. He further enquired if bamboo qualifies for REDD+ as Tripura Forest Department is planning to raise 5000 ha. of bamboo plantations under National Bamboo Mission (NBM) in the next five years. During discussion, Shri Rawat informed that the Government of India must inform the UNFCCC that bamboos and palms are included in the national definition of forest for bamboo to be considered for REDD+.

Shri Gautam Baruah Member (representative of NGOs) briefed about the role of NGOs in REDD+ projects in North East India and appreciated the efforts of ICFRE in this regard.

2.3 Technical Session II

Technical Session II begun with discussion and brainstorming amongst the participants. Some important points that came out during the discussion of REDD+ Working Group for Preparation of Road Map for Implementation of REDD+ Initiatives in North-Eastern States of India are as follows:

- Two States, viz. – Assam & Sikkim already have State REDD+ Cells and other States are required to constitute the same. Assam has to examine the composition of the Cell, whether it is conforming to the constitution mentioned in the National REDD+ Strategy. The REDD+ networking shall be quite amenable for implementation of REDD+ activities in each state of North-East India.
- Safeguard Information System (SIS) still needs to be developed in India
- The decision making powers should be vested with the communities. Clustering of villages can be done to increase the area and make it feasible for REDD+ consideration. Meghalaya has ample scope and thus, negotiations with the communities shall surely yield results. In Nagaland, several village councils can come together and form a viable REDD+ project
- A bottom-up policy starting with District council will be more feasible.
- The financial reward of the project is not the only component and should be looked into as an additional benefit. On a given landscape, carbon stock and sequestration is not the only reward; ecosystem services such as edaphic, hydrological, aesthetic improvements of landscape etc. are also of great importance. Therefore, the benefits reaped from a fertile land and resurrected ecosystem far outweighs the benefits returned in terms of currency. All the members were of the opinion that REDD+ has a broader aspect beyond Carbon which needs to be assessed as well as addressed.
- Knowledge and experience sharing is very vital for the implementation and advancement of REDD+ and the REDD+ Secretariat at RFRI may play a significant role in this regard.
- Research and academic institutions like RFRI, NEHU etc. shall play an important role in knowledge sharing, capacity building and safeguard implementation.

2.4 Concluding Session

Dr. R.S.C. Jayaraj, Director, RFRI and Chairman of the Working Group emphasized the following issues in his concluding remark:

- States of North-East India are at varied levels of preparedness in terms of REDD+. The States that are already in a state of preparedness to implement REDD+ projects or already implementing pilot projects should help other states of the region in development of the projects, through experience-sharing.
- Projects for capacity building and awareness can also be prepared, for REDD+ funding.

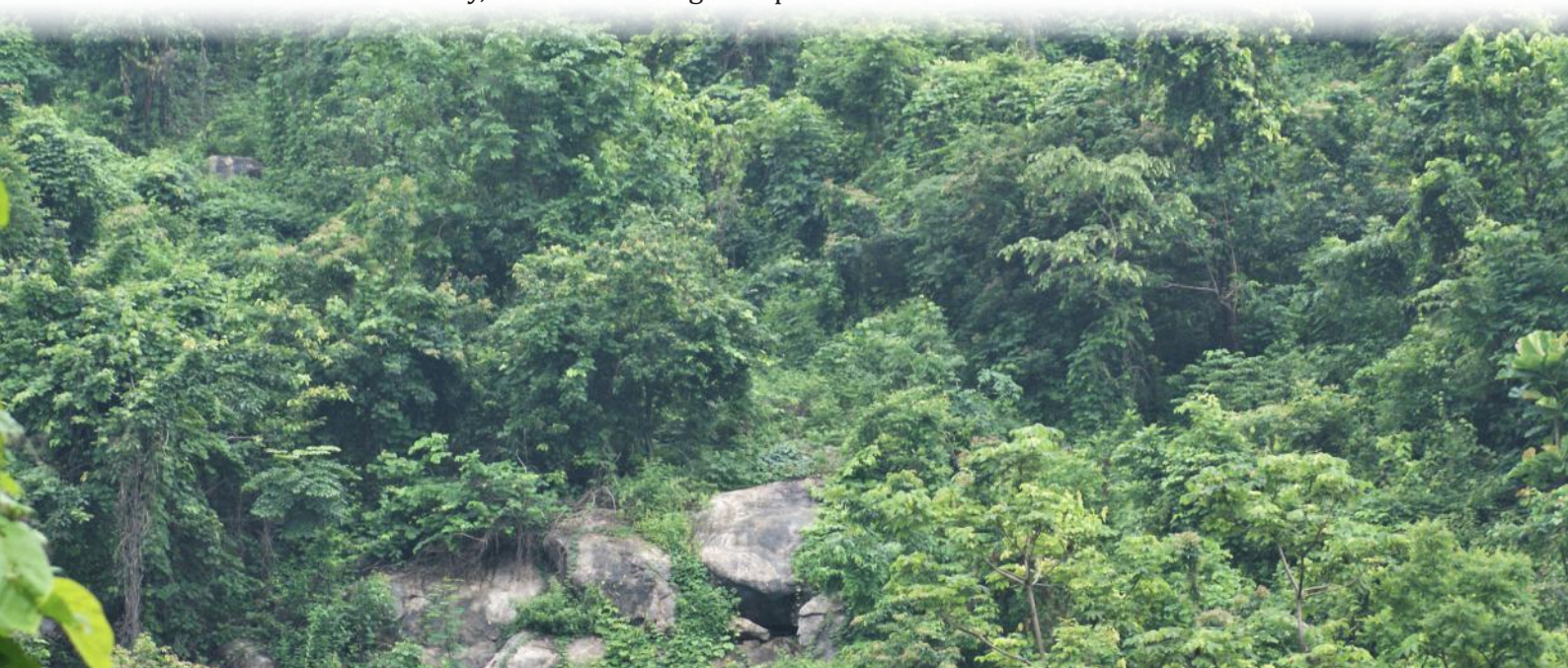
- By next year, it is hoped that at least one REDD+ project would begin or implemented in each of the North-Eastern States.
- Once in six-months, a meeting of the Working Group including all the stake holders should be conducted, for sharing of information.
- A webpage for the REDD+ Working Group is to be developed for providing a common platform, which needs to be developed by the Biodiversity and Climate Change Division of ICFRE and RFRI, Jorhat, and hosting on the ICFRE website.

The following decisions were taken in the Working Group meeting:

- (a) The National REDD+ Strategy has already been released by the Ministry of Environment, Forest and Climate Change, Government of India, and all the states may take action to constitute the State REDD+ Cell as per the details given in National REDD+ Strategy, on getting further guidelines/ intimations from Government of India.
- (b) Biodiversity and Climate Change Division at ICFRE shall develop a web page for the REDD+ Working Group for knowledge sharing and host it on the ICFRE / RFRI website.
- (c) The States that already have ongoing REDD+ projects, though not registered with The United Nations Framework Convention on Climate Change (UNFCCC) or with other standards may share the details with the Working Group, so that it can be used for capacity building in other States.
- (d) Secretariat of REDD+ Working Group at RFRI may collect all the relevant literature on REDD+, make a compilation of the same and share with all the members of the Working Group.
- (e) Regular communication mechanism of REDD+ Working Group need to be developed.

An RFRI publication entitled "*Toona ciliata* (Toon Trees) Volume, Biomass and Carbon Tables for Meghalaya" authored by Giri *et al.* (2018) was released by Prof. B.K. Tiwari and Shri V.R.S. Rawat in this Concluding Session of the meeting.

The meeting ended with Vote of thanks proposed by Dr. Dhruba J. Das, Head, FE&CC Division and Member Secretary, REDD+ Working Group.



Annex - I

Agenda of the Meeting of the REDD+ Working Group on “Preparation of Road Map for Implementation of REDD+ Initiatives in North-Eastern States”

Date: 06th September, 2018

Venue: Rain Forest Research Institute, Jorhat

Inaugural session:	
9.30-09.50 AM	Registration
09.50-10.00 AM	Introduction
10.00-10.10 AM	Welcome address- Dr. R. S. C. Jayaraj, IFS, Director RFRI and Chairman, REDD+ Working Group for North-Eastern States
10.10-10.30 AM	Introduction to REDD+ and its implementation at international and national level - VRS Rawat, Expert Consultant REDD+ Himalaya Project, ICFRE
10.30-10.45 AM	Inauguration of the ‘REDD+Secretariat for North East India’
10.45-11.15 AM	High Tea and Group Photo
Technical session I:	
11.15-11.20 AM	REDD+ Working Group for North-Eastern States and future road map- Dr. R.S. Rawat, Scientist In-charge, Biodiversity and Climate Change Division, ICFRE
11.20-11.35 AM	Prospects of REDD+ projects in North East India - Prof. B. K. Tiwari, North-Eastern Hill University, Shillong
11.35-11.50 AM	REDD+ pilot project in Mizoram: preparation of SRAP for the state -Mr. M. Z. Singson, Head, FRCBR, Aizawl
11.50-12.10 PM	Experience of Mawphlang Khasi Hills Community REDD+ project -Mr. Tambor Lyngdoh
12.10-01.10 PM	Views of the representatives of PCCF- Arunachal Pradesh, Assam, Manipur and Meghalaya on the scope of REDD+ in the states.
01.10-02.00 PM	-Lunch Break-
02.00-03.00 PM	Views of the representatives of PCCF- Mizoram, Nagaland, Sikkim and Tripura on the scope of REDD+ in the states.
03.00-03.15 PM	-Tea-
Technical session II:	
03.15-04.00 PM	Discussion
04.00-04.15 PM	Formulation of Recommendation
04.15-04.25 PM	Chairman’s concluding remark- Dr. R. S. C. Jayaraj, IFS
04.25-04.30 PM	Vote of thanks-Dr. Dhruba J. Das, Member Secretary

Annex - II

List of Participants

Following are the list of participants for REDD+ Working Group Meeting:

S.N. Name of participants

- 1 Dr. R.S.C. Jayaraj, IFS, Director, RFRI (Chairman)
- 2 Prof. B.K. Tiwari, Member (North-Eastern Hill University, Shillong)
- 3 Shri V.R.S. Rawat, REDD+ Consultant, BCC Division, ICFRE
- 4 Dr. Lokho Puni, IFS, Member (representative from Manipur)
- 5 Shri Supongnukshi, IFS (representative from Nagaland)
- 6 Shri W.S. Manner, IFS, Member (representative from Meghalaya)
- 7 Shri Ravi Kumar, IFS (representative from Sikkim)
- 8 Shri S. Sooryanarayan, IFS, Member (representative from Tripura)
- 9 Ms. Davinder Suman, IFS (representative from Assam)
- 10 Dr. R.S. Rawat, Scientist In-charge, BCC Division, ICFRE
- 11 Shri Tambor Lyngdoh, Member (Khasi Hills REDD+ project)
- 12 Shri Gautam Baruah, Member (representative from NE based NGO)
- 13 Shri M.Z. Singson, Head, Forest Research Centre – Bamboo and Rattan
- 14 Dr. Dhruba J. Das, Member Secretary (RFRI)

The, following Scientists/ Officers also participated in the meeting

- 1 Sh. R.K. Kalita, Scientist (RFRI)
- 2 Ms. Lhinghoikim Touthang, IFS (Nagaland)
- 3 Sh. Ajay Kumar, Scientist (RFRI)
- 4 Sh. Dinesh Kr. Meena, Scientist (RFRI)
- 5 Dr. Kuntala Neog Barua, Assistant Chief Technical Officer (RFRI)



Annex - III

Presentation on Introduction to REDD+ and its implementation framework at National and International level

REDD+ Working Group Meeting Guwahati 06 Sept 2018

Introduction to REDD+ and implementation framework at National and international level



V.R.S. RAWAT
Expert Consultant REDD+
Indian Council of Forestry Research and Education (ICFRE)
Dehradun
Email: rawatvrs@icfre.org

REDD: Reducing Emissions from Deforestation and Forest Degradation Background of Negotiations Under UNFCCC

The Agenda of REDD

- Avoided Deforestation was discussed in the side events of UNFCCC in COP 9 (2003)
- Agenda Item on **“Reducing emissions from deforestation in developing countries: Approaches to stimulate action”** first presented in COP 11 Montreal (2005) in response to request of Papua New Guinea and Costa Rica



IPCC 4th Assessment Report (2007)

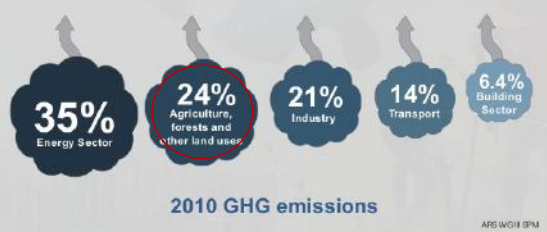
Share of different sectors in total anthropogenic GHG emissions in 2004 in terms of CO₂ equivalent

Energy Supply	25.9%
Industry	19.4%
Forestry	17.4%
Agriculture	13.5%
Transport	13.1%
Residential and Commercial building	07.9%
Waste and Wastewater:	02.8%



Sources of emissions

Energy production remains the primary driver of GHG emissions



REDD:

“Compensated Reduction”

Financial incentives to Developing countries

for

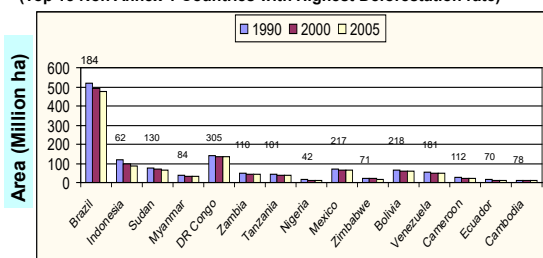
reducing present annual deforestation rate and stabilizing it in future

