

Minutes of the Meeting

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



ICIMOD

giz Deutsche Gesellschaft
für Internationale
Zusammenarbeit (GIZ) GmbH

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. Dhruva 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 unclassed 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 props 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. Dhruva 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

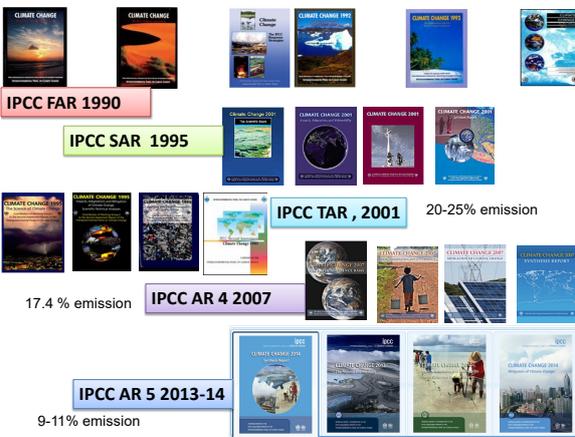


REDD: Reducing Emissions from Deforestation and Forest Degradation

Background of Negotiations Under UNFCCC

The Agenda of REDD

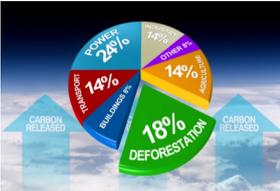
- Avoided Deforestation was discussed in the side events of UNFCCC in COP 9 (2003)
- Agenda Item on **“Reducing emissions from deforestation in developing countries: Approaches to stimulate action”** first presented in COP 11 Montreal (2005) in response to request of Papua New Guinea and Costa Rica



IPCC 4th Assessment Report (2007)

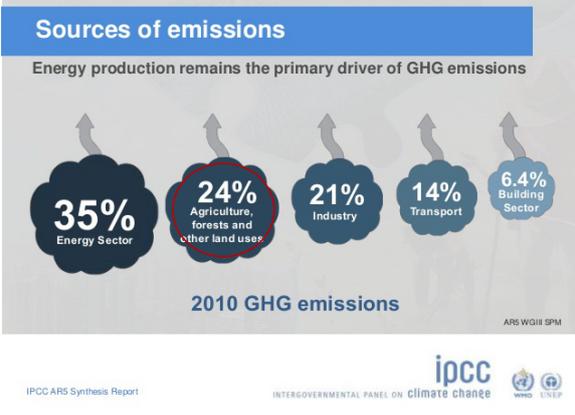
Share of different sectors in total anthropogenic GHG emissions in 2004 in terms of CO₂ equivalent

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



2010 GHG emissions

IPCC AR5 Synthesis Report

REDD:

“Compensated Reduction”

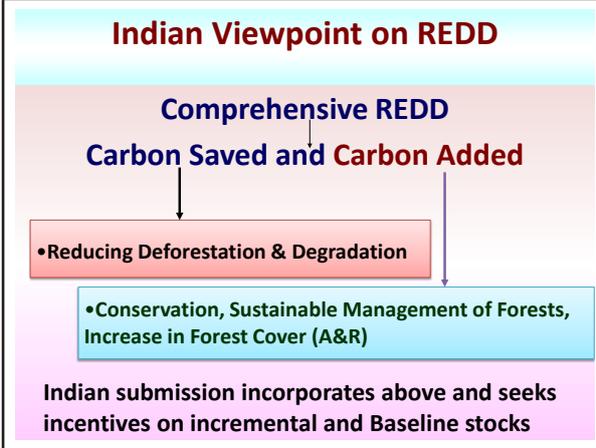
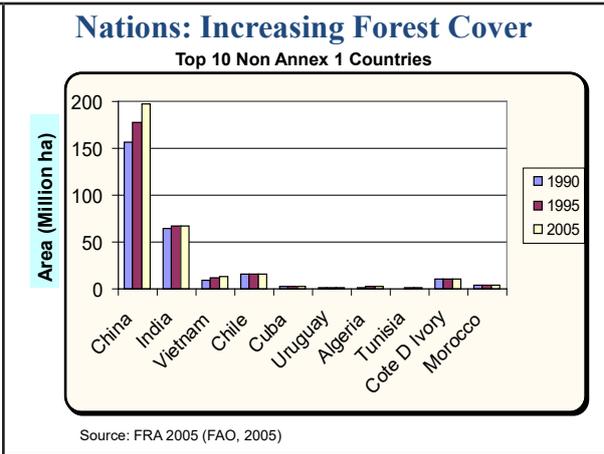
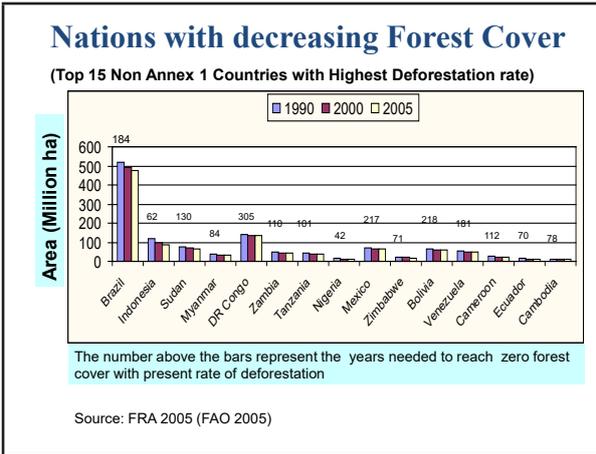
Financial incentives to Developing countries

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



Bali and after

Main issues under discussion

COP 13: December 2007

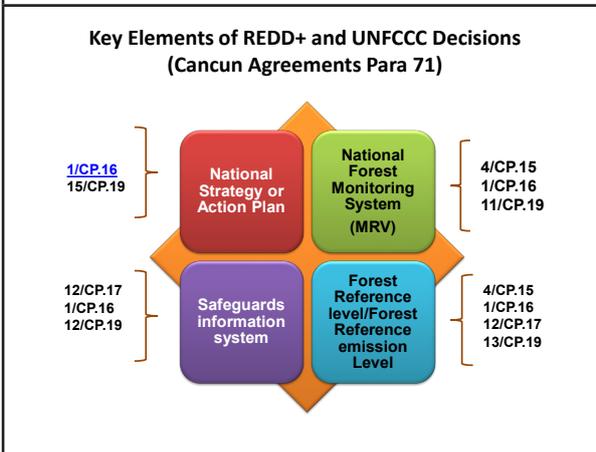
Bali Action Plan: "...Policy approaches and positive incentives on issues relating to reducing emissions from deforestation and forest degradation in developing countries; and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries..."

[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)

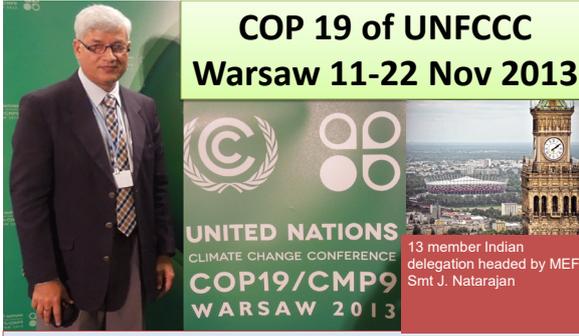
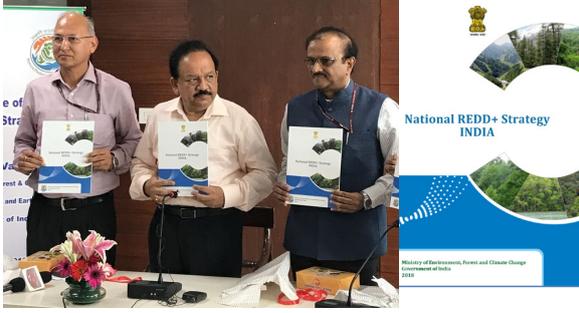
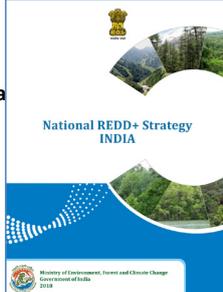
- Reducing emissions from deforestation;
- Reducing emissions from forest degradation;
- Conservation of forest carbon stocks;
- Sustainable management of forest;
- Enhancement of forest carbon stocks;

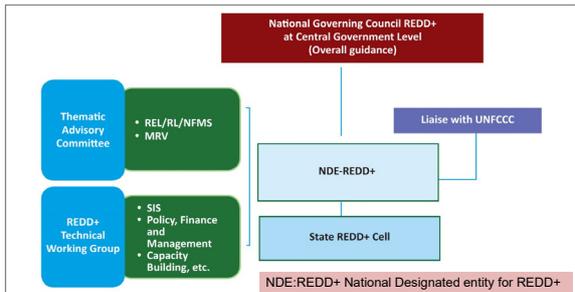


Cancun forestry decisions....