Forested Nations can be divided into two groups

- Nations with decreasing Forest Cover
- Nations with increasing Forest Cover

Nations with decreasing Forest Cover

(Top 15 Non Annex 1 Countries with Highest Deforestation rate)

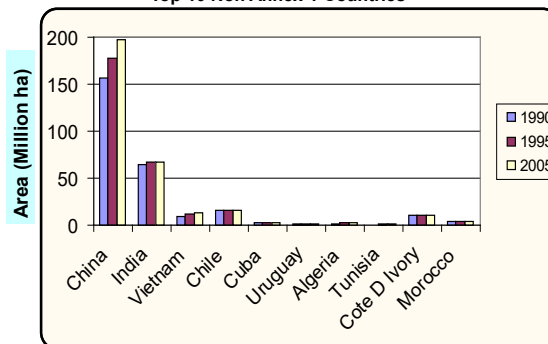


The number above the bars represent the years needed to reach zero forest cover with present rate of deforestation

Source: FRA 2005 (FAO 2005)

Nations: Increasing Forest Cover

Top 10 Non Annex 1 Countries



Source: FRA 2005 (FAO, 2005)

Indian Viewpoint on REDD

Comprehensive REDD
Carbon Saved and Carbon Added

•Reducing Deforestation & Degradation

•Conservation, Sustainable Management of Forests, Increase in Forest Cover (A&R)

Indian submission incorporates above and seeks incentives on incremental and Baseline stocks

Bali and after Main issues under discussion

COP 13: December 2007

Bali Action Plan: *"...Policy approaches and positive incentives on issues relating to reducing emissions from deforestation and forest degradation in developing countries; and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries..."*

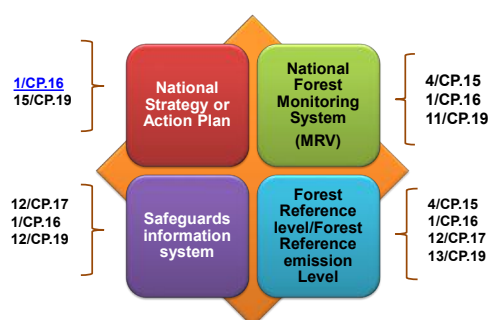
[Para 1b (iii) of BAP] (Decision 1/CP.13)

Cancun Forestry decisions 2010

Decision 1/CP.16 Scope of REDD plus finally agreed by parties (Cancun Agreements)

- Reducing emissions from deforestation;
- Reducing emissions from forest degradation;
- Conservation of forest carbon stocks;
- Sustainable management of forest;
- Enhancement of forest carbon stocks;

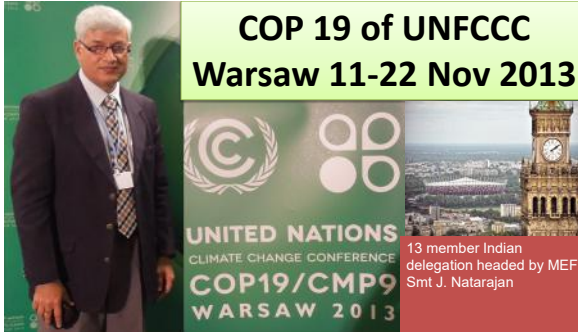
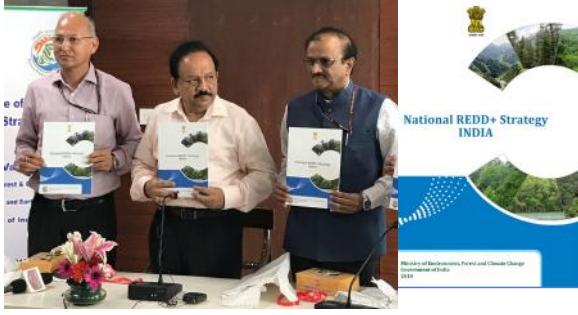

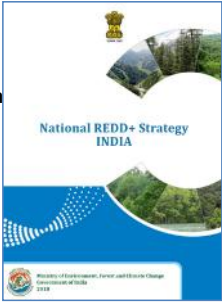
Key Elements of REDD+ and UNFCCC Decisions (Cancun Agreements Para 71)



Cancun forestry decisions....

REDD plus activities to be implemented in **three phases**:

- beginning with the **development** of national strategies or action plans, policies and measures, and capacity-building,
- followed by the **implementation** of national policies and measures and national strategies or action plans, technology development and transfer and **results-based demonstration activities**,
- and evolving into **results-based actions** that should be fully measured, reported and verified (MRVable).

 <p>COP 19 of UNFCCC Warsaw 11-22 Nov 2013</p> <p>Negotiators at COP19 in Warsaw agreed seven decisions relating to REDD – the “Warsaw Framework for REDD Plus”</p>	<p>Warsaw Framework for REDD Plus</p> <ol style="list-style-type: none"> 1. Results-based finance for the full implementation of activities in Decision 1/CP.16, Paragraph 70 (REDD+) 2. Coordination of support for the implementation of activities in relation to mitigation actions in the forest sector by developing countries, including institutional arrangements <p>Methodological guidance for activities relating to REDD+</p> <ol style="list-style-type: none"> 1. National forest monitoring systems 2. Measuring Reporting and Verification (MRV) of REDD + activities 3. Technical assessment of Reference Emission levels/ Reference Levels submitted by Parties 4. Timing and frequency of submission of summary of information on how Safeguards are addressed and respected 5. Addressing drivers of deforestation and forest degradation
<p>Where are we in terms of REDD+ implementation at national level?</p> <ol style="list-style-type: none"> 1. National REDD+ strategy : (August 2018) 2. Reference Level (REL/RL): Submitted in Jan 2018 3. Safeguard Information System (SIS) ?? 4. National Forest Monitoring <u>system</u>: needs to be prepared in accordance with UNFCCC guidelines (task assigned to FSI) 	<p>India needs to do in light of Cancun/Durban/Warsaw agreements</p> <ul style="list-style-type: none"> •Capacity Building Programmes on REDD+ •Preparedness of State Forest Departments •Pilot/ Demonstration Projects on REDD plus •Quantification of REDD plus benefit and sharing mechanism with REDD+ Communities <ul style="list-style-type: none"> • Finance for REDD Plus actions • Performance based payments for emission reduction
<p>National REDD+ Strategy India</p> 	<p>Key Elements of REDD+</p> <p>Developing country parties aiming to undertake REDD+ activities to develop the following elements:</p> <div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 5px; margin-right: 10px;"> <p>ICFRE asked by MoEF&CC for Institutionalisation of the technical issues of REDD+ in Sept 2017</p> <p>Task of preparing National REDD+ Strategy was completed in March 2018 following a series of meetings/ workshops and stakeholders consultation</p> </div>  </div>
<p>National REDD+ Strategy: Building blocks</p> <p>National REDD+ Strategy is one of the elements to be developed for implementing REDD+ activities at National level</p> <ul style="list-style-type: none"> • Highly dependent upon national circumstances • Development and implementation of national strategies address, <i>inter alia</i>: <ul style="list-style-type: none"> • drivers of deforestation and forest degradation, • Implementation of REDD+ activities • forest governance issues, gender considerations and • the REDD+ Safeguards (full and effective participation of relevant stakeholders, <i>inter alia</i> Indigenous peoples and local communities) 	<p>National REDD+ Strategy: Structure</p> <p>4 Sections</p> <ol style="list-style-type: none"> 1. Introduction and the Context 2. Legal and policy framework in India 3. The Strategy 4. Implementation Framework 

The Strategy: Implementation approach

REDD plus activities to be implemented in **three phases**:

1. beginning with the **development** of national strategies or action plans, policies and measures, and capacity-building,
2. followed by the **implementation** of national policies and measures and national strategies or action plans, technology development and transfer and **results-based demonstration activities**,
3. and evolving into **results-based actions** that should be fully measured, reported and verified (MRVable).

Funding under UNFCCC mechanism for phased approach
GCF, UN-REDD, Bilateral, multilateral, Public, private

The Strategy: REDD+ Activities to be considered

- Reducing emissions through deforestation
- Reducing emissions through forest degradation
- Conservation of Forest carbon Stocks
- Sustainable Management of Forests
- Enhancement of Forest carbon Stocks

Section 3: The Strategy: Sub-national REDD+ Approach At Physiographic zone level

1. Western Himalayas
2. Eastern Himalayas
3. North East:
4. Northern Plains
5. Eastern Plains
6. Western Plains
7. Central Highlands
8. North Deccan
9. East Deccan
10. South Deccan
11. Western Ghat
12. Eastern Ghat
13. West Coast
14. East Coast



Section 3: The Strategy.....describes about

- Infrastructure required
- Trained human resource and Capacity building
- Creating a new cadre of Community Youth
- Green Skill Development Programme

Section 3: The Strategy..... Finance

Finance will be mobilised internally by allocation through GIM, CAMPA, *Namami Gange Programme*, Green Highways Policy, etc.

The deficit in finance to meet REDD+ implementation will be sourced through external funding from Green Climate Fund (GCF) under UNFCCC mechanism.

Green India Mission:

Strategy proposes to revisit the GIM objectives and time frame in the light of new developments under global climate change regime, especially India's NDCs to UNFCCC

Section 3: The Strategy: Addressing Drivers of Deforestation and Forest Degradation

The effective policy, legal and management framework for managing these drivers

Providing alternatives of forest use to the local community, income generation activities and also by ensuring sustainable management of local forest resources through preparation and implementation of community centered micro plans.

Prime Ministers Ujjwala Scheme to provide free LPG connections
Promoting Use of improved cook stove

Key to sustainability will be, meeting the challenge of addressing and managing the unplanned drivers and activities which are mainly the anthropogenic removals of forest products

Illegal logging and mining activities within forest, besides losses caused due to occurrence of natural calamities

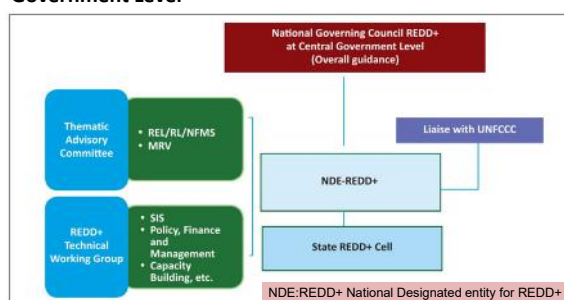
Section 4: Implementation Framework

•Conformity with UNFCCC decisions

•Conformity with national policy, legal framework and National Circumstances

Section 4: Implementation Framework

Creation of a REDD+ Governing Structure at Central Government Level



<div>Section 4: Implementation Framework</div> <div>Composition of NGC-REDD+ shall be as follows</div> <table> <tr><td>1. Union Minister for Environment, Forest and Climate Change:</td><td>Chair</td></tr> <tr><td>2. State Minister for Environment, Forest and Climate Change:</td><td>Co-Chair</td></tr> <tr><td>3. Secretary, Ministry of Environment, Forest and Climate Change:</td><td>Member</td></tr> <tr><td>4. Director General of Forests and Special Secretary, MoEFCC:</td><td>Member</td></tr> <tr><td>5. Director General, ICFRE:</td><td>Member</td></tr> <tr><td>6. Additional Director General of Forests (FC), MoEFCC:</td><td>Member</td></tr> <tr><td>7. Additional Secretary (Climate Change), MoEFCC:</td><td>Member</td></tr> <tr><td>8. Director General, FSI:</td><td>Member</td></tr> <tr><td>9. Joint Secretary (Climate Change), MoEFCC:</td><td>Member</td></tr> <tr><td>10. Joint Secretary, Ministry of Agriculture and Farmer Welfare:</td><td>Member</td></tr> <tr><td>11. Joint Secretary, Ministry of Tribal Affairs:</td><td>Member</td></tr> <tr><td>12. Principal Chief Conservator of Forests (4) nominated by MoEFCC:</td><td>Member</td></tr> <tr><td>13. REDD+ Experts (2) nominated by MoEFCC:</td><td>Member</td></tr> <tr><td>14. Inspector General of Forests (Forest Policy), MoEFCC:</td><td>Member Secretary</td></tr> </table> <div>NGC-REDD+ mandated to oversee and coordinate implementation of National REDD+ Strategy and suggests amendments as deemed fit. To develop the guidance for flow of incentives from Central Government to the State Governments, and also from State Government further down to the local communities.</div>	1. Union Minister for Environment, Forest and Climate Change:	Chair	2. State Minister for Environment, Forest and Climate Change:	Co-Chair	3. Secretary, Ministry of Environment, Forest and Climate Change:	Member	4. Director General of Forests and Special Secretary, MoEFCC:	Member	5. Director General, ICFRE:	Member	6. Additional Director General of Forests (FC), MoEFCC:	Member	7. Additional Secretary (Climate Change), MoEFCC:	Member	8. Director General, FSI:	Member	9. Joint Secretary (Climate Change), MoEFCC:	Member	10. Joint Secretary, Ministry of Agriculture and Farmer Welfare:	Member	11. Joint Secretary, Ministry of Tribal Affairs:	Member	12. Principal Chief Conservator of Forests (4) nominated by MoEFCC:	Member	13. REDD+ Experts (2) nominated by MoEFCC:	Member	14. Inspector General of Forests (Forest Policy), MoEFCC:	Member Secretary	<div>National Designated Entity for REDD+:</div> <table> <tr><td>• Director General of Forests and Special Secretary, MoEFCC:</td><td>Chairman</td></tr> <tr><td>• Additional Director General of Forests (FC), MoEFCC:</td><td>:Member</td></tr> <tr><td>• Additional Secretary (Climate Change), MoEFCC:</td><td>Member</td></tr> <tr><td>• Inspector General of Forests (Forest Policy), MoEFCC:</td><td>National REDD+ Focal Point & Member</td></tr> <tr><td>• Inspector General of Forests (NAEB), MoEFCC:</td><td>Member</td></tr> <tr><td>• Joint Secretary (Climate Change), MoEFCC:</td><td>: Member</td></tr> <tr><td>• Joint Secretary (Green India Mission), MoEFCC:</td><td>Member</td></tr> <tr><td>• Director General, ICFRE/Representative of ICFRE:</td><td>: Member</td></tr> <tr><td>• Director General, FSI/Representative of FSI:</td><td>: Member</td></tr> <tr><td>• External REDD+ Experts (2) nominated by the Chair:</td><td>Member</td></tr> <tr><td>• Representative of SFD (2) nominated by the Chair:</td><td>: Member</td></tr> <tr><td>• Dy. Inspector General of Forests (Forest Policy), MoEFCC:</td><td>Member Convener</td></tr> </table>	• Director General of Forests and Special Secretary, MoEFCC:	Chairman	• Additional Director General of Forests (FC), MoEFCC:	:Member	• Additional Secretary (Climate Change), MoEFCC:	Member	• Inspector General of Forests (Forest Policy), MoEFCC:	National REDD+ Focal Point & Member	• Inspector General of Forests (NAEB), MoEFCC:	Member	• Joint Secretary (Climate Change), MoEFCC:	: Member	• Joint Secretary (Green India Mission), MoEFCC:	Member	• Director General, ICFRE/Representative of ICFRE:	: Member	• Director General, FSI/Representative of FSI:	: Member	• External REDD+ Experts (2) nominated by the Chair:	Member	• Representative of SFD (2) nominated by the Chair:	: Member	• Dy. Inspector General of Forests (Forest Policy), MoEFCC:	Member Convener
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<div>Section 4: Implementation Framework</div> <div>Key Players:</div> <ul style="list-style-type: none"> FSI will be responsible for MRV of forest carbon stocks ICFRE for capacity building of stakeholders in the country <div>Strengths and infrastructure of FSI, IGNFA, IIFM, SFDs, State Forest Research Institutes and Forestry Universities in building capacity of stakeholders will be mobilised</div> <div>Local Communities: will discharge the responsibility of protecting, regenerating and managing forests, and also share the responsibility of measuring forest carbon with the SFDs. A capacity building and skill development programme for communities will be undertaken with an aim of addressing all REDD+ activities</div>	<div>Implementation Roadmap</div> <ul style="list-style-type: none"> Establishment of a NGC-REDD+ coordinating and guiding REDD+ Creation of a REDD+ Cell in the State Forest Departments Capacity building of all cadres of the SFDs Skill development of community youths for activities like ANR, tree nurseries, soil and moisture conservation, fire protection, weed, insects and pests, agro forestry, tree fodder production, NTFP management, bioenergy production, and biodiversity and ecotourism management activities Creation of additional infrastructure for SFDs, technical expertise, trained manpower for forest C measurement. 																																																				

This was a presentation from ICFRE

email: adg_bcc@icfre.org

Annex - IV**Presentation on REDD+ Working Group for North-Eastern States and future roads map****REDD+ Working Group for North-Eastern States and Future Road Map**

Dr. R. S. Rawat
Scientist Incharge
Biodiversity and Climate Change Division
Indian Council of Forestry research and Education, Dehradun

REDD+ Himalayas Project

- ICFRE is implementing ICIMOD sponsored 'REDD+ Himalayas Project: Developing and Using Experience in Implementing REDD+ in the Himalayas'
- Under this project, capacity building is being focused on North-Eastern States of India

REDD+ Working Group

Formation of REDD+ Platform is needed to initiate and scale-up REDD+ actions in North-Eastern States for providing guidance, knowledge sharing and support for implementation of REDD+ actions.

Accordingly, A REDD+ Working Group for North-Eastern States has been formed under REDD+ Himalayas Project.

Secretariat of the Working Group established at RFRI, Jorhat (Assam).

Structure of REDD+ Working Group

1. Director, RFRI, Jorhat	:	Chair
2. ADG (Biodiversity and Climate Change), ICFRE	:	Member
3. RD, FSI (Eastern Region, Kolkata)	:	Member
4. Representative of PCCF & HoFF, Assam	:	Member
5. Representative of PCCF & HoFF, Arunachal Pradesh	:	Member
6. Representative of PCCF & HoFF, Manipur	:	Member
7. Representative of PCCF & HoFF, Meghalaya	:	Member
8. Representative of PCCF & HoFF, Mizoram	:	Member
9. Representative of PCCF & HoFF, Nagaland	:	Member
10. Representative of PCCF & HoFF, Sikkim	:	Member
11. Representative of PCCF & HoFF, Tripura	:	Member
12. Prof. B.K. Tewari, NEHU, Shillong	:	Member
13. Representative from North-East based CSOs/NGOs	:	Member
14. Representative of Community (Khasi Hills REDD+ project)	:	Member
15. Scientist, RFRI, Jorhat (nominated by the Chair)	:	Member Secretary

ToR of the REDD+ Working Group

- Advise on technical and institutional supports for REDD+ readiness in North-eastern states
- Provide inputs from North-Eastern States for formulation of State REDD+ Action plan (SRAP), safeguard information system (SIS), forest reference emission level and forest monitoring system
- Guidance for implementing National REDD+ Strategy at state level, and inputs for preparation of a road map for REDD+ preparedness

-contd.-

-ToR Contd.-

- Necessary guidelines for formation of REDD+ Cell in the North-eastern States
- Provide inputs for development of REDD+ Learning Platform for exchange and sharing of knowledge
- Advise on REDD+ capacity building needs of stakeholders
- Explore the possibilities of REDD+ financing and guidance for development of REDD+ projects

FUTURE ROAD MAP

- Development of web based REDD+ Learning Platform for sharing of knowledge/ information
- Formation of State REDD+ Cell: Provide technical guidance to the States for formation of Cell.
- Capacity building needs of the states on REDD+
- Identification and formation of Expert Groups on MRV, SIS, Forest Reference Emission Level from North-Eastern States

Formation of State REDD+ Cell

Main objective of forming State REDD+ Cell is to create an enabling environment for implementation of all REDD+ readiness activities, including the implementation of National REDD+ Strategy and Safeguard Information System and preparation of SRAP etc.

Structure of REDD+ Cell

- | | |
|---|---------------|
| 1. Principal Chief Conservator of Forests & HoFF: | Chair |
| 2. PCCF (Planning/Budget) : | Member |
| 3. PCCF/ APCCF (nominated by Chair): | Member |
| 4. APCCF/ CCF (Monitoring): | Member |
| 5. Regional ACCF, MoEFCC or his representative: | Member |
| 6. Two REDD+ Experts (nominated by Chair): | Member |
| 7. Representative of prominent NGO: | Member |
| 8. APCCF/ CCF/ CF (In-charge of Afforestation): | Nodal Officer |



Thank you for kind attention

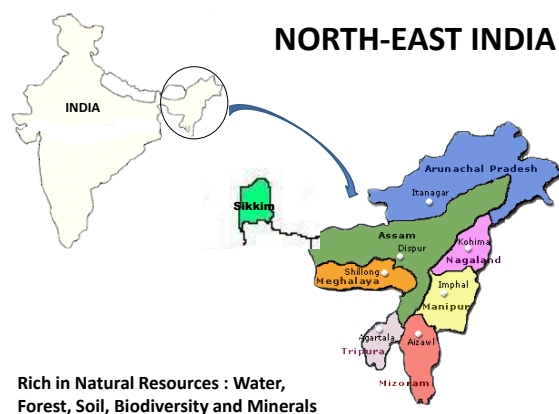


Annex - V

Presentation on Prospects of REDD+ projects in North East India

Prospects of REDD+ Projects in North East India

B. K. Tiwari
North-Eastern Hill University
Shillong



Some Features of North-Eastern India

- 8 States, 45.5 Million people (2011 Census)
- Geo. Area: 8% of India's Geo. Area (2,62,159 sq km)
- 2/3rd Upland, 1/3rd Lowland
- Immense Cultural Diversity with over 200 ethno-linguistic communities
- 50% of India's Biodiversity, High endemism
- 66 % of Geographical Area under forest cover
- 25% of India's Total Forest Cover
- Prevalence of strong Traditional Institutions/ Dual Governance
- Economy is basically Agriculture, limited Horticulture, Animal husbandry, Forestry and Crafts production.

A Region of Diversities

- Landscape diversity
- Climatic diversity
- Biodiversity
- Ethnic diversity
- Cultural diversity



MAJOR TRIBES OF NORTH EAST INDIA

States	Tribes
1 Arunachal Pradesh	Adi, Aka, Apatani, Bangani, Khamba, Khowa, Memba, Miji, Hill Miri, Mishang Miri, Shrokgpen, Sulong, Singpho, Tagin, Taga, Wancho, Yabin (Lisu), Zikhring (Meyor)
2 Assam	Chakma, Dimas, Garo, Hajong, Hmar, Khasi, Jaintia, Syntega, Pnar, War, Bhoi, Lynggam, Kuki tribes, Riag, Sairhem, Selam, Singon, Haolai, Hengsa, Hongsumgh, Hrangkkwal, Raokhol, Tongbe, Khawathlang, Khothahong, Khawchung, Khelma, Kholhou, Kipgen, Kuki, Lengthang, Lhangum, Lhojmon, Lhouvan, Miso, Riag, Sairhem, Selam, Singon, Sifon, Sukto, Thado, Thanggen, Uibush Vaiphei, Lakher, Man (Tai speaking), Any Mizo (Lushai), Mikir, Synteng
3 Manipur	Aimol, Anal, Angami, Chiru, Chetse, Gangte, Hmar, Kabui, Kacha Naga, Koirao, Koirang, Kom, Lamang, Mao, Maram, Maring, Lushai, Mossang, Moyon, Paite, Purum, Ralte, Sima, Simte, Suhte, Tangkhul, Thadou, Vaiphei, Zou
4 Mizoram	Chakma, Dimas Kachari, Garo, Hajong, Hmar, Kuki, Lushai, Karbi, Pawi
5 Meghalaya	Bhoi, Boro, Chakma, Dimas, Garo, Hajong, Hmar, Jaintia, Karbi (Mikir), Khasi, Koch, Lakher, Lynggam, Man (Tai speaking), Mizo (Lushai), Naga, Pawi, Pnar, Rabha, Synteng, Momba
6 Nagaland	Adi, Aka, Dimas, Galong, Garo, Khasi and Jaintia, Khowa, Kuki, Karbi, Mizo, Naga tribe (Ao, Angami, Chakhesang, Chang, Chiru, Khimnungan, Konyak, Lotha, Makwari, Phom, Rengma, Sangtam, Sema, Tikhir, Yimchungrree, Zeliang), Sytheng, Momba
7 Tripura	Bhoi, Bhutia, Chaimal, Chakma, Garo, Halam, Jamatia, Khasia, Kuki, Lepcha, Lushai Mag, Munda, Kaur, Nautia, Orang, Riag, Santal, Tripura, Tripuri, Tippera, Uchai

Indigenous Forestry in the NE

- High forest dependence
- Shifting cultivation – 25% of forestland
- Land Tenure & Forest Management strikingly different from Peninsular India
- Unbroken tradition of indigenous Community Forestry systems
- Recognized under Indian Law
- Local systems of forest protection



FOREST FIRE



FOREST- AGRICULTURE LANDUSE OVERLAP

Forest Cover by State (2015)

State	% of Total Forested Area	% Under Community Control
Arunachal Pradesh	80.30	62
Assam	35.20	33
Manipur	76.11	68
Meghalaya	76.76	90
Mizoram	88.93	33
Nagaland	78.21	91
Tripura	74.49	41
Sikkim	47.31	-

Poffenberger et al 2016

WORKSHOP ON PRINCIPLES AND PROCEDURES OF QUALIFYING FOR CARBON CREDIT BY REDUCING EMISSION FROM DEFORESTATION AND FOREST DEGRADATION (REDD) AND CLEAN DEVELOPMENT MECHANISM IN NORTH EAST INDIA

The three day workshop on "Reducing Emissions from deforestation and forest degradation (REDD) and Clean Development Mechanism (CDM) held during 9-11 Sep 2010 was attended by Senior and Mid level forest officers from four states of the North East – Arunachal Pradesh, Assam, Meghalaya and Nagaland.



Forest Management Context in NE India

Forest contexts (forest ha/cap.)	State	Dominant forest authority	Primary forestland use	Future strategies
Lowland plains (0.14-0.23)	Assam and Tripura	Forest Department Traditional institutions with little control, except in district council areas, otherwise forest management largely government driven	Mixed forests for timber production Monoculture plantations Protected areas	Joint Forest Management (forest protection committees; benefit sharing, national model) Joint protection in protected areas
Central and eastern hills (0.54-2.32)	Assam hill areas, Manipur, Meghalaya, Mizoram, Nagaland	Communities Traditional, strong control, and effective	Swidden/jhum land pool Nontimber forest products and domestic and local markets Sacred and watershed forests	Community forest management supported through JFM programs (indigenous institutions, special models)
Greater Himalaya (6.0)	Arunachal Pradesh	Forest Department and communities Traditional, loose control, and partially effective	Formal silviculture and traditional jhum: forest gathering systems Formal and indigenous conservation	Combination of JFM and community forest management strategies depending on legal status and capacity

REDD-plus Contexts & Possibilities in North East

- Reducing emission from deforestation
- Reducing emission from forest degradation
- Conservation of forest carbon stocks
- Sustainable management of forest
- Enhancement of forest carbon stock



Opportunities

- 75% of land belongs to moderately dense and open category
- In 2013, 71800 ha of forest land was experiencing degradation (Nagaland: 20100, Arunachal Pradesh: 11900 ha)
- Community control: lesser expenses on protection, attract high end buyers, benefit to poorer section of the society
- Degradation in Protected Areas and base line available for them
- NE India can capture large global market
- Wide spectrum of projects with different sizes
- Vast technical and skilled human resource
- Favourable climatic, edaphic conditions, fast tree growth

Challenges

- Lack of personnel trained in REDD+ business in government and also in traditional Institutions
- Low level of confidence between communities and government departments
- Ever increasing dependence of people on forests
- Securing finances for the project development and base line creation

What needs to be done in short run?