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>13 member Indian delegation headed by MEF Smt. J. Natarajan</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>National REDD+ Strategy INDIA</p> <p>Ministry of Environment, Forest and Climate Change Government of India 2018</p>	<p>Key Elements of REDD+</p> <p>Developing country parties aiming to undertake REDD+ activities to develop the following elements:</p> <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> 
<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 

<p>The Strategy: Implementation approach</p> <p>REDD plus activities to be implemented in three phases:</p> <ol style="list-style-type: none"> 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). <p>Funding under UNFCCC mechanism for phased approach GCF, UN-REDD, Bilateral, multilateral, Public, private</p>	<p>The Strategy: REDD+ Activities to be considered</p> <ul style="list-style-type: none"> • Reducing emissions through deforestation • Reducing emissions through forest degradation • Conservation of Forest carbon Stocks • Sustainable Management of Forests • Enhancement of Forest carbon Stocks 														
<p>Section 3: The Strategy: Sub-national REDD+ Approach At Physiographic zone level</p> <table border="1"> <tr><td>1. Western Himalayas</td></tr> <tr><td>2. Eastern Himalayas</td></tr> <tr><td>3. North East:</td></tr> <tr><td>4. Northern Plains</td></tr> <tr><td>5. Eastern Plains</td></tr> <tr><td>6. Western Plains</td></tr> <tr><td>7. Central Highlands</td></tr> <tr><td>8. North Deccan</td></tr> <tr><td>9. East Deccan</td></tr> <tr><td>10. South Deccan</td></tr> <tr><td>11. Western Ghat</td></tr> <tr><td>12. Eastern Ghat</td></tr> <tr><td>13. West Coast</td></tr> <tr><td>14. East Coast</td></tr> </table> 	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	<p>Section 3: The Strategy.....describes about</p> <ul style="list-style-type: none"> • Infrastructure required • Trained human resource and Capacity building • Creating a new cadre of Community Youth • Green Skill Development Programme
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<p>Section 3: The Strategy..... Finance</p> <p>Finance will be mobilised internally by allocation through GIM, CAMPA, <i>Namami Gange Programme</i>, Green Highways Policy, etc.</p> <p>The deficit in finance to meet REDD+ implementation will be sourced through external funding from Green Climate Fund (GCF) under UNFCCC mechanism.</p> <p>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</p>	<p>Section 3: The Strategy: Addressing Drivers of Deforestation and Forest Degradation</p> <p>The effective policy, legal and management framework for managing these drivers</p> <p>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.</p> <p>Prime Ministers Ujjwala Scheme to provide free LPG connections Promoting Use of improved cook stove</p> <p>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</p>														
<p>Section 4: Implementation Framework</p> <ul style="list-style-type: none"> • Conformity with UNFCCC decisions • Conformity with national policy, legal framework and National Circumstances 	<p>Section 4: Implementation Framework</p> <p>Creation of a REDD+ Governing Structure at Central Government Level</p> 														

<p>Section 4: Implementation Framework</p> <p>Composition of NGC-REDD+ shall be as follows</p> <table border="0"> <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> <p>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.</p>	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	<p>National Designated Entity for REDD+:</p> <table border="0"> <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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<p>Section 4: Implementation Framework</p> <p>State REDD+ Cell to be established</p> <p>The strategy devolves major responsibility for execution of REDD+ activities and measurement of their performance on the State Forest Departments. States will create a REDD+ Cell in the State Forest Department, and appoint a Nodal Officer to coordinate the activities of the State REDD+ Cell</p>	<p>Section 4: Implementation Framework</p> <p>State REDD+ Cell</p> <p>The strategy devolves major responsibility for execution of REDD+ activities and measurement of their performance on the State Forest Departments. States will create a REDD+ Cell in the State Forest Department, and appoint a Nodal Officer to coordinate the activities of the State REDD+ Cell</p> <table border="0"> <tr><td>1. Principal Chief Conservator of Forests & HoFF</td><td>:</td><td>Chairman</td></tr> <tr><td>2. Two PCCF (Research/Planning/Climate Change)</td><td>:</td><td>Member</td></tr> <tr><td>3. PCCF/APCCF (Incharge of Forest Protection)</td><td>:</td><td>Member</td></tr> <tr><td>4. APCCF (Monitoring)</td><td>:</td><td>Member</td></tr> <tr><td>5. Regional APCCF, MoEFCC</td><td>:</td><td>Member</td></tr> <tr><td>5. Representative from regional ICFRE Institution</td><td>:</td><td>Member</td></tr> <tr><td>6. Representative from regional office of FSI</td><td>:</td><td>Member</td></tr> <tr><td>7. Representative of the forestry based local Community Groups</td><td>:</td><td>Member</td></tr> <tr><td>8. Representative of the local NGO</td><td>:</td><td>Member</td></tr> <tr><td>9. APCCF (Incharge of Afforestation)</td><td>:</td><td>Nodal Officer</td></tr> </table> <p>States to develop their S-RAP</p>	1. Principal Chief Conservator of Forests & HoFF	:	Chairman	2. Two PCCF (Research/Planning/Climate Change)	:	Member	3. PCCF/APCCF (Incharge of Forest Protection)	:	Member	4. APCCF (Monitoring)	:	Member	5. Regional APCCF, MoEFCC	:	Member	5. Representative from regional ICFRE Institution	:	Member	6. Representative from regional office of FSI	:	Member	7. Representative of the forestry based local Community Groups	:	Member	8. Representative of the local NGO	:	Member	9. APCCF (Incharge of Afforestation)	:	Nodal Officer																						
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<p>Section 4: Implementation Framework</p> <p>Key Players:</p> <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 <p>Strengths and infrastructure of FSI, IGNFA, IIFM, SFDs, State Forest Research Institutes and Forestry Universities in building capacity of stakeholders will be mobilised</p> <p>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</p>	<p>Implementation Roadmap</p> <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. 																																																				
<p>This was a presentation from ICFRE</p> <p>email: adg_bcc@icfre.org</p> 																																																					

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

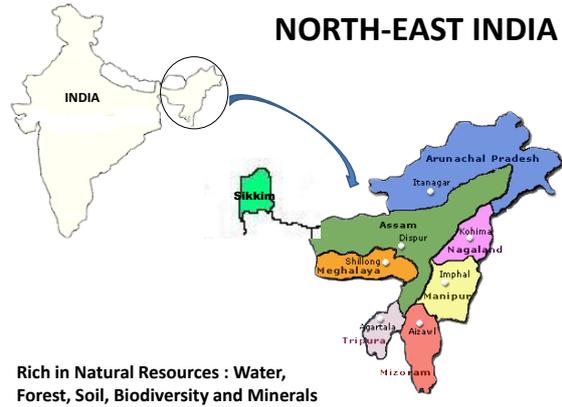


Annex - V

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, Shrukpen, Sulong, Singpho, Tagin, Tagas, Wancho, Yobin (Lisa), Zikhring (Meyor)
2 Assam	Chakma, Dimassa, Garo, Hajong, Hmar, Khasi, Jaintia, Syntega, Pnar, War, Bhoi, Lynggam, Kuki tribes, Riang, Sairhem, Selnam, Singson, Haolai, Hengza, Hongsumgh, Hrangkkwal, Raokhol, Tongbe, Khawathlang, Khoitahong, Khawchung, Khelma, Kholhou, Kipgen, Kuki, Lengthang, Lhangam, Lhojjem, Lhoovam, Misoa, Riang, Sairhem, Selnam, Singom, Sifou, Sukto, Thado, Thuanggen, Uibush, Vaiphei, Lakher, Man (Tai speaking), Any Mizo (Lushai), Mikir, Synteng
3 Manipur	Aimol, Anal, Angami, Chiru, Chethe, Gange, Hmar, Kabui, Kacha Naga, Koira, Koirang, Kom, Lamang, Mao, Maram, Maring, Lushai, Mossang, Moyon, Paite, Purnam, Ralte, Sima, Simte, Suhte, Tangkhul, Thadou, Vaiphei, Zou
4 Mizoram	Chakma, Dimassa Kachari, Garo, Hajong, Hmar, Kuki, Lushai, Karbi, Pawi
5 Meghalaya	Bhoi, Boro, Chakma, Dimassa, 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, Dimassa, Galong, Garo, Khasi and Jaintia, Khowa, Kuki, Karbi, Mizo, Naga tribe (Ao, Angami, Chakhesang, Chang, Chiru, Khiamnungam, Konyak, Lotha, Makwari, Phom, Rengma, Sangtam, Sema, Tikhir, Yimchungrer, Zeliang), Sytheng, Momba
7 Tripura	Bhili, Bhutia, Chaimal, Chakma, Garo, Halam, Jamatia, Khasia, Kuki, Lepcha, Lushai Mag, Munda, Kaur, Nontia, Orang, Riang, 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 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" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="background-color: #4F81BD; color: white;">Main Steps</th> <th style="background-color: #4F81BD; color: white;">Process/activities</th> </tr> </thead> <tbody> <tr> <td style="background-color: #4F81BD; color: white; vertical-align: top;">Step A: Prepare Initial consultation and inception workshop</td> <td>Train facilitators, select workshop participants and commission preparatory studies</td> </tr> <tr> <td style="background-color: #4F81BD; color: white; vertical-align: top;">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" style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td style="background-color: #4F81BD; color: white; vertical-align: top;">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 style="background-color: #4F81BD; color: white; vertical-align: top;">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 style="background-color: #4F81BD; color: white; vertical-align: top;">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 – <ol 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 												