- There is a need for training of front line staff on principles and procedures of REDD mechanism
- Creation of awareness and capacity building of various stakeholders viz., the local community is desirable
- Creation of data and technical know-how for putting together REDD+ projects
- Networking among the academicians, consultants, NGOs and forest departments may be required for taking the project forward.



Annex - VI

Presentation on REDD+ Pilot Project in Mizoram & Preparation of SRAP for the State

REDD+ Himalayas: Developing and using experience in implementing REDD in the Himalayas

REDD+ Pilot in Mizoram & preparation of SRAP

M.Z.Singson
Head, FRCBR, Mizoram

REDD+ Project

- REDD+ project with collaboration from ICIMOD with a regional mandate is implemented in Bhutan, India, Myanmar and Nepal.
- In India, partnership is for REDD+ capacity building focusing on Uttarakhand & Mizoram

Objectives :

- Development of methods for calculating, modeling and forecasting carbon storage;
- Developing instruments in preparation for regional REDD-plus readiness
- Working towards harmonization in the region, exchange experience and mutual learning on good REDD-plus implementation practices

Target Group and Project Activities

- Main target group – drivers of deforestation and forest degradation (i.e. Shifting cultivators)
- Awareness programmes on REDD+ & Climate Change in project villages
- Orientation Programme for Developing State REDD+ Action Plan'
- Solar dryer (150 kg capacity) installed at Reiek to promote turmeric cultivation
- Creation of shaded coffee plantations at Reiek & Ailawng villages (20 ha.) in coordination with SFD

Project activities ..contd..

- Survey on cost & benefit analysis - 444 Nos. of house holds completed questionnaires
- 7 villages covered under HH survey viz. Ailawng, Reiek, Chungtlang, Khawhrihnim, Sihphir, Phulpui & Thiak
- Field data collection on growth & biomass study of bamboo
- Development of bamboo dia.-biomass equation

Project activities ...contd...

- Turmeric processing machine for Ailawng village
- Carbon inventory data from different land uses/ forest types
- Training workshops on modalities of REDD+ in MRV conducted in project villages
- Bilingual (English-Mizo) brochures on REDD+
- Bamboo research plot with 3 spp. (*B. mizorameana*, *D. longispathus* & *D. strictus*) created for growth studies

Inauguration of Solar dryer at Project site





Inauguration of solar dryer cum awareness programme on REDD+



REDD+ MRV trainings at Reiek & Chungtlang Villages



<p style="text-align: center;">REDD+ Publications</p> 	<p style="text-align: center;">State REDD+ Action Plan (SRAP) for Mizoram</p> <ul style="list-style-type: none"> • REDD+ Himalayas' project activities include formulation of SRAP for Mizoram and Uttarakhand States • ICFRE and SFD, Mizoram initiated the process in coordination with ICIMOD to develop India's first SRAP for Mizoram • SRAP is based mainly on a multi-stakeholder and multi-sectorial consultative process 												
<p style="text-align: center;">Multi-stakeholders' consultation for SRAP</p> 	<p style="text-align: center;">Methodology</p> <ul style="list-style-type: none"> • SRAP development - based on a multi-stakeholder consultation process • Stakeholders include - Environment, Forest & Climate Change Department, local organizations, research institutions, universities and local community members • Process involved a series of workshops, jointly organized by ICFRE, ICIMOD and SFD • It resulted in a set of Intervention Packages (IPs), including state-level feasibility analysis, risk mitigation-measures, monitoring plans and budget for its implementation • Comprises five main steps - indicated below 												
<p style="text-align: center;">Main steps</p> <table border="1" data-bbox="220 1167 772 1491"> <thead> <tr> <th>Main Steps</th><th>Process/activities</th></tr> </thead> <tbody> <tr> <td>Step A: Prepare Initial consultation and inception workshop</td><td>Train facilitators, select workshop participants and commission preparatory studies</td></tr> <tr> <td>Step B: Analyze Expert analysis reviewed and endorsed by SHs</td><td>Analyze satellite imagery maps, discuss and prioritize drivers of D&FD and constraints to forest (biomass) enhancement. Undertake and analyze stakeholder and institutional analysis Identify and prioritize D&FD hotspots</td></tr> </tbody> </table>	Main Steps	Process/activities	Step A: Prepare Initial consultation and inception workshop	Train facilitators, select workshop participants and commission preparatory studies	Step B: Analyze Expert analysis reviewed and endorsed by SHs	Analyze satellite imagery maps, discuss and prioritize drivers of D&FD and constraints to forest (biomass) enhancement. Undertake and analyze stakeholder and institutional analysis Identify and prioritize D&FD hotspots	<table border="1" data-bbox="847 1137 1353 1503"> <tbody> <tr> <td>Step C: Plan Develop REDD+ activity package; identify risk and mitigation measures</td><td>Identify SRAP intervention packages, analyze implementation, social and environmental risks (complying with REDD+ safeguards), and risk mitigation measures</td></tr> <tr> <td>Step D: Monitor Develop monitoring protocol and indicators</td><td>Develop monitoring plans for the SRAP activities or IPs for the risk reduction and benefit enhancement measures</td></tr> <tr> <td>Step E: Budget and approval SRAP approval from District REDD working group</td><td>Detailed activity plan and budget for each and every IPs for 5 years operational plan, Formulate SRAP document for approval, Endorsement of SRAP</td></tr> </tbody> </table>	Step C: Plan Develop REDD+ activity package; identify risk and mitigation measures	Identify SRAP intervention packages, analyze implementation, social and environmental risks (complying with REDD+ safeguards), and risk mitigation measures	Step D: Monitor Develop monitoring protocol and indicators	Develop monitoring plans for the SRAP activities or IPs for the risk reduction and benefit enhancement measures	Step E: Budget and approval SRAP approval from District REDD working group	Detailed activity plan and budget for each and every IPs for 5 years operational plan, Formulate SRAP document for approval, Endorsement of SRAP
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<p style="text-align: center;">Evolution of SRAP in India</p> <ul style="list-style-type: none"> • FAO (2010)- India has the tenth largest area of forest cover in the world, but India also faces problems of deforestation and forest degradation. • India has 16 major forest types and 221 sub-forest types (Champion and Seth, 1968). • One of 17 'megadiverse' countries (identified by Conservation International 1998) with four global biodiversity hotspots. • Protected Area network includes 102 National Parks, 515 Wildlife Sanctuaries, 47 Conservation Reserves extending over 16 million hectares (mha) • Covering almost 5% of the national geographical area. • India joined the UN-REDD+ Programme in 2009, and in March 2018 the draft NRS submitted to the Ministry of Environment, Forest and Climate Change has been approved. • In the NRS it is stated that one of the main objectives is to create REDD+ architecture at the National and Sub-National levels to support REDD+ actions, and that states should prepare REDD+ action plans. 	<p style="text-align: center;">Preparation of SRAP for Mizoram</p> <ul style="list-style-type: none"> • FRCBR and SFD jointly organized a 3 days' multi-stakeholders' consultation workshop • Workshop participants were from SFD, FRCBR, line departments, MZU, local NGOs, ICFRE and ICIMOD • Participants were divided into 3 WGs to work on – <ul style="list-style-type: none"> A. Deforestation drivers & underlying causes B. Forest degradation drivers & underlying causes C. Barriers to forest carbon enhancement • Drivers of D&FD were analysed and prioritized • Main barriers to forest carbon enhancement activities were also listed 												

SRAP, Mizoram...

- Prioritization of drivers and barriers provided the basis for SRAP
- It defines the 'key challenges' for generating positive carbon, social and biodiversity outcome

Results of priority drivers and barriers (to enhancement) identified for Mizoram State

- Direct drivers of deforestation: topographic factors, traditional farming methods, and limited livelihood options.
- Direct drivers or causes for forest degradation: shifting cultivation, forest fire, and fuelwood and NTFP collection.
- Barriers to enhancement: socio-cultural aspects and tradition, lack of economic resources, and topography.

Priority key challenges

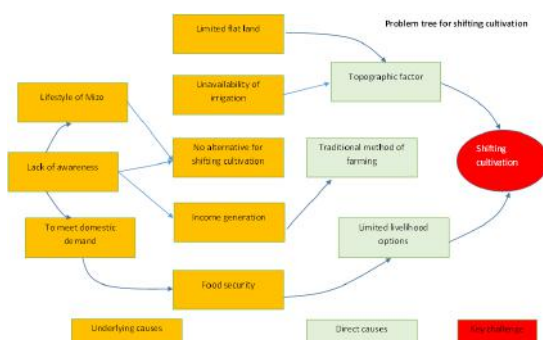
Participants' scoring system identified following 3 priority key challenges –

1. Shifting cultivation (as a direct driver of deforestation and forest degradation)
2. Forest fire (as a direct driver of forest degradation)
3. Lack of adoption of settled agriculture (as a barrier to enhancement activities)

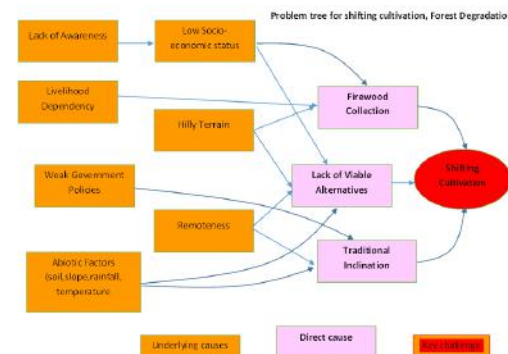
Development of Problem & Solution Tree

- Identified key challenges provided basis for further analysis
- It helped in development of problem tree and solution tree
- On the basis of problem & solution trees, REDD+ Intervention Packages (IPs) were identified
- These IPs form the basis for Mizoram SRAP

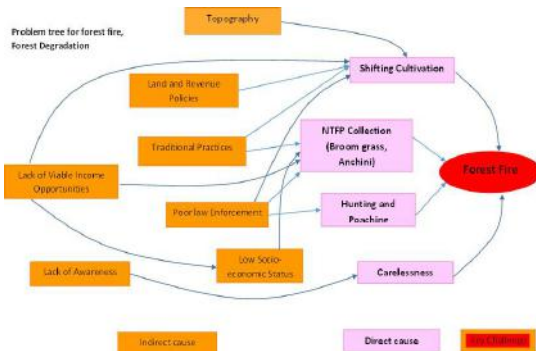
Problem tree for shifting cultivation D



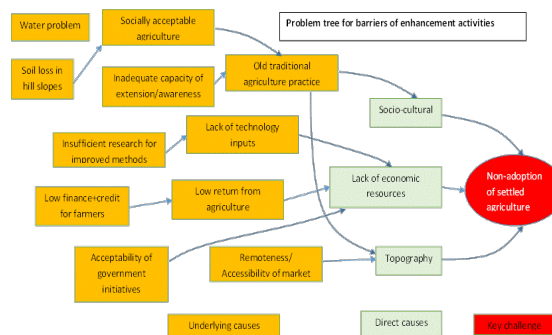
Problem tree for shifting cultivation FD



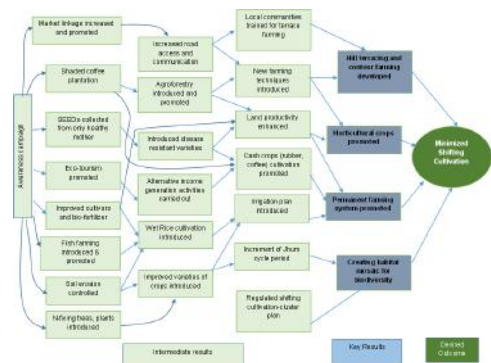
Problem tree for forest fire FD



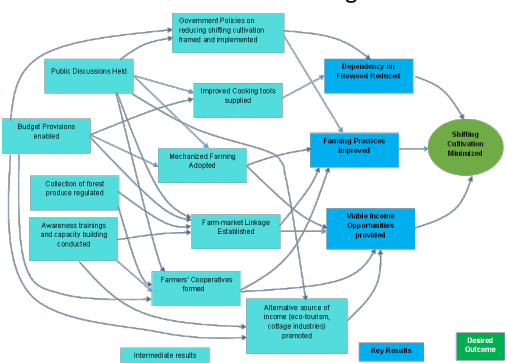
Problem tree for barriers to enhancement



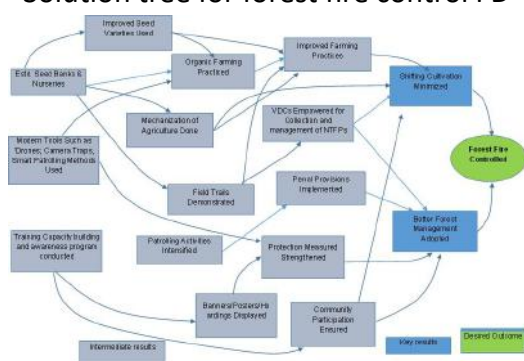
Solution tree to minimize shifting cultivation D



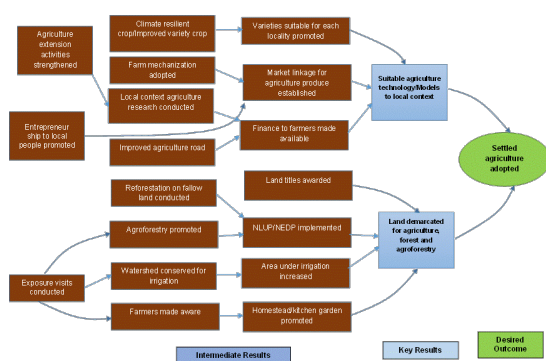
Solution tree to minimize shifting cultivation FD



Solution tree for forest fire control FD



Solution tree for barriers of enhancement activities



Outcomes for Mizoram SRAP

- From the four sets of problem and solution trees, the following four desired outcomes were identified
 1. Minimized Shifting Cultivation (to address Deforestation)
 2. Minimized Shifting Cultivation (to address Forest Degradation)
 3. Forest Fire Controlled (to address Forest Degradation)
 4. Settled Agriculture Adopted (to address barriers to enhancement activities)

Intervention Packages (IPs)

- 1) Sustainable land management and cropping pattern
- 2) Adoption of horticultural crops
- 3) Creation of habitat mosaic for biodiversity conservation
- 4) Livelihood improvement
- 5) Forest fire control and management
- 6) Sustainable energy supply
- 7) Market linkages for agriculture
- 8) Improvement of land entitlements

Strategies & outputs for IPs

IP1. Sustainable land management and cropping pattern :

- Adoption of terracing/contour and permanent farming system
- Production of vermi-compost/organic manure
- Promotion of agroforestry and enrichment plantation
- Expansion of wet rice cultivation (WRC) with fish farming

Strategies & outputs for IPs..

IP 2. Adoption of horticultural crops :

- Promotion of high value cash crops
- Value addition of horticultural crops

IP 3. Creation of habitat mosaic for biodiversity conservation :

- Regulation of Jhuming cycle
- Improving In-situ conservation of flora and fauna
- Promotion of nature based tourism

Strategies & outputs for IPs..**IP 4. Livelihood improvement :**

- Imparting skill development programmes and trainings
- Improvement of land entitlement to forest dependent local communities (direct dependent users that depend on forest for bonafide livelihood needs)
- Improvement of supported cooperatives/self-help groups/micro-finance for livelihood

Strategies & outputs for IPs..**IP 5. Forest fire control and management :**

- Community capacity building and involvement in forest fire management
- Management mechanism for forest fire mitigation
- Boundary demarcation of government notified forest areas and community land

Strategies & outputs for IPs..**IP 6. Sustainable energy supply :**

- Improved supply of LPG and ICS
- Firewood supply for local communities
- Promotion of agroforestry and enrichment plantation

IP 7. Market linkages for agriculture :

- Provision of financial and technical assistance
- Improved market access to cooperatives
- Market identified and linkage established


Strategies & outputs for IPs..**IP 8. Improvement in land entitlements :**

- Land demarcation for agriculture, forest and agroforestry
- Effective implementation of land use policies and economic development programmes

Proposed budget for 5 yrs.

Sl. No.	Department	Activity/IP	Proposed budget (Rs.in crore)
1	EF&CC	Creating habitat mosaic for biodiversity, forest fire control & sustainable energy supply	78.17
2	Agri.	Sustainable land management with cropping pattern , improvement of livelihood & market linkages	148.96
3	Horti.	Promotion of cash & fruit crops	23.08

WGs for SRAP**Visit of ICIMOD & ICFRE officials to Mizoram****Team of stakeholders for SRAP**

<p>Relevant State level stakeholders</p> <p><u>Government Institutions</u></p> <ol style="list-style-type: none"> 1. State Forest Department 2. Agriculture Department 3. Animal husbandry Department 4. Horticulture Department 5. Land resource, Soil and Water Conservation Department 6. Local Administration Department 7. Rural Development 8. Sericulture Department 9. Commerce and industries department 10. Public Work Department 11. Revenue Department 12. Power and Electricity 	<p>Stakeholders, Mizoram Contd...</p> <p><u>Non-Government Organisations</u></p> <ul style="list-style-type: none"> • Young Mizo Association • Environment and Biodiversity NGOs • Mizo Hmeichhe Insuihkhawm Pawl <p><u>Research and Academy</u></p> <ul style="list-style-type: none"> • FRCBR • Mizoram University • ICAR –KVK • CAU – Veterinary and Horticulture College • ZEDA-Zoram Energy development Agency • MIRSAC-Mizoram Remote Sensing Application Centre • RIPANS-Regional Institute of Paramedical and Nursing Sciences
<p>Stakeholders, Mizoram Contd...</p> <p><u>Private Sectors</u></p> <ul style="list-style-type: none"> • Bamboo and Cane industries • Teak planters Association • Commercial planters of - • Tea • Coffee • Oil palm • Rubber • Arecanut • Broomstick & Horticultural crops • Wood based industries • Charcoal and vinegar producers 	<p>Thanks</p> 



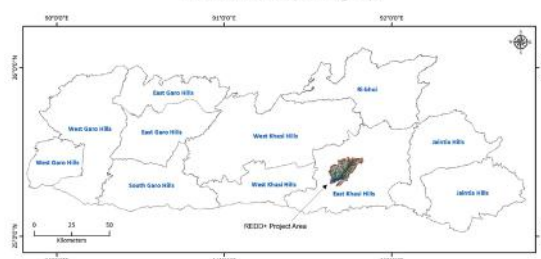
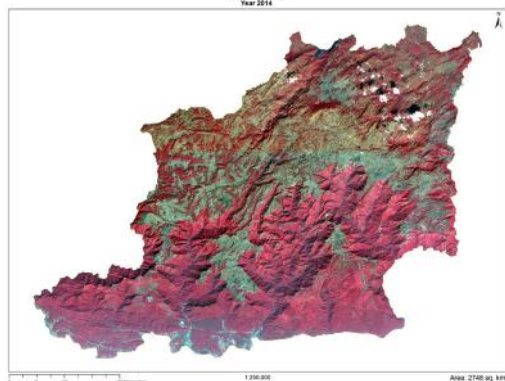
Annex - VII

Presentation on Experience of Mawphlang Khasi Hills Community REDD+ project

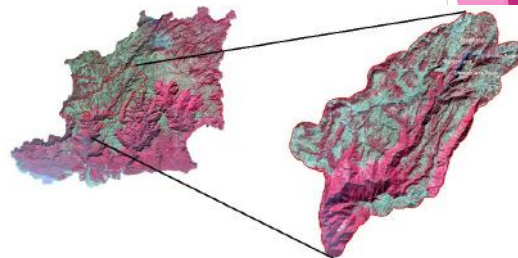
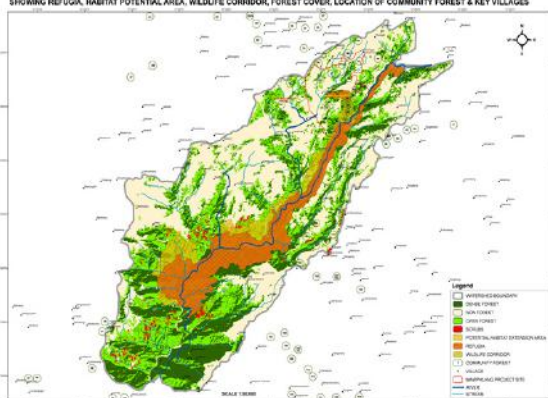
EXPERIENCE OF MAWPHLANG KHASI HILLS
COMMUNITY REDD+ PROJECT

Presented By:
Tambor Lyngdoh
Chief Community Facilitator (CCF)
Khasi Hills Community REDD+ Project
Mob: 9863082456
Email: tamborlyngdoh70@gmail.com

Khasi Hills REDD+ Project in Meghalaya

EAST KHASI HILLS DISTRICT
ROADS LISTED IN IMAGE
Year 2014

Project Area

MAP OF CLIMATE ADAPTATION AREA OF UMAM SUB-WATERSHED, KHASI HILLS, MEGHALAYA, NORTH EAST INDIA,
SHOWING REFUGIA, HABITAT POTENTIAL AREA, VALUABLE CORRIDOR, FOREST COVER, LOCATION OF COMMUNITY FOREST & KEY VILLAGES

Khasi Hills Community REDD+ Project Boundary

Project Location: East Khasi Hills, Meghalaya,
India

- ▶ Project Implementer:
- ▶ Ka Synjuk Ki Hima Arliang Wah Umiam, Mawphlang Welfare Society (FEDERATION)
- ▶ Headquarter :
- ▶ Mawphlang, East Khasi Hills, Meghalaya, India
- ▶ Position:
- ▶ First Community Based Carbon Project in India
- ▶ Certification :
- ▶ Plan vivo, Standard, England

Project Overview

Total Project Area + Buffer Zone = 27,139 ha. In 2010

Total Forest Cover = 15,217 ha.

Dense forest = 9,270 ha

Open forest = 5,947 ha

The Net CO₂ Additionality per year on account of Avoided Deforestation and Degradation and Afforestation = 25,000 - 50,000 metric Tons of CO₂ per year

Based on initial projection, an additional 318,247 tCO₂ will be generated between 2010-2021.

Genesis of Khasi Hills Community REDD+ Project



Photographs of a section of the Cultural Operation at Lumlaitsohpoh area taken during 2007 & 2009 showing change in vegetation (Note increase of Crown Cover)

May 2007 (N 25 26 50.7, E 91 43 59.9)

October 2009 (N 25 26 50.7, E 91 43 59.9)



Photographs of quarrying area of the Project Site, before and after closure (Note the resultant landslides edging towards the Sacred Grove above and subsequent stabilization of landslide area)



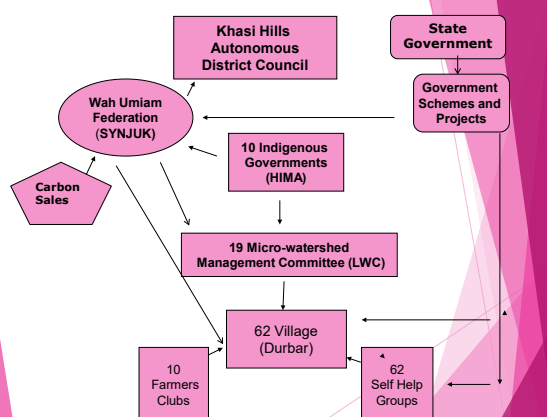
Catchment Area of Mawphlang GSWS Dam



Intake Station of Mawphlang Dam



Meeting of Hima (Traditional)Heads



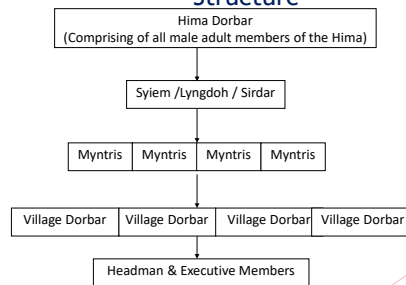
TENURE STATUS OF COMMUNITY FOREST GROUPS

- Under the Sixth Schedule of the INDIAN Constitution, District Councils are empowered to Manage all forest not being Reserved Forests
- In Meghalaya only 05% of forests are Reserved Forests, the remainder are under community management

SYNJUK MEETING

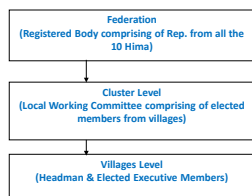


Khasi Indigenous Institution Governance Structure



18

Khasi Indigenous Institution Governance Structure with New REDD+ Organizations



19

REDD+ Awareness Program Formation of LWC Cluster

VILLAGE LEVEL MEETING
Consensus arrived

Cluster LEVEL Meeting



Drivers and Mitigation Measures

Main Drivers

- ▶ Forest Fires
- ▶ Fuel-wood collection
- ▶ Quarrying
- ▶ Grazing
- ▶ Erosion & loss of biomass
- ▶ Destruction of endangered species habitat

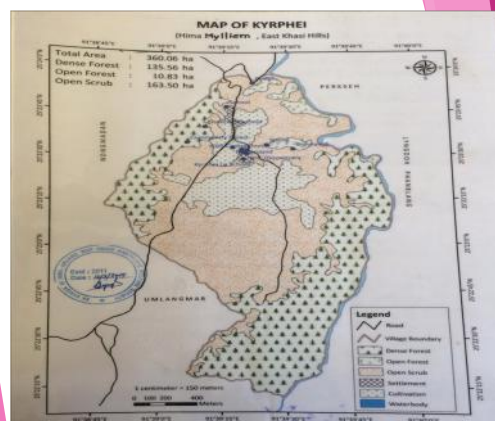
Mitigating Measures

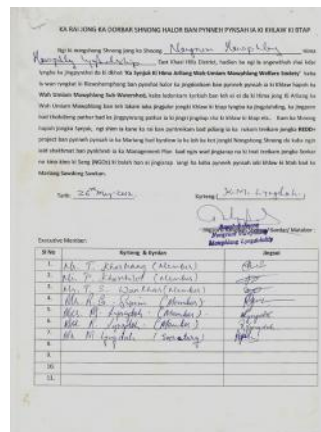
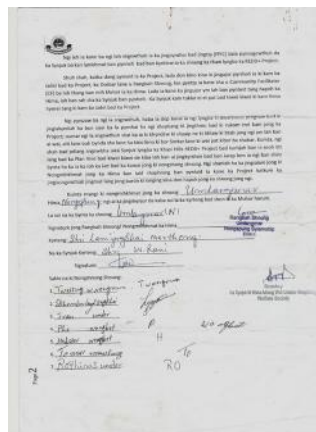
- Traditional Control Burning, fire-lines, social controls
- Fuel efficient stoves/LPG
- Banned or regulated
- Animal exchange & Stall feeding
- Vegetative check dams & afforestation
- Rehabilitation & protection of habitats of rare orchids & amphibians

Community Facilitators' Meeting



PRA Activities at Village & Cluster Level





The main aims and objectives

- ▶ **Build community capacity** to implement resource planning system and mitigation activities in order to reverse deforestation and degradation in 9,270 ha. dense forest (under REDD)
- ▶ **Assist communities to implement** varieties of forest monitoring, protection and restoration and facilitate the regeneration of 5,947 ha. of degraded forests lands (under ANR
- ▶ **Implement soil conservation measures** to check soil erosion and to improve the hydrological function of the Umiang Sub-watershed through PES or carbon sales
- ▶ **Enhance the economic conditions** of the participating households targeting the lowest Forest depending families. Support sustainable enterprise development communities through microfinance and sustainable farming and forestry systems.
- ▶ **Improve environmental services** including the protection of endangered flora and fauna species found in the area through PES or carbon sales

People's ACTIVE participation

- ▶ On the success of Mawphlang Pilot Project Other Indigenous Hima are coming forward requesting for extension
- ▶ Drivers of deforestation addressed
- ▶ Mitigating measures listed, fully operating in the whole project area
- ▶ Meetings convened and consensus arrived
- ▶ Formation of SYNJUK (Federation) complete

Validation Complete in 2012

Plot Monitoring Training

Plot Monitoring During Validation



This is to certify that the **Khasi Hills REDD+ Project**, located in India, and coordinated by **Ka Synjuk Ki Hima Arliang Wah Umiang, Mawphlang Welfare Society**, has been registered as a Plan Vivo project.