<p>SRAP, Mizoram...</p> <ul style="list-style-type: none"> • Prioritization of drivers and barriers provided the basis for SRAP • It defines the 'key challenges' for generating positive carbon, social and biodiversity outcome 	<p>Results of priority drivers and barriers (to enhancement) identified for Mizoram State</p> <ul style="list-style-type: none"> • 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.
<p>Priority key challenges</p> <p>Participants' scoring system identified following 3 priority key challenges –</p> <ol style="list-style-type: none"> 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) 	<p>Development of Problem & Solution Tree</p> <ul style="list-style-type: none"> • 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
<p>Problem tree for shifting cultivation D</p>	<p>Problem tree for shifting cultivation FD</p>
<p>Problem tree for forest fire FD</p>	<p>Problem tree for barriers to enhancement</p>

<h3>Solution tree to minimize shifting cultivation D</h3>	<h3>Solution tree to minimize shifting cultivation FD</h3>
<h3>Solution tree for forest fire control FD</h3>	<h3>Solution tree for barriers of enhancement activities</h3>
<h3>Outcomes for Mizoram SRAP</h3> <ul style="list-style-type: none"> From the four sets of problem and solution trees, the following four desired outcomes were identified <ol style="list-style-type: none"> 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) 	<h3>Intervention Packages (IPs)</h3> <ol style="list-style-type: none"> 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
<h3>Strategies & outputs for IPs</h3> <p>IP1. Sustainable land management and cropping pattern :</p> <ul style="list-style-type: none"> 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 	<h3>Strategies & outputs for IPs..</h3> <p>IP 2. Adoption of horticultural crops :</p> <ul style="list-style-type: none"> Promotion of high value cash crops Value addition of horticultural crops <p>IP 3. Creation of habitat mosaic for biodiversity conservation :</p> <ul style="list-style-type: none"> Regulation of Jhuming cycle Improving In-situ conservation of flora and fauna Promotion of nature based tourism

<p>Strategies & outputs for IPs..</p> <p>IP 4. Livelihood improvement :</p> <ul style="list-style-type: none"> • 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-finances for livelihood 	<p>Strategies & outputs for IPs..</p> <p>IP 5. Forest fire control and management :</p> <ul style="list-style-type: none"> • 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 																
<p>Strategies & outputs for IPs..</p> <p>IP 6. Sustainable energy supply :</p> <ul style="list-style-type: none"> • Improved supply of LPG and ICS • Firewood supply for local communities • Promotion of agroforestry and enrichment plantation <p>IP 7. Market linkages for agriculture :</p> <ul style="list-style-type: none"> • Provision of financial and technical assistance • Improved market access to cooperatives • Market identified and linkage established 	<p>Strategies & outputs for IPs..</p> <p>IP 8. Improvement in land entitlements :</p> <ul style="list-style-type: none"> • Land demarcation for agriculture, forest and agroforestry • Effective implementation of land use policies and economic development programmes 																
<p>Proposed budget for 5 yrs.</p> <table border="1"> <thead> <tr> <th>Sl. No.</th> <th>Department</th> <th>Activity/IP</th> <th>Proposed budget (Rs.in crore)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>EF&CC</td> <td>Creating habitat mosaic for biodiversity, forest fire control & sustainable energy supply</td> <td>78.17</td> </tr> <tr> <td>2</td> <td>Agri.</td> <td>Sustainable land management with cropping pattern , improvement of livelihood & market linkages</td> <td>148.96</td> </tr> <tr> <td>3</td> <td>Horti.</td> <td>Promotion of cash & fruit crops</td> <td>23.08</td> </tr> </tbody> </table>	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	<p>WGs for SRAP</p> 
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<p>Visit of ICIMOD & ICFRE officials to Mizoram</p> 	<p>Team of stakeholders for SRAP</p> 																

<p style="text-align: center;">Relevant State level stakeholders</p> <p>Government Institutions</p> <ol style="list-style-type: none">1. State Forest Department2. Agriculture Department3. Animal husbandry Department4. Horticulture Department5. Land resource, Soil and Water Conservation Department6. Local Administration Department7. Rural Development8. Sericulture Department9. Commerce and industries department10. Public Work Department11. Revenue Department12. Power and Electricity	<p>Stakeholders, Mizoram Contd...</p> <p>Non-Government Organisations</p> <ul style="list-style-type: none">• Young Mizo Association• Environment and Biodiversity NGOs• Mizo Hmeichhe Insuihkawm Pawl <p>Research and Academy</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>Private Sectors</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>



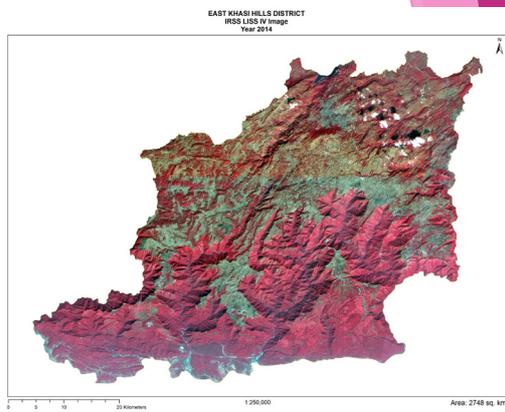
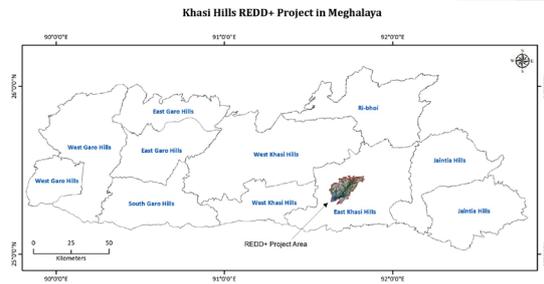
Annex - VII

Presentation on Experience of Mawphlang Khasi Hills Community REDD+ project

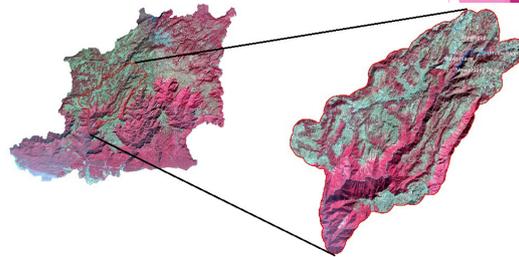
EXPERIENCE OF MAWPHLANG KHASI HILLS COMMUNITY REDD+ PROJECT



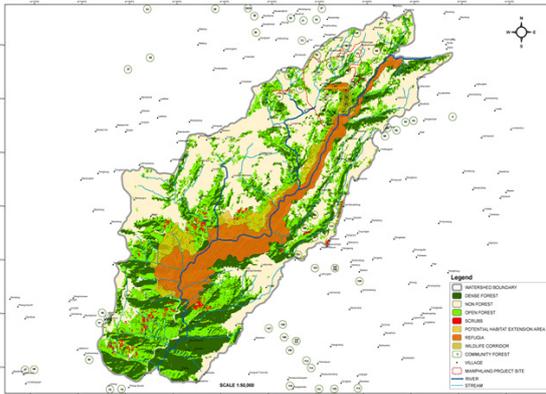
Presented By:
Tambor Lyngdoh
 Chief Community Facilitator (CCF)
 Khasi Hills Community REDD+ Project
 Mob: 9863082456
 Email: tamborlyngdoh70@gmail.com



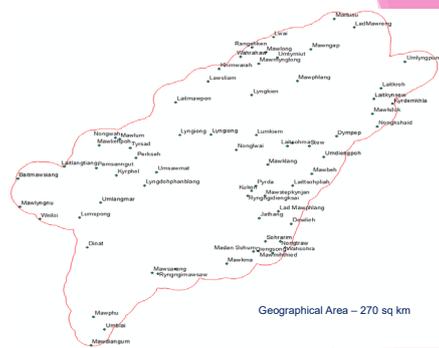
Project Area



MAP OF CLIMATE ADAPTATION AREA OF UMIAM SUB-WATERSHED, KHASI HILLS, MEGHALAYA, NORTH EAST INDIA, SHOWING REFUGIA, HABITAT POTENTIAL AREA, WILDLIFE 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 Lumlaitsohphoh 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)