Registration date: 31st March 2013 | Project ID: PV_2012_009

Signed on behalf of the Plan Vivo Foundation: *Kathleen Edie, Program Manager*

The Plan Vivo Foundation registers and reviews projects against the Plan Vivo Standard. Continued Plan Vivo registration is conditional upon the annual submission and acceptance of project reports by the Plan Vivo Foundation, and to view the current registration status of a project, visit the Plan Vivo website or contact the Foundation (<http://www.planvivo.org>). The Plan Vivo Foundation is a charity registered in Scotland (charity number: SC040155). Registered office: 180 Leith Street, Edinburgh EH16 6AE www.planvivo.org

Strategies Developed

Routine
Published/Declared

Maps distributed



Cluster Level Meetings /LWC Meetings



Team Meetings

2014

2017



Youth Volunteers Orientation and Training

Female

Male



Carbon Monitoring System

- ▶ Creation of permanent plots
31x 31m in dense forests and open forest (0.1 ha)
Measurement to be done every year. On ground
Calculation process/ model and format designed.
Formula by FSI
- ▶ Instruments like GPS, DBH tape, Tape, and
ribbons available
- ▶ Forest Monitoring team formed and training
complete
- ▶ Photo Monitoring on each plots
- ▶ Satellite image analysis be done every fifth year

Carbon Stock counted from 2 Pools

- ▶ 1. Above Ground Biomass
- ▶ 2. Below Ground Biomass
- ▶ Annual Carbon Increment:
- ▶ 1. 3.88 TCo₂ (ANR)
- ▶ 2. 35.69 TCo₂ Dense Forest

The Verification Team during November 2016



Plot Monitoring during verification



Five Years Verification Complete 2017



Sainding bad Pomtap



Fire lines

Year	Length(km)
2014-15	53
2015-16	66.51
2016-17	88.5
2017-18	68.84
Total	276.85

Sl.no	Hima	2010	2011	2012	2013	2014	2015	2016	2017	2018
1	Mawphlang	20	1.7	4	1.5	9.1	0.4	2.30	11	20
2	Nonglwai	3	NIL	NIL	NIL	NIL	NIL	NIL	NIL	5
3	Lyngiong	2.4	6.8	2.3	1.6	1.9	NIL	8	NIL	2
4	Mylliem	NIL	NIL	NIL	5	NIL	0.8	0.2	NIL	5
5	Pamsanngut	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL
6	Laitkroh	6	7	9	NIL	1.6	4	2	5	6
7	Sohra	NIL	NIL	43	14	NIL	NIL	0.41	NIL	1
8	Mawbeh	35	75	30	40	107	NIL	NIL	NIL	2
9	Nongspung	NIL	3	NIL	NIL	NIL	NIL	NIL	NIL	1
10	Nongkhaw	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	2
Total		66.4	93.5	88.3	62.1	119.6	5.2	12.91	16	39.5

SILVICULTURAL ACTIVITY



Silvicultural Activities

Year	Ha
2016	40
2017	200
2018	200



Home Based Nursery (600 Saplings Per Unit)

Home Based Nursery

Year	Units
2016	134
2017	125
2018	54

Year	Volume (tons)	Region
15-Jun-19		
17-Jun-19	2,462	T2 North, Sweden
09-Aug-19	200	Claremont, UK
10-Sep-19	1,308	Baculmura, UK
22-Jun-19	1,220	Caramica Sant'Agostino, Italy
18-Jul-2014	400	Zero Mission, Sweden
30-Jun-19	300	C Level
15-Jun-19	4,404	T2 North, Sweden
15-Jun-19	200	Esmeralda, UK
10-Jun-19	200	COTAP, USA
10-Jun-19	300	Caramica Sant'Agostino, Italy
11-Jun-19	404	COTAP, USA
22-Jun-19	300	C Level
22-Jun-19	300	Caramica Sant'Agostino, Italy
03-Jul-19	200	Zero Mission
13-Jun-19	15,000	Zero Mission, Sweden
10-Jun-19	200	COTAP, USA
10-Jun-19	2,100	W-Forest, Belgium
03-Jul-19	4000	Zero Mission
09-Jun-19	300	Zero Mission
15-Jun-19	300	Caramica Sant'Agostino, Italy
07-Jul-19	2,100	Prosecco, W-Forest
10-Jun-19	600	COTAP, Oakland California
10-Jun-2017	6,200	Zero Mission
09-Jul-2017	800	C Level Solutions
10-Jun-2017	1,400	Consp
04-Jul-2017	200	Zeromission
07-Jul-2017	9,700	Zero Mission
09-Jul-2014	1,800	W-Forest
15-Jul-2018	300	Zero Mission

Biodiversity

ANR

Year	Target	ANR Area
2014	500	350
2015	500	500
2016	500	500
2017	300	139
2018	500	117.84

EAST KHASI HILLS DISTRICT
FSI Fire Points

PROJECT AREA
FSI Fire Points

Community Development Grant

2014 Carbon Fund Utilization in Laitsehphah, (KSKHAWU-MWS)

Rice cooker and LPG about 800 families has benefitted till 2017

Distribution of Grants

LPG	272
Rice Cooker	299
Smokeless chula	200

SHGs MEET & FEST

2016



2017



Training on Piggery, Poultry etc.

Socio Economic

Outsource Trainers



Poultry and poultry products



Vermicomposting unit and Piggery



Various Forestry Training imparted

Training on energy consumption, plot making, biodiversity count, photography, HBN and mapping.



1165 trees by schools students and 40000 trees by the communities

Tree Adoption by School Children



Training on Photography



Monitoring Activities Carried out (in Forestry)

- ▶ Monitoring of Fuelwood Consumption
- ▶ Monitoring of Charcoal Making
- ▶ Creating and Monitoring of Fire Lines
- ▶ Monitoring of Biodiversity
- ▶ Identification of Traditional Herbal Healers
- ▶ Monitoring of LPGs, Smokeless Chulas and Electric Rice Cookers
- ▶ Monitoring of Landslides area in the Quarrying site
- ▶ Monitoring of Home Based Nursery
- ▶ Monitoring of Tree Plantation
- ▶ Monitoring Drinking water sources

Plots

- ▶ 10 Shannon index plots in the project area.
- ▶ 90 temporary plots Plan vivo. 120 permanent plots and more will be added.
- ▶ 6 Shannon index plot in the extension area.

Fuel Wood Monitoring

Fuel-wood monitoring in different house holds



Five Year Impact Survey Results Against Targets:
Khasi Hills Community REDD+ Project Indicators

Type of Indicators	Survey Result		Five year target -2016 & 2021	
	2011	2016	2016	2021
SHG Member in the family	29%	NA	Increase to 35%	50%
Money invested in Bank	48%	85%	Increase to 60%	95%
HH with Improved cook stove	14%	19%	Increase to 25%	50%
HH producing charcoal	15%	5%	Decrease to 10%	5%
Forest fire in the past year	74%	29%	Decrease to 50%	10%
Fuelwood collection rules in CF	30%	89%	Increase to 50%	75%
Hunting rules in CF	69%	98%	Increase to 90%	100%
Knowledge of the Federation	10%	75%	Increase to 50%	95%
Attends CF Meetings	31%	72%	Increase to 80%	75%

Monitoring Activities Carried out (in Socio Economic)

- ▶ Formation & Monitoring of Farmers Clubs
- ▶ Formation & Monitoring of SHGs
- ▶ Monitoring of Fruits trees Plantation
- ▶ Monitoring on Poultry and Piggery
- ▶ Monitoring and Evaluating Micro Enterprises
- ▶ Identifying Progressive Farmers
- ▶ Identifying Entrepreneurs
- ▶ Monitoring on VKRs

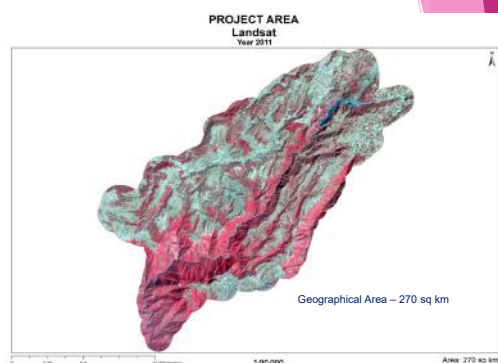
Other Activities

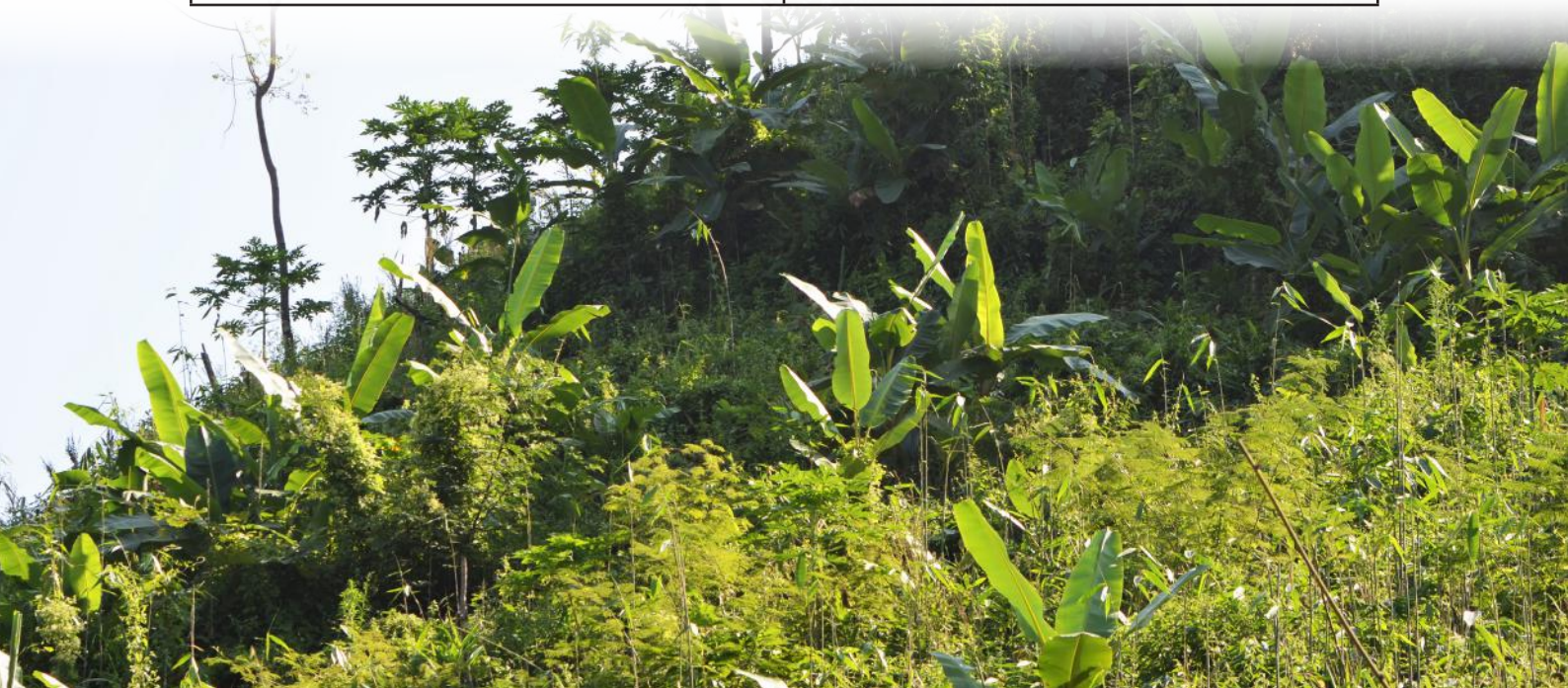
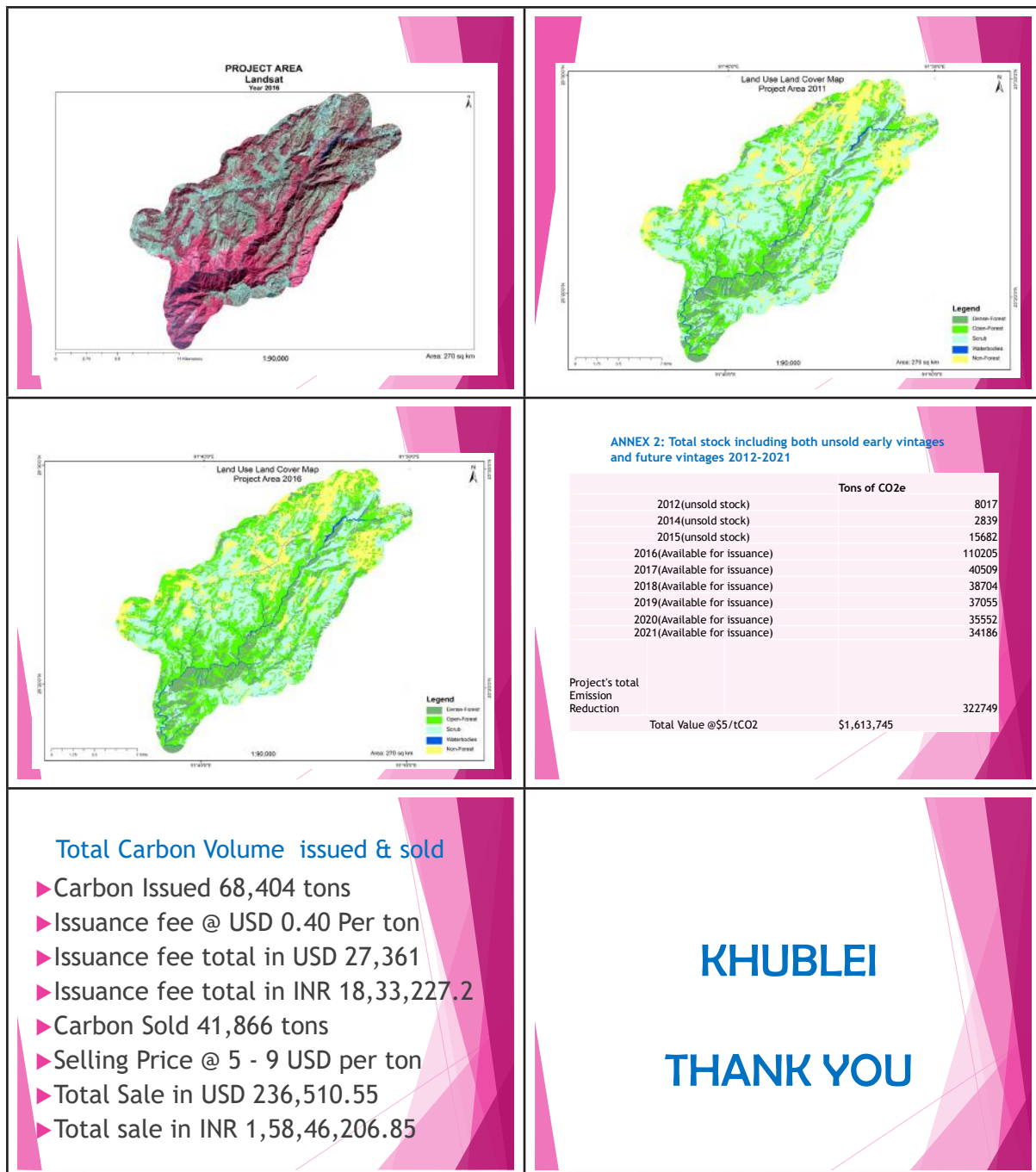
- ▶ Revival of Sacred Groves
- ▶ Identification of Eco Tourism Spots
- ▶ Confluence of Herbal Healers
- ▶ Organising various trainings programme at project area in collaboration with Government and Private agencies.
- ▶ Skill training programme to various training centers.