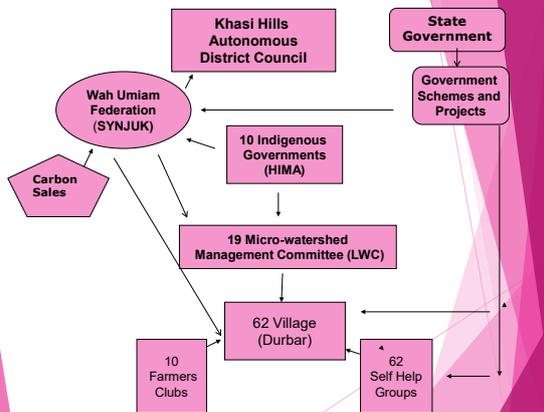
Catchment Area of Mawphlang GSWS Dam



Intake Station of Mawphlang Dam



Meeting of Hima (Traditional) Heads



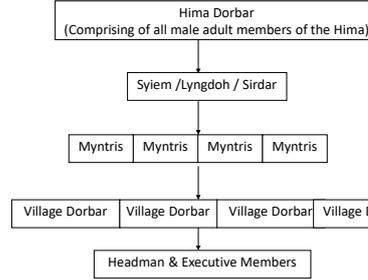
TENURE STATUS OF COMMUNITY FOREST GROUPS

- ▶ 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

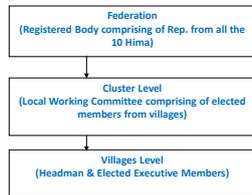


Khasi Indigenous Institution Governance Structure



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

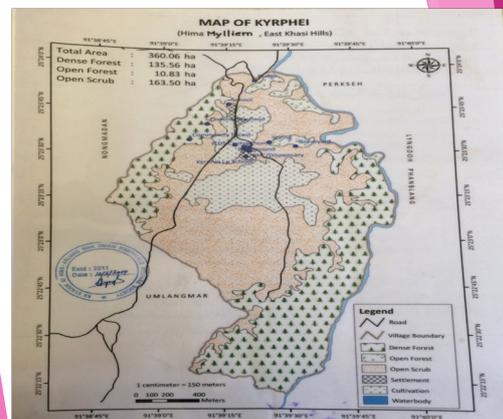
Mitigating Measures

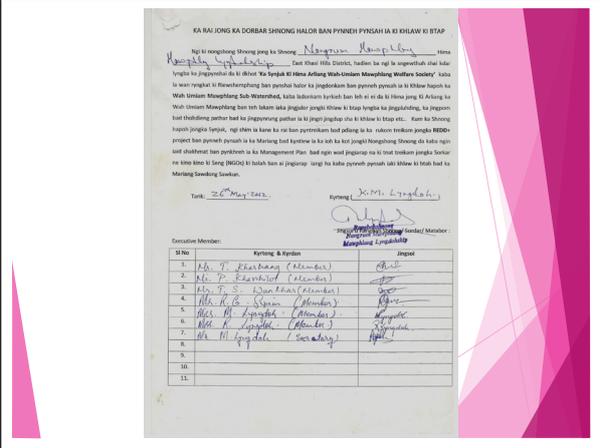
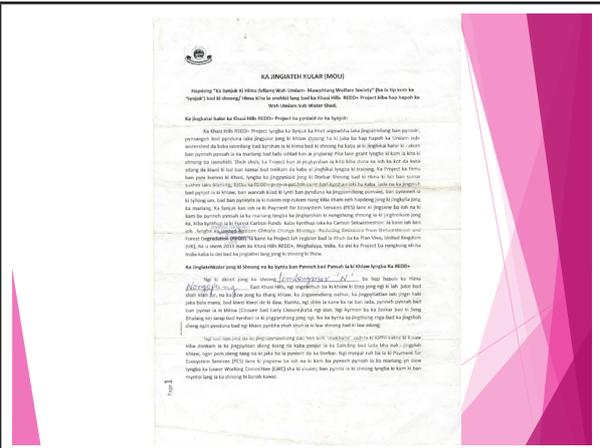
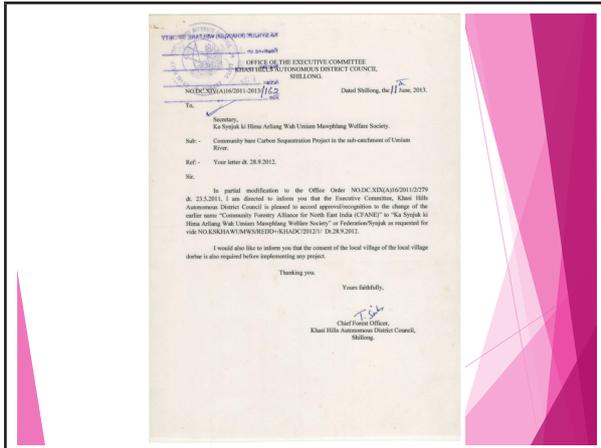
- Traditional Control Burning, fire-lines, social controls
- Fuel efficient stoves/LPG
- Banned or regulated
- Animal exchange & Stall feeding
- Vegetative check dams & afforestation
- Rehabilitation & protection of habitats of rare orchids & amphibians

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

Plan Vivo

Carbon management and rural livelihoods

This is to certify that the **Khasi Hills REDD+ Project**, located in India, and coordinated by Ka Syngjuk 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*, Programmes 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 (info@planvivo.org). The Plan Vivo Foundation is a charity registered in Scotland (Charity number: SC040151). Registered office: 18c Liberton Brae, Edinburgh EH16 8AE 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



VERIFICATION STATEMENT
for
KA SYNJUK KI HIMA ARLIANG WAH UMIAM
MAWPHLANG WELFARE SOCIETY
Mawphlang, East Khasi Hills, Shillong, Meghalaya 713121, India

VERIFICATION SCOPE

Rainforest Alliance has verified that the Khasi Hills REDD+ Project is in conformance with the Plan Vivo Standard 2013 Edition. The project is located in Mawphlang, India. The objective of this independent third-party verification audit is to verify the implementation of the validated REDD+ and associated natural regeneration land parcels of 27,718 hectares on indigenous-owned land. For the 5 January 2012 through 31 December 2016 monitoring period, the verification assessment covered the project base operations, and the audit team has verified a total of 100,000 carbon tons of 22,313 tCO2e (RSDO: 212,214 tCO2e; Assessed Natural Regeneration: 15,491 tCO2e), which totals 174,612 tCO2e after deducting the DPO tax factor. The audit team reviewed the relevant carbon calculations in detail and have verified the implementation of the carbon trading and monitoring. Based on observations, the terms of Reference for Project Verification (V-120215) and more than 30 statements during the field audit, it is accurate to state that the ecosystem services provided by the project are indeed still abundant. To date, there are no government or private projects similar in scope or scale in the region. As a result, the project was verified to be on track to achieving the six-year estimated net carbon benefit over the project's 10-year lifetime. The GHG emission reductions and/or removals achieved during the monitoring period were equivalent to a sustainable level of abatement.

Verification Registration Code: 64-VCS-PV-027069 | Effective Date: 19 June 2017

The validity of this statement is contingent upon the project's continued implementation of the Plan Vivo Standard 2013 Edition and as further defined in the Rainforest Alliance Verification Audit Report dated 19 June 2017.



Laura Terral, Director, Certification

Rainforest Alliance
333 Broadway, 28th Floor
New York, NY 10019 USA

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	Total Area Burned (in ha)									
		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	Pamsangut	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	Nongkhlaw	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

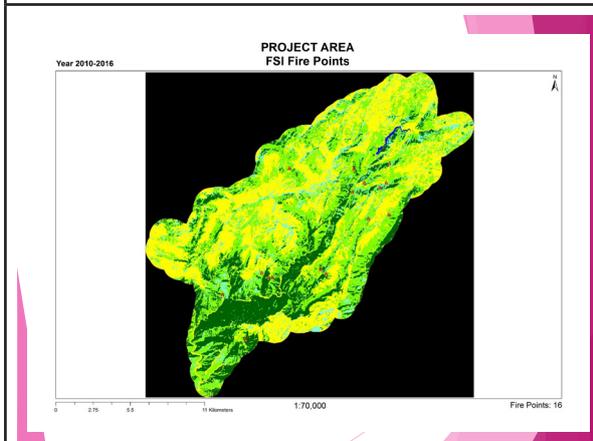
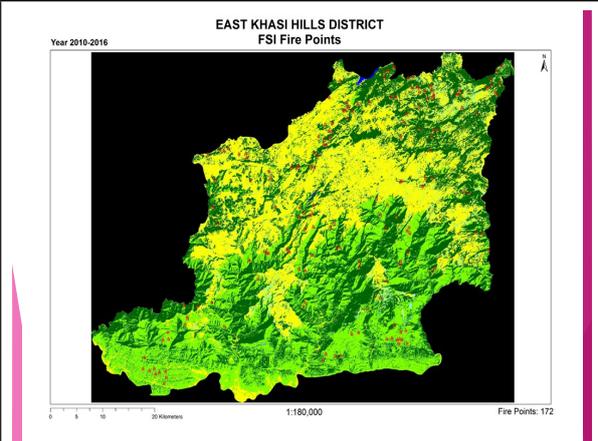
Year	Units
2016	134
2017	125
2018	54

Date	Volume (tons)	Buyer
15/02/13	2,483	713 Norsted, Sweden
17/02/13	200	Clival, UK
19/02/13	1,306	Biochimica, UK
15/02/13	1,225	Caranica Snc Agostino, Italy
15/02/13	501	Zero Mission, Sweden
15/02/13	300	C Lohel
15/02/13	4,474	713 Norsted, Sweden
15/02/13	300	Ecocentral, UK
15/02/13	383	COTAP, USA
15/02/13	380	Caranica Snc Agostino, Italy
15/02/13	474	COTAP, USA
15/02/13	300	C Lohel
15/02/13	140	Caranica Snc Agostino, Italy
15/02/13	351	Zero Mission
15/02/13	13,000	Zero Mission, Sweden
15/02/13	389	COTAP, USA
15/02/13	400	C Lohel
15/02/13	2,132	Wie Forest, Belgium
15/02/13	100	Zero Mission
15/02/13	300	Zero Mission
15/02/13	300	Caranica Snc Agostino, Italy
15/02/13	2,102	Provenel, Wie Forest
15/02/13	160	COTAP, Oakland California
15/02/13	9,727	Zero Mission
15/02/13	400	C Lohel
15/02/13	1,407	Conag
15/02/13	200	Zamblivian
15/02/13	9,718	Zero Mission
15/02/13	1,876	WieForest
15/02/13	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



Community Development Grant

2014 Carbon Fund Utilization in Laitsohplah. (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 50%	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

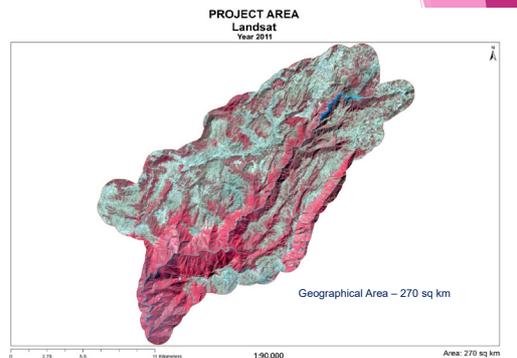
Other Activities

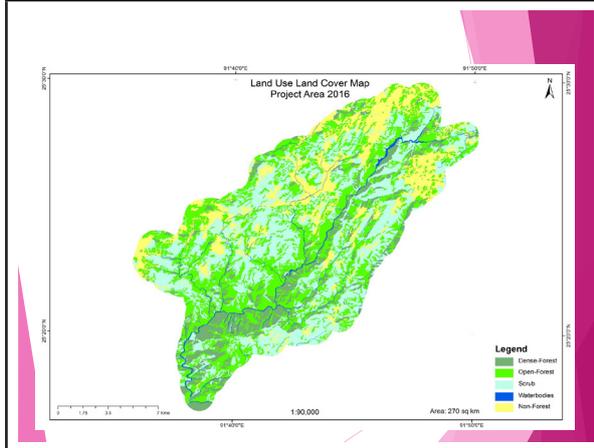
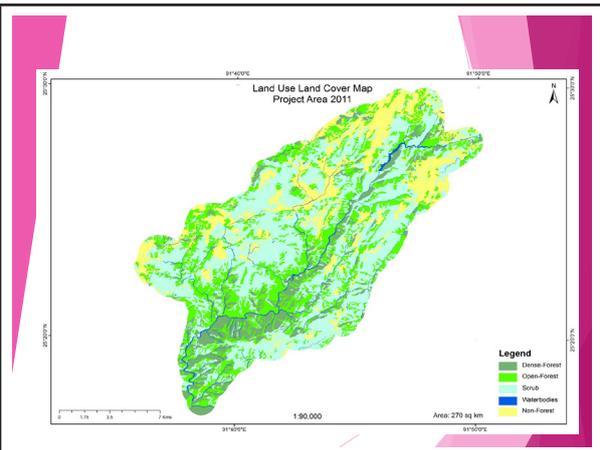
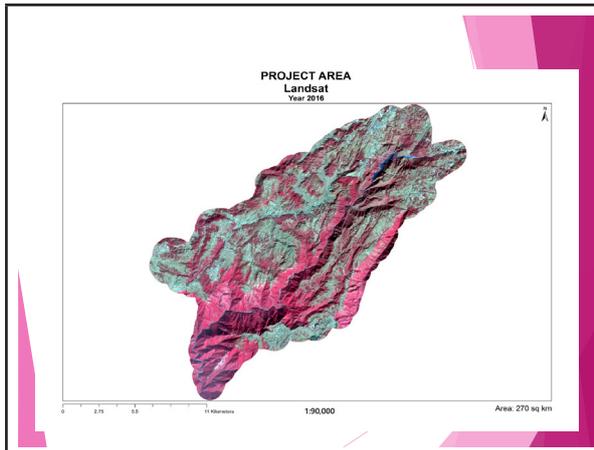
- ▶ Revival of Sacred Groves
- ▶ Identification of Eco Tourism Spots
- ▶ Confluence of Herbal Healers
- ▶ Organising various trainings programme at project area in collaboration with Government and Private agencies.
- ▶ Skill training programme to various training centers.

Convergence Initiatives

Shade Net

Peaches





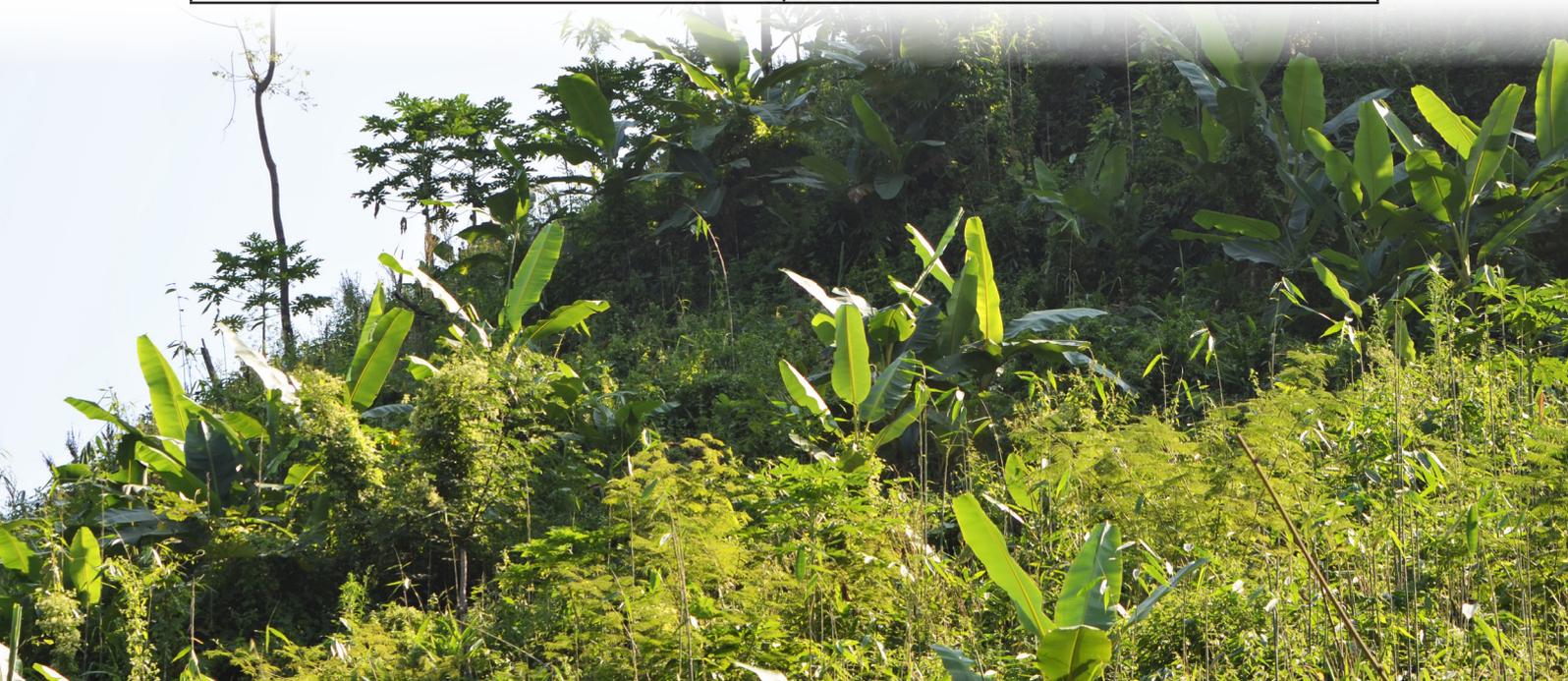
ANNEX 2: Total stock including both unsold early vintages and future vintages 2012-2021