Convergence Initiatives

Shade Net

Peaches



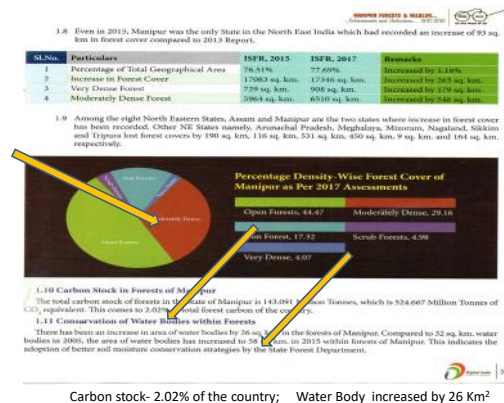
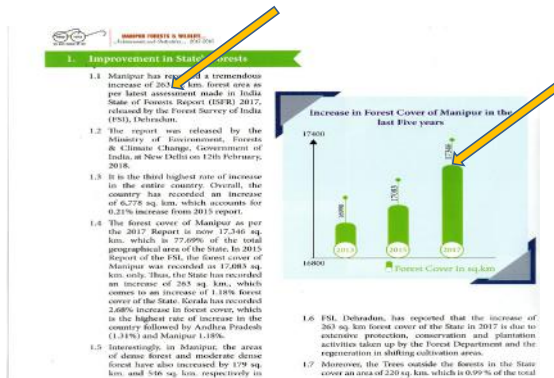
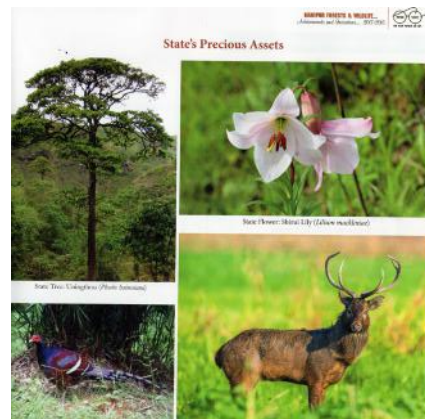


Annex - VIII

Presentation on Activities connected with REDD+ Manipur

Activities connected with REDD
Plus- Manipur

Dr. Lokho Puni IFS
Forest Department
Government of Manipur



Mandate of Forest Department

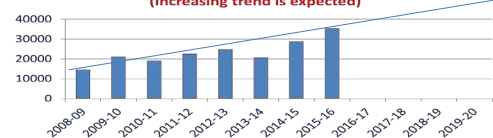
1. Revenue Collection
2. Protection of Forests
3. Preservation Forests
4. Restocking Forests
5. Afforestation
6. Control of Jhum
7. Soil and Water conservation
8. Protection & Preservation of Wildlife

Drivers of Deforestation

1. Firewood
2. Charcoal
3. Timber Harvest from Unclassed Forest areas
4. Jhum Cultivation
5. Development works

Deforestation

Fuelwood extraction & Transportation to the Valley areas of Manipur in Cum (Increasing trend is expected)



Fuelwood extraction is a major driver of Deforestation
Bound to increase with time



Realities cannot be denied



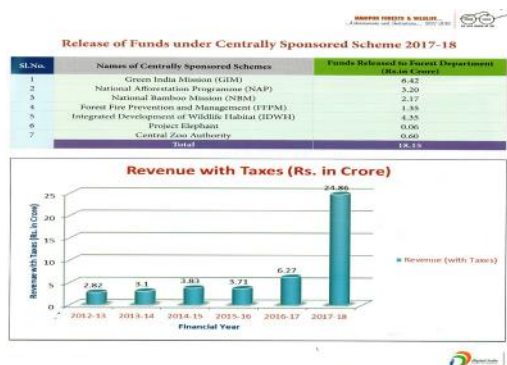
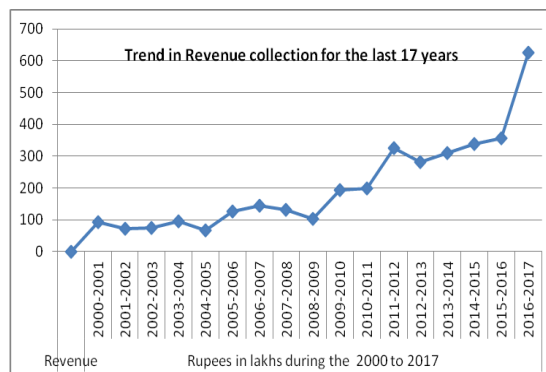
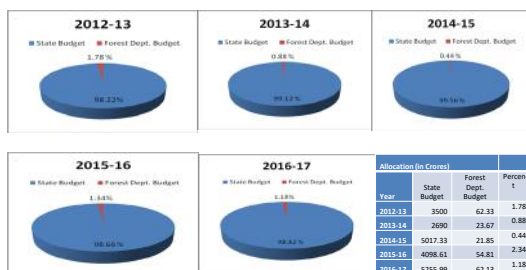
End Results of Fuel-wood extraction & Charcoal making



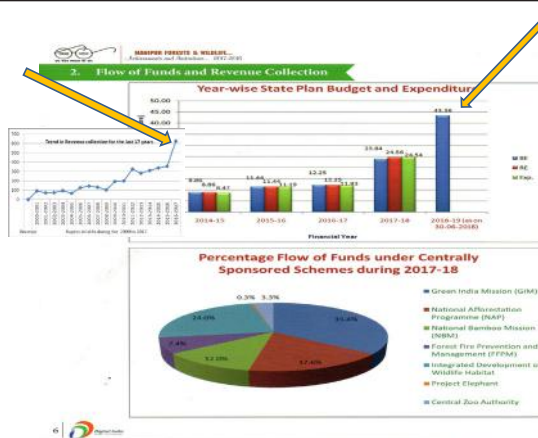
Jhum control has been a challenge for the state

Development Investments

Annual Budget Allocation (in Crores)		
Year	State Budget	Forest Dept. Budget
2012-13	3500	62.33
2013-14	2690	23.67
2014-15	5017.33	21.85
2015-16	4098.61	54.81
2016-17	5255.99	62.13



Positive co relation Revenue generation versus Budget allocation



Much Effort to mobilize tree plantation with people

4.2 Vana Mahotsava

- Under its annual "Vana Mahotsava" programme, the Department has taken up mass plantation drive by encouraging people including students to plant trees in areas other than forests like farmlands, community lands, schools, playgrounds etc. by free distribution of seedlings and technical support.
- On 7th July 2017, a record breaking plantation of about 1.10 lakh seedlings was done in a day all over the State.

4. Afforestation				
4.1 To increase the forest cover and improve growing stock, the Forest Department has taken up extensive afforestation programmes as follows:				
Sl.No.	Name of Scheme/Programme	Nature of Scheme	Area of Plantation (in Ha.)	Area of Maintenance (in Ha.)
1	National Afforestation Programme (NAP)	CSS	1733	1413
2	CAMPA	CSS	6930	
3	Green India Mission (GIM)	CSS		7937
4	Restocking of Reserve Forest	State	566	
5	Social Forestry Plantations for horticultural and fodder	State	136	720
6	National Bamboo Mission (NBMM)	CSS		3000

- CSS - Centrally Sponsored Scheme.

Special effort to increase tree cover TOF

Due attention given to Forest Protection

Forest fire prevention and control given adequate attention

Protection of wildlife and its habitat is given due attention

Quality Control has been given much effort

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Department of Forests & Wildlife
Imphal, Manipur - 795 001

5.9 Indian Forest Act (Manipur Amendment) Bill, 2016

To strengthen the protection network for forest and streamline the regulatory mechanisms for movement of forest produce, this Bill was moved by the Department and it was tabled and passed in the Manipur Legislative Assembly in February during Budget Session 2016, which would improve enforcement of forest laws in the State.

5.10 Manipur Forest Protection Force

The State Government has also given a positive attention on the request of the Department for raising a dedicated "Manipur Forest Protection Force". Director General of Forests (DGF) & Special Secretary, Ministry of Environment, Forests and Climate Change, Government of India, during his visit to Manipur in March, 2016, has also assured of all possible assistance to the State for raising the Forest Force.

Protection of Reserved Forest through Eviction is given due attention

6. Economic Development of People

6.1 Investments in MFP Sector

In order to bring investment in MFP sector, the Department has entered into a (four) Memorandum of Understanding (MoU) with various local investors for development of MFPs during North East Development Summit (NEDS) in November 2017.

Sl. No.	Particulars of MoU	Signed with
1	Agar wood plantation, distillation and production of essential oil	HSMM Group of Companies, Laos PDR
2	Commercial Production of Charhals, tissue culture and production of essential oil	HSMM Group of Companies, Laos PDR
3	Production of Bio fuels (Ethanol) from bamboo	Namailghat Refinery Limited (NRL)
4	Maximum support price for minor forest produce	TRIFED

The Department has followed up thereafter and taken actions within the policies and legal framework.

As a follow up action of MoU with HSMM Group of Laos PDR for Agarwood Plantation and Production of Essential Oil, the DPR for an investment of Rs. 22.50 Crore in a period of 4 years, has been submitted by the Company. The State Government has already granted "The principle" approval to it. The project aims to raise nurseries and plantations of Agarwood on the leased land of about 625 hectares (Community lands, farm lands and lands under social forestry), extract essential oil by setting up a Distillation Plant, use Agarwood chips etc., and improve the income and employment of local communities by involving them in plantations and production.

Since the project pertains to Foreign Direct Investment (FDI), the proposals have been sent to Department of Economic Affairs, Ministry of Home Affairs, Ministry of Commerce & Industry, and Ministry of Environment, Forests & Climate Change in Government of India for essential clearances through the State Government.

Moreover, under the MoU with TRIFED for minimum support price in selected Minor Forest Products, the Department has already sent one proposal to TRIFED for Beem which is likely to benefit the people in Tawanglung, Chanchangdip and Pherazad Districts.

For the MoU with Namailghat Refinery Limited (NRL), the action is awaited from the NRL.

6.2 MFP Development

Under the project of National Medicinal Plant Board (NMPB) in Kangpokpi Forest Division, nurseries of medicinal plants have been raised in 14 villages for plantations over 800 ha. Moreover, modern nurseries have also been created in 4 villages in three forest ranges.

Further, 2 (two) days State Level Workshop on Medicinal Plants for FMC Members and Field Staffs was organized on 26th - 27th February, 2018 at Indira Gandhi National Tribal University, Regional Campus, Mahan, Mamaw, a 2 (two) days State Level Conference on Medicinal Plants for Stakeholders was also organized on 27th - 28th March.