	Tons of CO ₂ e
2012(unsold stock)	8017
2014(unsold stock)	2839
2015(unsold stock)	15682
2016(Available for issuance)	110205
2017(Available for issuance)	40509
2018(Available for issuance)	38704
2019(Available for issuance)	37055
2020(Available for issuance)	35552
2021(Available for issuance)	34186
Project's total Emission Reduction	322749
Total Value @\$5/tCO ₂	\$1,613,745

- Total Carbon Volume issued & sold**
- ▶ Carbon Issued 68,404 tons
 - ▶ Issuance fee @ USD 0.40 Per ton
 - ▶ Issuance fee total in USD 27,361
 - ▶ Issuance fee total in INR 18,33,227.2
 - ▶ Carbon Sold 41,866 tons
 - ▶ Selling Price @ 5 - 9 USD per ton
 - ▶ Total Sale in USD 236,510.55
 - ▶ Total sale in INR 1,58,46,206.85

KHUBLEI

THANK YOU

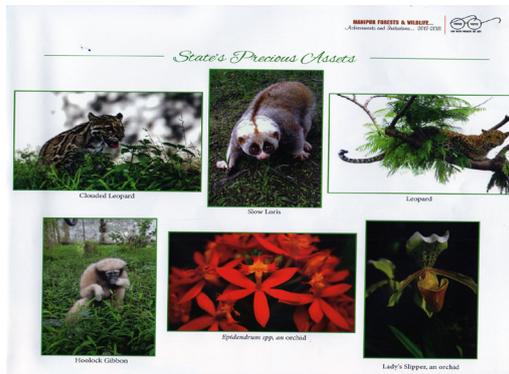
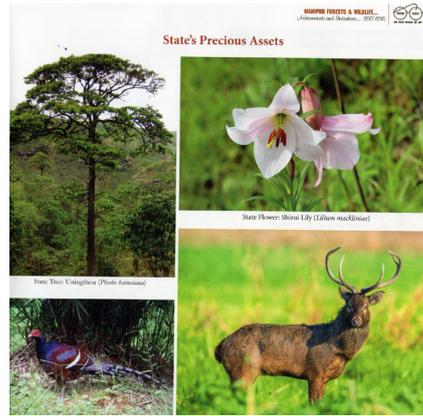


Annex - VIII

Presentation on Activities connected with REDD+ Manipur

Activities connected with REDD Plus- Manipur

**Dr. Lokho Puni IFS
Forest Department
Government of Manipur**



1. Improvement in State's forests

1.1 Manipur has recorded a tremendous increase of 263 sq. km. forest area as per latest assessment made in India State of Forest Report (ISFR) 2017, released by the Forest Survey of India (FSI), Dehradun.

1.2 The report was released by the Ministry of Environment, Forests & Climate Change, Government of India, at New Delhi on 12th February, 2018.

1.3 It is the third highest rate of increase in the entire country. Overall, the country has recorded an increase of 6,278 sq. km, which accounts for 0.21% increase from 2015 report.

1.4 The forest cover of Manipur as per the 2017 Report is now 17,346 sq. km, which is 77.69% of the total geographical area of the State. In 2015 Report of the FSI, the forest cover of Manipur was recorded as 17,083 sq. km. only. Thus, the State has recorded an increase of 263 sq. km., which comes to an increase of 1.18% forest cover of the State. Kerala has recorded 2.88% increase in forest cover, which is the highest rate of increase in the country followed by Andhra Pradesh (1.31%) and Manipur 1.18%.

1.5 Interestingly, in Manipur, the areas of dense forest and moderate dense forest have also increased by 179 sq. km. and 586 sq. km. respectively in

1.6 FSI, Dehradun, has reported that the increase of 263 sq. km forest cover of the State in 2017 is due to extensive protection, conservation and plantation activities taken up by the Forest Department and the regeneration in shifting cultivation areas.

1.7 Moreover, the Trees outside the forests in the State cover an area of 220 sq. km, which is 0.99% of the total

Forest cover increased to 263 Km² over 2015 FSI Report

1.8 Even in 2015, Manipur was the only State in the North East India which had recorded an increase of 93 sq. km in forest cover compared to 2013 Report.

Sl.No.	Particulars	ISFR, 2015	ISFR, 2017	Remarks
1	Percentage of Total Geographical Area	76.51%	77.69%	Increased by 1.18%
2	Increase in Forest Cover	17083 sq. km.	17346 sq. km.	Increased by 263 sq. km.
3	Very Dense Forest	729 sq. km.	908 sq. km.	Increased by 179 sq. km.
4	Moderately Dense Forest	5964 sq. km.	6510 sq. km.	Increased by 546 sq. km.

1.9 Among the eight North Eastern States, Assam and Manipur are the two states whose increase in forest cover has been recorded. Other NE States namely, Arunachal Pradesh, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura had forest covers by 190 sq. km, 116 sq. km, 531 sq. km, 450 sq. km, 9 sq. km, and 164 sq. km, respectively.

1.10 Carbon Stock in Forests of Manipur
The total carbon stock of forests in the State of Manipur is 143,091 Million Tonnes, which is 524.667 Million Tonnes of CO₂ equivalent. This comes to 2.02% of the total forest carbon of the country.

1.11 Conservation of Water Bodies within Forests
There has been an increase in area of water bodies by 26 sq. km in the forests of Manipur. Compared to 32 sq. km, water bodies in 2005, the area of water bodies has increased to 58 sq. km in 2015 within forests of Manipur. This indicates the adoption of better soil moisture conservation strategies by the State Forest Department.

Carbon stock- 2.02% of the country; Water Body increased by 26 Km²

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



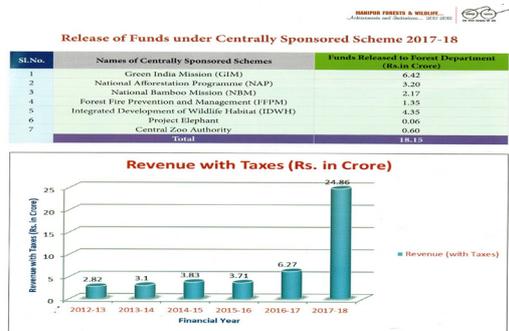
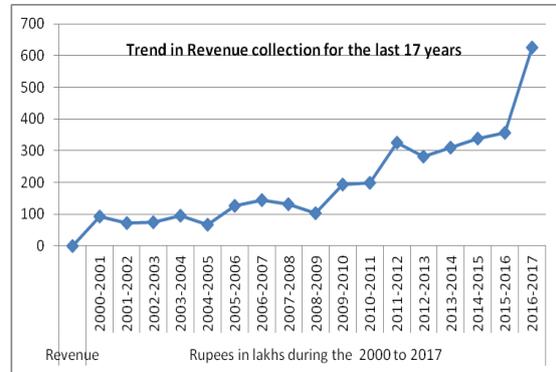
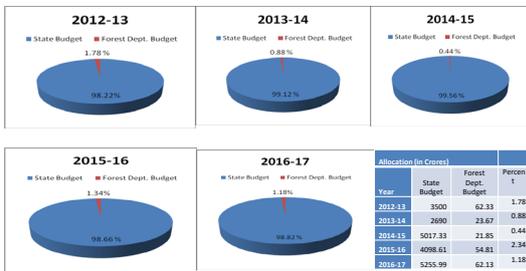
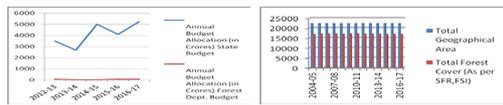
End Results of Fuel-wood extraction & Charcoal making



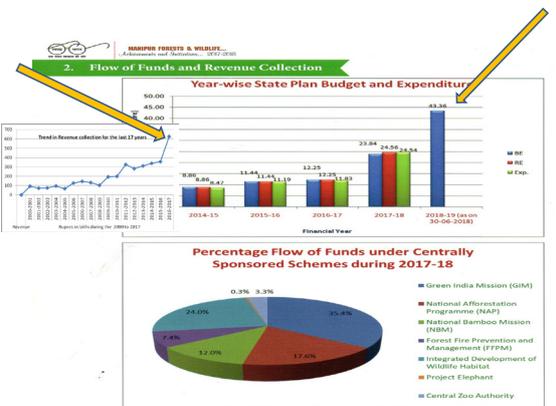
Jhum control has been a challenge for the state

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



3. Nurseries and Seedling Distribution

3.1 The State Forest Department raised its regular nurseries for afforestation activities. Further, the State Forest Department through its all Territorial Forest Divisions also distributed 9.95 lakh seedlings free of cost to the public, schools, institutions etc. for mass plantation activities under "Vana Mahotsava" Programme. Considering the huge demand from the people, the Department has raised Van-Mahotsava nurseries of about 37 lakh seedlings in 2017-18 for mass distribution during current year.



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	1815
2	CAAFSA	CSS	6930	
3	Green India Mission (GIM)	CSS		7937
4	Restocking of Reserve Forest	State	566	
5	Social Forestry Plantations for fuelwood and fodder	State	136	320
6	National Bamboo Mission (NBM)	CSS		3208

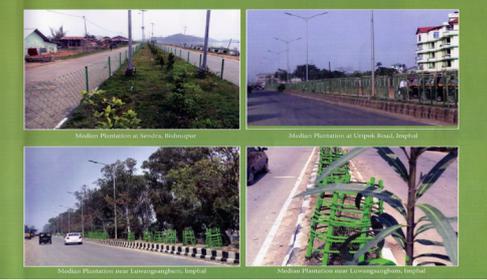
* CSS - Centrally Sponsored Scheme.



4.3 Urban Forestry:

Keeping in view the huge public demand for roadside and median plantation, a separate Urban Forestry Division has been emerged, which has taken up:

- Road median plantation: 19.4 km on important roads of Imphal and Bishnupur (Moirang).
- From 2017-18, all Road median plantations excluding airport road are maintained by Forest Department.



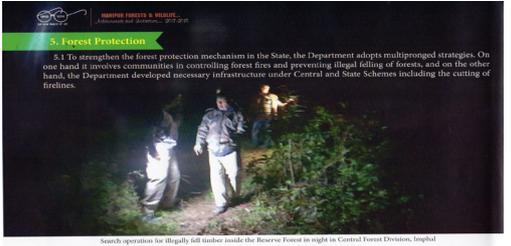
Special effort to increase tree cover TOF

5. Forest Protection

5.1 To strengthen the forest protection mechanism in the State, the Department adopts multi-pronged strategies. On one hand it involves communities in controlling forest fires and preventing illegal felling of forests, and on the other hand, the Department developed necessary infrastructure under Central and State Schemes including the cutting of firelines.

Search operation for illegally felled timber inside the Reserve Forest in night in Central Forest Division, Imphal

5.2 During 2017-18, a total length of 235 km. fire lines were cut in various Forest Divisions. Awareness Programmes to prevent forest fires were organized in all Territorial Forest Divisions. More than 27 forest fire incidents, both natural and man-made, took place during dry season in 2017-18 in various Forest Divisions and all were controlled and prevented from further spread with the help of Joint Forest Management



Due attention given to Forest Protection



Forest fire fighting at Nongraichang, Central Forest Division, Imphal

5.3 In addition, digitization of forest, cordoning of forest areas, eradication of invasive species etc. has also been taken up regularly.

5.4 During current year, with the increase in field strength of the Forest Department with recruitment of 27 Deputy Rangers and 100 Forest Guards, the Department has been able to check the illegal movement of forest produce and wildlife articles substantially.

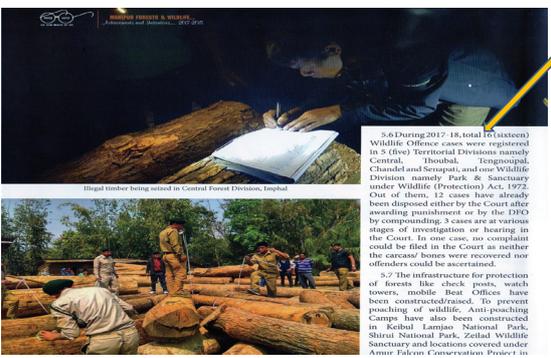
5.5 A total of 154 cases of illegal timber seizures were disposed of during 2017-18. The security agencies have also helped the Forest Department tremendously in preventing the smuggling of forest



Forest fire prevention and control given adequate attention

5.6 During 2017-18, total 16 (sixteen) Wildlife Offence cases were registered in 3 (five) Territorial Divisions namely Central, Thoubal, Tengnoupal, Chandel and Serapatti, and one Wildlife Division namely Park & Sanctuary under Wildlife (Protection) Act, 1972. Out of them, 12 cases have already been disposed either by the Court after awarding punishment or by the JFCO by compounding. 3 cases are at various stages of investigation or hearing in the Court. In one case, no complaint could be filed in the Court as neither the carcass/ bones were recovered nor offenders could be ascertained.

5.7 The infrastructure for protection of forests like check posts, watch towers, mobile Beat Offices have been constructed/raised. Its prevent poaching of wildlife. Anti-poaching Camps have also been constructed in Keibul Lamjao National Park, Shivalik National Park, Zaitad Wildlife Sanctuary and locations covered under Assam Tiger Conservation Project in



Illegal timber being seized in Central Forest Division, Imphal

Protection of wildlife and its habitat is given due attention



Quality Control has been given much effort



5.9 Indian Forest Act (Manipur Amendment) Bill, 2018

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 2018, 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, 2018, 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 the MFP sector, Foreign Direct Investment (FDI) and to give a boost to economic development and employment in the State, the Department has entered into 4 (four) Memorandum of Understandings (MoUs) with foreign and 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	HSSMM Group of Companies, Lao PDR
2	Commercial Production of Orchids, tissue culture and production of essential oil	HSSMM Group of Companies, Lao PDR
3	Production of Bio fuels (Ethanol) from bamboo	Namalganghri Refinery Limited (NRL)
4	Minimum 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 HSSMM Group of Laos PDR for Agarwood Plantation and Production of Essential Oil, the DPR for an investment of Rs. 25.20 Crore in a period of 4 years, has been submitted by the Company. The State Government has already granted "in 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 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 Produce, the Department has already sent one proposal to TRIFED for Broom which is likely to benefit the people in Tamenglong, Churachandpur and Phek Districts.

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

6.2 MFP Development

Under the project of National Medicinal Plant Board (NMPB) to 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, a two days State Level Workshop on Medicinal Plants for IFMC Members and Field Staffs was organized on 26th - 27th February, 2018 at Indira Gandhi National Tribal University, Region Campus, Mukham, Moreover, 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



A workshop, Godown and Drying shed has been constructed for medicinal plants at Sada China, Bishnupur Forest Division under NMPB. This will help villagers in drying, storage and value addition of medicinal plants. It was inaugurated by Shri Sidhantha 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 41,13,968/08 lakh mandays 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-forestry purposes under Wildlife (Protection) Act, 1972 and Forest (Conservation) Act, 1980 during 2017-18.

7.2 Total 1467.178 hectare of forest area has been diverted for non-forestry purposes.

7.3 The approved projects included constructions in following sectors:

- Railways - 1 Project
- Roads - 5 Projects
- Bridge - 1 Project
- Transmission Lines/ Power - 2 Projects
- School - 1 Project

Sl. No.	Name of Development Project	Area in Hectare (Inv.)
1	Construction of 11 km long Jiribam - Tupul - Imphal Railway Line	-
2	Construction of 154 m span steel super structure bridge at Km 145.09 over Barak and 122 m span steel super structure bridge at Km 149.00 over Maken on Imphal - Jiribam Road Section on NH-37 by NHIDCL	6.3
3	Upgradation of Dalkhabe-Sinsawi CI-9 Road (48.3 Km) to enhanced CI-9 specification under CSIRTP	58.56
4	Alternate bypass of NH 39/37.09 Km. section) Wangjing to Sun by NHIDCL	60.605
5	Widening and improvement of NH-39 of 29.16 Km. section from Khoangching to Morch & alternate alignment of 24.40 Km. Site at Khuleghaphy by NHIDCL	96.31
6	Rehabilitation and Upgrading of existing 2-lane of Khoangching-Tamenglong section of NH-137 in Tamenglong District, Manipur	98.027
7	Construction of 33.11 KV Sub-station with associated 33 KV line at Chingcheibching, Pongmop, Imphal by MSPL	0.27
8	Global School of Human Resources at Nongmaiching, Keirao by Global Foundation	0.27
10	Construction of 132 KV Link Transmission Line for evacuation of power from 400/132 KV Sub-station at Bhenol to 132 KV Sub-station at Kakeching and Chandel on existing 132 KV line from Kongsit to Kakeching on turnkey basis in favour of Manipur 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 Community Reserves are the decentralized means of management of Protected Area Network, where ownership rests with the Village Management Committee but with commitment for the protection of forests and conservation of wildlife. In return, the Forest Department goes to the village with some developmental activities.

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

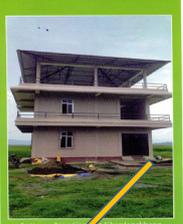
The 8 (eight) new Community Reserves notified during 2017-18 are as follows:

Sl.No.	Name of Community Reserve	District	Area In Sq. Km.
1	Chulbil & Venamati	Senapati	3.30
2	Banevheida Oinam Village	Senapati	2.10
3	Sofi Khro Kondom Village	Senapati	2.04
4	Chipchiro	Senapati	0.64
5	Houphat	Senapati	3.23
6	Azaram	Tamenglong	5.85
7	Shangneme	Senapati	3.00
8	Mekrimeti Ru & Kakramai Bu	Senapati	22.46
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 (KINP). As per 2016 population estimation, the population of Sangai has increased to 260 which includes 58 Stags, 127 Hinds and 58 Females. The population estimation exercise is conducted after every two years. The Sangai Estimation Exercise -2018 has been completed in March 2018 and 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

9.4 Nongpi Conservation Breeding Centre

Keeping with the sentiments of the people of Shirui (Ukhrul), the Forest Department took initiative to set up a Conservation cum-Captive Breeding Centre of the State Bird "Nongpi" (Mrs. Horned Pheasant) in its native area Shirui, Ukhrul. Moreover, the Department also appreciates the initiative of the people of Shirui, who have come forward to donate the land to the Department to take up such conservation programme. Foundation stone has already been laid down. Central Zoo Authority (CZA) has also been approached to support the programme in bigger way during 2018-19. The Department intends to link the project with development of eco-tourism in this course.