Large scale Agarwood Plantation with Laos Government and at Local Levels

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A workshop, Godown and Drying shed has been constructed for medicinal plants at Sadi Ching, Bishongpur Forest Division under NMPB. This will help villagers in drying, storage and value addition of medicinal plants. It was inaugurated by Shri Sikkhandu Das, IFS, Director General of Forests & Special Secretary, MOEFCC, Government of India on 25th March, 2018.

6.3 Employment Generation

In 2017-18, the Forest Department under its various activities have generated employment for 41,30,000 (four million 41 thousand) for about 7 (seven) months in the year, as the forestry activities are seasonal in nature.

The Department has also formulated an Action plan to develop skilled workers in forestry and encourage more entrepreneurs. The Action Plan targets training and employment of more than 73000 individuals in a period of three years. The Action Plan has been submitted to the State Mission for Employment, Housing and Drinking Water for consideration.

Much effort made to create More Employment in Planting trees

7. Clearances of Development Projects

7.1 Altogether 10 development projects have been approved/cleared for non-forest purposes under Wildlife (Protection) Act, 1972 and the Forest Conservation Act, 1980 during 2017-18.

7.2 Total 1,86,178 hectare of forest area has been cleared for non-forest purposes.

7.3 The approved projects included constructions in following sectors:-

Sl. No.	Name of Development Project	Area in Hectare
1	Construction of 11 km long Baraboi - Tugul - Imphal Railway Line	1,00,000
2	Construction of 1.04 m span steel super structure bridge at Km 143.09 over Barak and 122 m span steel super structure bridge at Km 149.00 over Mahabir Imphal-Johpur Road section on NH-37 by NHIDCL	6.3
3	Upgradation of Diphaiha Streeted C-9 Road (40.8 Km) to enhanced C-9 specification under GSETFP	58.56
4	Alternate bypass of NH 30/32/28 Km. section) Wangjing to Sing by NHIDCL	60,400
5	Widening and improvement of 65.80 Km. Section of NH-39 (Imphal - Aizawl)	26.51
6	Widening and improvement of NH-39 of 26.56 Km. section from Khongkhong to Mureh & alternate alignment of 24.40 Km. Site of Chongkhong by NHIDCL	96,027
7	Rehabilitation and Upgrading of existing 2 lane of Khongkhong, Tawanglung section of NH-137	89,436
8	Construction of 19.11 KV Sub-station with associated 33 KV line at Chongkhong	0.27
9	Construction of 112 KV Link Transmission Line for evacuation of power from 400/132 KV Sub-station at Bhemdi to 132 KV Sub-station at Kachong and Chandel on existing 132 KV line from Kachong to Kachong on turnkey basis in favour of Manipal State Power Company Limited Imphal	9,423

Forest Conservation Act effectively implemented

8. Externally Aided Project - Watershed Treatment and Development

- 8.1 A new Externally Aided Project with funding from KfW Bank of Germany has been approved for Kangpokpi and Ukhrul Forest Divisions.
- 8.2 The project would cover about 100 identified villages in the two Divisions for watershed treatment and development with a project cost of about Rs. 256 Crore in a period of 11 years.
- 8.3 The project will be implemented from 2018-19 financial year.

Efforts made to secure springsheds of the state

9. Protection & Conservation of Wildlife and Development of Eco-tourism

9.1 Community Reserves

The year 2017-18 may be attributed as the year of the "Community Reserves". The decentralized means of management of Protected Area Network, where one-step route with the Village Management Committee but with commitment for the protection of forest and conservation of wildlife. In return, the Forest Department goes to the village with some developmental schemes.

It is a kind of win-win situation for both i.e. the Forest Department and the Villagers. During 2017-18, total 18 (eighteen) new "Community Reserves" involving an area of about 92.71 sq. km. have been notified under Wildlife (Protection) Act, 1972 in Senapati and Tawanglung Districts.

This has helped the Forest Department in increasing the Protected Area Network in the State from 3.8% to 4.2% of the total geographical area of the State.

The Forest Department has also been successful to convince some Village Authorities in Ukhrul and Churachandpur to come forward for declaration of the areas as Community Reserves.

The 8 (eight) new Community Reserves notified during 2017-18 are as follows:

Sl. No.	Name of Community Reserve	District	Area In Sq. Km.
1	Chidwai & Vemait	Senapati	2.28
2	Banerechhes Oram Village	Senapati	2.10
3	Soti Khro Koudon Village	Senapati	2.04
4	Chipetran	Senapati	0.64
5	Houphai	Senapati	3.23
6	Anaram	Tawanglung	5.85
7	Shangmrai	Senapati	7.80
8	Mekrimet Bu & Kakramai Bu	Senapati	72.46
	Total		92.71

9.2 Keibul Lamjao National Park

During the year, the Forest Department has taken up intensive actions in habitat management of Sangai and promoting eco-tourism in Keibul Lamjao National Park (KILNP). As per 2016 population estimation, the population of Sangai has increased to 260 which includes 75 Stags, 127 Hinds and 58 Ewys. The population estimation exercise is conducted after every two years. The Sangai Estimation Exercise -2018 has been completed in March 2018 end with involvement of about 60 Volunteers, Experts, Researchers etc., and for this exercise the results would be available by

Special Attention given to Declare more areas under Community Reserves

9.3 Manipur Zoological Garden, Imphal

Manipur Zoological Garden, Imphal (Imphal) is an important place of ex-situ conservation of wildlife, education, research and recreation. Compared to 99,218 visitors in Manipur Zoo during 2016-17, the number of visitors during 2017-18 has increased to

Involving Local people in Forest & Wildlife Protection is an additional venture

9.7 Wildlife Week Celebrations

To sensitize the people towards conservation of wildlife, 'Wildlife Week' was celebrated from 2nd - 10th October, 2017 across the State for the first time with a theme "Celebrate Rights of Wildlife". High participation from the media has an encouraging factor which may perhaps lead to more awareness among next generation for conserving forests and wildlife.

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- The construction of enclosure for Sloe Loris has been taken up with funding from Central Zoo Authority (CZA). The designs and dimensions of Sloe Loris has been determined having due regard to the biological behaviour of the species and the number to be housed therein as per specification of CZA.
- Construction of rest shed for Spotted deer, Sambar deer; Construction of stand-off barrier of Yag deer enclosure; Covered leopard enclosure; Bear enclosure; Repair of leopard enclosure; vitrified enclosure; painting of Jackal enclosure; Eagle enclosure; Bear enclosure; public toilet complex; toilet complex; Construction of 30 Rin drainage; Installation of new signposts in front of all enclosures, have also been taken up.

Among new initiatives for better health of Zoo inmates, the ground, behaviour and health parameters of the sloe loris have been monitored on regular basis. The Zoo Administration arranged regular expert supervision by the Directorate of Veterinary & Animal Husbandary Services, Govt. of Manipur on mainly basis for better health management of zoo inmates.

Vaccination programme for domesticated animals around the Zoo area has been taken up on regular basis against Foot and Mouth disease, Rabies etc. Movement medical check up of staff involved in the handling of zoo animals, has also been conducted.

Manipur Zoological Garden celebrated Zoo Foundation Day on 2nd October, 2017 involving students and children from all the districts on the theme "Celebrate Rights of Wildlife" to start the celebration of Wildlife Week 2017 across the State of Manipur. 14 schools participated for the Zoo Foundation Day.

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The students/ children were facilitated to watch animals, enjoy and learn. The Media houses such as ISTV, DDK Imphal interviewed the students/ children about their experience at Zoo.

Manipur Zoological Garden celebrated World Wildlife Day on 3rd March, 2018 under the UN's theme "Big Cats - Predators under threat". Manipur Zoological Garden also observed World Forestry day on 21st March, 2018 on the theme "Forests and Sustainable Cities".

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People Centric Approach to Promote Eco-Tourism

In February, 2018, a team of senior officers of the Forest Department has visited remotely located Wildlife Sanctuaries namely, Kailash (Phozaw), Buning (Thanglong) and Zeilad (Thanglong) to meet villagers and children from all the districts on the theme "Celebrate Rights of Wildlife" to start the celebration of Wildlife Week 2017 across the State of Manipur. 14 schools participated for the Zoo Foundation Day.

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Assessment of Wildlife - 2017-2018

9.9 Protected Area (PA) Network Maintained During 2017-18

Sl.No.	Protected Area	District	Area in Sq. Km.
1	Kailash National Park	Bishnupur	40.00
2	Shirui National Park	Ukhrul	100.00
3	Bri-Makru Wildlife Sanctuary	Tamenglong	198.00
4	Bameng Wildlife Sanctuary	Tamenglong	113.90
5	Yangsohpa Lokchun Wildlife Sanctuary	Chandel (Tengnoupal)	184.80
6	Zeilad Wildlife Sanctuary	Tamenglong	21.00
7	Kailash Wildlife Sanctuary	Churachandpur (Phozaw)	137.50
8	Khongjainga Wildlife Sanctuary	Bishnupur	0.41
9	Phanmat Community Reserve	Senapati	2.16
			647.68

Ex-Situ Conservation Centres Maintained During 2017-18

- Manipur Zoological Garden, Imphal - 0.08 sq. km.
- Rangai Captive Breeding Centre, Imphal - 0.06 sq. km.
- State Orchidarium, Khongjainput, Imphal - 0.50 sq. km.

Initiatives for Climate Change Adaptation and Mitigation

A five days Training Course of Forest Officers on "Climate Change Adaptation for Natural Resource Management" was organized by Forest Department from November 10th-17th, 2017. It was sponsored by the Department of Science & Technology (DST) through Indian Institute of Forest Management (IIFM), Bhopal. Field visit to Phayeng Village where climate change adaptation and mitigation projects are being implemented in the State, was very relevant.

The participants were Forest officers and officers from different Government Departments including Non-Governmental organizations who can carry forward the effort of climate change adaptation activities especially in the field of Natural Resource Management. Total 31 (thirty three) officials and non-officials participated in the programme.

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Assessment of Wildlife - 2017-2018

Landslide Treatment

Serakhong village was affected by a landslide which was triggered by incessant rain during the first week of April, 2017. Forest Department, Manipur, attempted a venture during the third week of April, 2017 to stabilize the land through vegetative means to stabilize the land make it useful again.

Nature Learning Centre

A new ambitious project of "Nature Learning Centre (NLC)" has been approved by the Central Government under "National Mission on Himalayan Studies". The project would spread its activities across the State by involving village chiefs, civil societies, school teachers, students, media personnel, politicians and administrators towards the cause of protection and conservation. The Project Office will be based at Imphal.

Land slide treatments to preserve forest is tried

National Afforestation Programme

Year	Physical in ha	Financial in lakh
2002-2003	2800	200
2003-2004	4800	200
2004-2005	4800	200
2005-2006	4800	200
2006-2007	4800	200
2007-2008	6200	200
2008-2009	6200	200
2009-2010	2800	200
2010-2011	1800	200
2011-2012	3800	200
2012-2013	4200	200
2013-2014	3800	200
2014-2015	2800	200
2015-2016	1800	200
2016-2017	2800	200

National Bamboo Mission

Year	Physical in ha	Financial in lakh
2006-07	2000	500
2007-08	2200	500
2008-09	2000	500
2009-10	2000	500
2010-11	4000	500
2011-12	3500	500
2012-13	3500	500
2013-14	3500	500
2014-15	2000	500
2015-16	2000	500
2016-17	2000	500

Miscellaneous Activities

Way forward:

- Identify all spring sheds and develop scientific intervention plan and implement
- Initiate and process formation of Community Forests in Unclassed Forest areas
- Carrying out special review/drive on wood based industries
- Regulation of fuel-wood consumption by industries
- Finalization of Forest Development Corporations
- Development of Natural Resources management plans
- Revive the dormant JFMCs and Revisit the activities of JFMCs
- Plant long rotation trees for Compensatory Afforestation areas to meet ecological needs
- Find ways for involvement of private parties to plant more trees
- Plant more trees which bears NTFPs
- Expand PAN
- Plan strategy for short rotation crops to reduce dependence of wood from forests
- Activate Public Private Partnership mode extension Research to increase green cover and income generation through plant resources
- Rubber Plantation.....

All forestry activities in the state are part of REDD +

Concluded

Thank You



Glimpses of the Meeting



Introduction of the members by Dr. D.J. Das, Member-Secretary



Welcome address by Dr. R.S.C. Jayaraj, IFS, Director & Chairman



Shri V.R.S. Rawat, Expert Consultant, REDD+ Himalayas Project delivering his presentation



Dr. B.K. Tewari and Shri V.R.S. Rawat inaugurating the REDD+ Secretariat of the working Group



REDD+ Working Group members in the REDD+ Secretariat



Dr. R.S. Rawat, Scientist In-charge, Biodiversity and Climate Change Division, ICFRE delivering a presentation on the broad theme



Dr. B.K. Tiwari, NEHU explaining the prospects of REDD+ projects in North-East India



Shri M.Z. Singson, Head, FRC-BR, detailing on the REDD+ pilot project in Mizoram



Experience sharing by Shri Tambor Lyngdoh, Member (Khasi Hills REDD+ project)



Views shared by Dr. Lokho Puni, IFS, Member (Manipur)



Shri W.S. Manner, Member (Meghalaya) detailing on the REDD+ Meghalaya pilot project at Umket



Views sharing by Shri Ravi Kumar, Member (Sikkim)



Release of RFRI Booklet on *Toona ciliata*



Discussion amongst the Members of REDD+ Working Group



Felicitation to Dr. B.K. Tewari



Felicitation to Shri V.R.S. Rawat



Felicitation to Ms. Davinder Suman, IFS (Assam)



Rapporteurs of the meeting



Group Photograph of Members and participants of the REDD+ Working Group Meeting