9.5 Project Elephant

For the first time, the survey for presence of Elephants in the State has been conducted in 2017-18 under "Project Elephant" funded by Government of India. Two districts namely, Tamenglong and Kangpokpi have been covered under the programme. The results of survey have been very encouraging as the presence of elephants including migratory population, particularly in Lentsa area of Tamenglong, Chakha area of Senapati and Nambahi area of Kangpokpi, has been reported.

9.6 Project Tiger

For the first time, the State of Manipur is being covered under All India Tiger Estimation -2018 exercise of National Tiger Conservation Authority (NTCA), Government of India. Initially, (three) districts namely, Tamenglong, Senapati and Ukhrul/Kangpokpi would be covered as these districts have high potential of presence under the tiger's presence because of the close vicinity through forest corridors with Kaziranga National Park and Myanmar forests and provide excellent habitat of grasslands preferred by the tigers. The Department will take up sign survey in first phase, which may start in July 2018.

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



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9.7 Wildlife Week Celebration

To sensitise the people towards conservation of wildlife, 'Wildlife Week' was celebrated from 2nd - 9th October, 2017 across the State for the first time with a theme "Celebrate Rights of Wildlife". High participation from the students was an encouraging factor which may perhaps lead to more awareness among next generation for conserving forests and wildlife.



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".

The construction of enclosure for Slow Loris has been taken up with funding from Central Zoo Authority (CZA). The design and dimension of Slow 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.

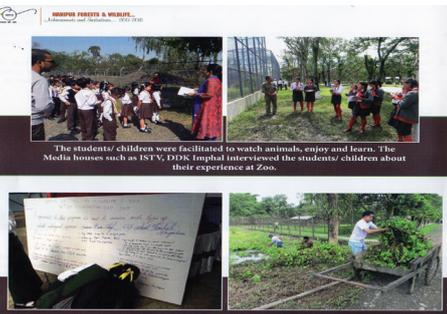
Construction of rest shed for Spotted deer, Sambar deer; Construction of stand-off barrier of Hog deer enclosure; Clouded leopard enclosure; Bear enclosure; Repair of leopard enclosure, vulture enclosure; painting of Jackal enclosure, Eagle enclosure, Bear enclosure, public toilet complex, ticket counter; Construction of 30 Rim drainage; Installation of new signages in front of all enclosures, have also been taken up.

Among new initiatives for better health of Zoo inmates, the general behaviour and health parameters of the zoo animals have been monitored on regular basis. The Zoo Administration arranged regular expert supervision by the Directorate of Veterinary & Animal Husbandry Services, Govt. of Manipur on monthly 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. Moreover medical checkup 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.

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.

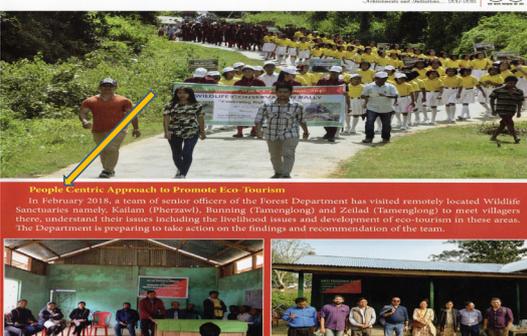


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People Centric Approach to Promote Eco-Tourism

In February 2018, a team of senior officers of the Forest Department has visited remotely located Wildlife Sanctuaries namely, Kallam (Pherzawl), Bunning (Changlong) and Zella (Tamenglong) to meet villagers there, understand their issues including the livelihood issues and development of eco-tourism in these areas. The Department is preparing to take action on the findings and recommendations of the team.



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

Sl. No.	Protected Area	District	Area in Sq. Km.
1	Keibul Lamjao National Park	Bishnupur	383.00
2	Shirui National Park	Ukhrul	100.00
3	Jiri-Makru Wildlife Sanctuary	Tamenglong	198.00
4	Bunning Wildlife Sanctuary	Tamenglong	113.90
5	Yangsoopki Lokchao Wildlife Sanctuary	Chandel (Tengnoupal)	184.80
6	Zella Wildlife Sanctuary	Tamenglong	21.00
7	Kailash Wildlife Sanctuary	Chirangkhampur (Pherzawl)	187.50
8	Khongiatgamba Wildlife Sanctuary	Bishnupur	0.41
9	Pfunaeni Community Reserve	Senapati	2.16
			1672.61

Ex-Situ Conservation Centres Maintained During 2017-18

- Manipur Zoological Garden, Imphal - 0.98 sq. km.
- Sangat Captive Breeding Centre, Imphal - 0.06 sq. km.
- State Orchularium, Khongjapat, Imphal - 0.50 sq. km.

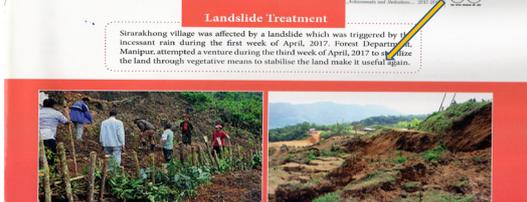
Initiatives for Climate Change Adaptation and Mitigation

A five days Training Course of Forest Officers on "Climate Change Adaptation for Natural Resource Management" was organized by Forest Department from November 15th-17th, 2017. It was sponsored by the Department of Science & Technology (DST) through Indian Institute of Forest Management (IIFM), Bhopal. Field visit to Phayong 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 33 (thirty three) officials and non-officials participated in the programme.

Landslide Treatment

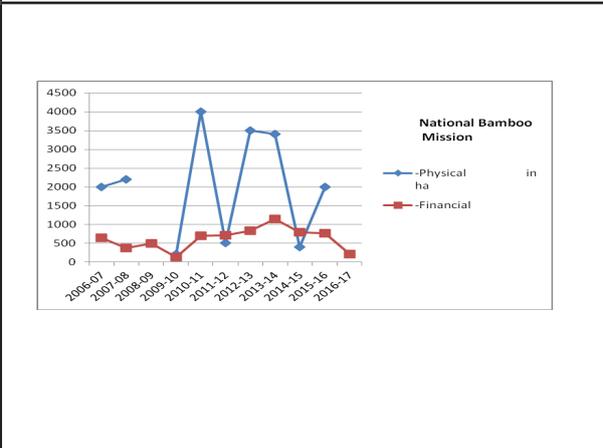
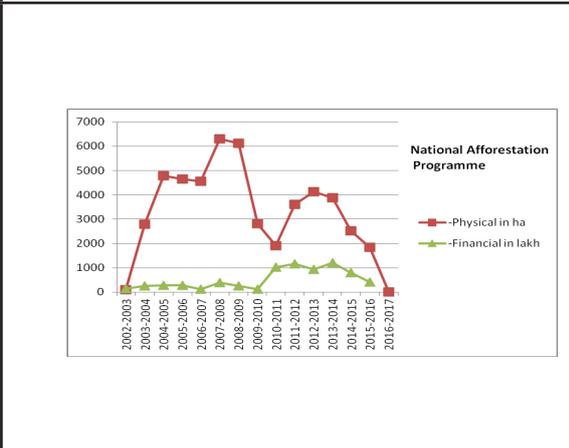
Sirakhang village was affected by a landslide which was triggered by incessant rain during the first week of April, 2017. Forest Department, Manipur, attempted a venture during the third week of April, 2017 to stabilize the land through vegetative means to stabilise the land make it useful again.



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



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)



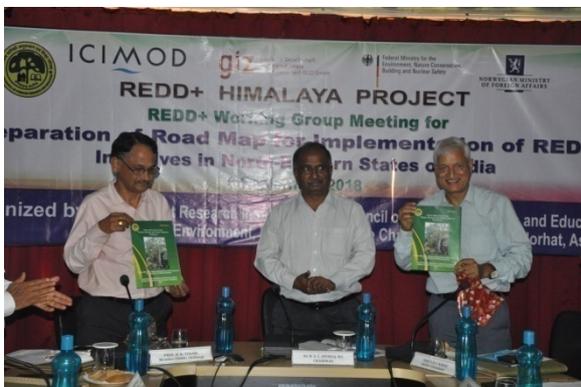
Views shared by Dr. Lokho Puni, IFS, Member (Manipur)



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





