

A Comprehensive note on REDD-plus

I. The emergence and development of REDD-plus

During the international negotiation held at Marrakash, it was decided that only afforestation and reforestation project activity would be eligible under forest sector through Clean Development Mechanism (CDM) projects. Avoided deforestation which has the potential to offer cheapest quickest and the largest scope of emission reduction was not involved due to fears that it would undermine the efforts to reduce fossil fuel emission by Annex-I countries and market would be flooded with carbon credits from forest sector. In 2005 at Montreal the issue of **“avoided deforestation”** resurfaced at the 11th Conference of the Parties (COP) negotiations for a post-Kyoto climate change regime, through a submission from Costa Rica and Papua New Guinea on behalf of the Coalition of Rainforest Nations. In 2006 at COP-12 in Nairobi, India’s proposal of including the compensation for conservation of forest under the umbrella of forest based mitigation measures was accepted and became the part of further negotiations.

The idea for including reductions in emissions from forest sector, viz., deforestation and forest degradation (REDD) in the post-Kyoto climate change regime gained prominence in 2007 when the Bali Action Plan laid the foundation for the scope of a forest-based mitigation mechanism by reducing emission from deforestation and degradation. The nations affirmed the urgent need to take further meaningful action and decided on a two-year time frame to discuss the REDD framework. At the twenty-ninth meeting of the UNFCCC Subsidiary Body for Scientific and Technological Advice in Poznan, Poland in 2008, the avoided carbon emissions from conservation of forest carbon stocks, sustainable management of forests and the enhancement of forest carbon stocks were given the same level of priority as deforestation and forest degradation. This has since been referred to as REDD-plus.

As a result, the Copenhagen Accord agreed on December, 2009 at the COP 15 of UNFCCC not only recognized the crucial role of reducing emission from deforestation and forest degradation but also acknowledged the role of conservation, sustainable management of forests and enhancements of forest carbon stocks in developing countries (REDD-plus). The accord also recognized the need to establish a mechanism to enable the mobilization of financial resources from developed countries to achieve this. The developing

countries parties were encouraged to indentify the drivers of deforestation and forest degradation; the activities within the country that result in reduced emissions and increased removals, and stabilization of forest carbon stocks; to estimate anthropogenic forest related GHG emissions by sources and removals by sinks; forest carbon stocks, and forest area changes and to establish robust and transparent national forest monitoring systems.

A substantial improvement on REDD-plus was made in Cancun at COP 16 with a decision on following crucial elements.

(i) It set out the broad scope of REDD-plus, in line with Bali Action Plan. The developing country Parties were encouraged to contribute to mitigation actions in the forest sector by undertaking the following activities, as deemed appropriate by each Party and in accordance with their respective capabilities and national circumstances:

- (a) Reducing emissions from deforestation;
- (b) Reducing emissions from forest degradation;
- (c) Conservation of forest carbon stocks;
- (d) Sustainable management of forests; and
- (e) Enhancement of forest carbon stocks.

The Parties aiming to undertake the above activities were to develop a national strategy or action plan, a national forest reference emission level and/or forest reference level, a robust and transparent national forest monitoring system;

(ii) It specified that the implementation of REDD-plus should be in three phases;

(iii) It outlined the financing of REDD-plus, which is to be made through voluntary funds, and postponed a decision over compliance markets;

(iv) It affirmed the promotion and support of social and environmental safeguards, including

- (a) Safeguards to prevent negative impacts such as the conversion of natural forests and to promote the protection of biodiversity and ecosystem functions,

- (b) Safeguards to ensure full participation and sustainable livelihoods and the addressing of gender issues,

(c) Respect for the knowledge and rights of indigenous peoples, as enshrined in the United Nations Declaration. Agreement was also made on the creation of a Green Climate Fund.

The Progress made during the next U.N. climate change talks in Durban (COP 17) resulted in a mixed bag for REDD-plus, where the negotiations on REDD-plus centered around four key areas: finance, safeguards, reference levels, and monitoring, reporting and verifying (MRV) of carbon emissions from forest activities. Significant progress on reference levels, and MRV were achieved with decisions on how to set reference emissions levels, and defining how to measure emission reductions stemming from forestry initiatives. However, the achievements on safeguards and REDD-plus financing, despite many deliberations, had been below expectations due to the weak decision on social and environmental safeguards for the program, and no advances on sources of long-term funding. A framework for the safeguard information systems was decided, however explicit guidelines on its content were not decided upon. For financing REDD-plus activities, the Green Climate Fund had also been set up but the fund has no real or promised money.

During COP 18 of UNFCCC at Doha, it was also decided to undertake a work programme on results-based finance for REDD-plus in 2013 comprising two co-chairs, one from a developing country and one from a developed country. The aim of the work programme is to contribute to efforts to scale up and improve the effectiveness of REDD-plus finance and it will address options, including:

- (a) Ways and means to transfer payments for results-based actions;
- (b) Ways to incentivize non-carbon benefits;
- (c) Ways to improve the coordination of results-based finance.

However, there has been a little progress on critical issues such as finance as there was no clarity on how the US \$ 110 billion per year, pledged at Copenhagen and made part of the Green Climate fund, will be mobilized by 2020.

It is also not clear that how REDD-plus relates to Kyoto Protocol-2 because it is not part of the CDM; however, the robust MRV systems that have been achieved may help REDD-plus gain access into this mechanism in the future. In a nutshell REDD-plus negotiations has resulted into the decisions on reference levels (how to set reference emissions levels), safeguards (ensuring social and environmental safeguards), and a decision

on MRV (defining how to measure emission reductions stemming from forestry), that will move forward the implementation of REDD-plus at the national level.

II. Issues and challenges of REDD-plus

There are several important issues centered on the design, scope and framework; financing need; its cost effectiveness; monitoring, reporting, and verification (MRV) of carbon emissions from forests and social and environmental safeguards, that the REDD-plus framework must address. Some of the other equally important issues are addressing the problem of leakage and the non-permanence nature of forestry activities; insuring several co-benefits of reducing emissions from forest and the definitional issues arising due to several important elements of proposed REDD-plus mechanism being not defined clearly. These issues are still being debated, and the actual design and framework of REDD-plus has yet to be determined. The following descriptions of some of these issues and challenges as faced by REDD-plus are discussed below.

1. Design and framework for REDD-plus

REDD-plus is not a part of the UNFCCC mitigation architecture - the Kyoto Protocol as the actual framework and design of REDD-plus relevant to its implementation has yet to be decided by the countries. It is also not clear yet whether REDD-plus will be the part of a post-2012 climate agreement or it will be dealt with under a separate agreement? Another key issue is whether afforestation and reforestation (A/R), currently part of the Clean Development Mechanism (CDM) under the Kyoto Protocol, should be merged with REDD-plus in a comprehensive forest sector accounting framework. Another important issue is whether REDD-plus will be included in an overall mitigation framework for the forest sector or it will be included in an overall accounting framework for agriculture, forestry and other land uses (AFOLU).

2. Financing need of REDD-plus and possible sources

The financing mechanisms for REDD-plus have to be open to flexible and innovative financing approaches, so that it can adapt to countries' changing needs and experiences. The REDD-plus funding is required in three areas via; (i) up front investments in REDD-plus infrastructure, forest monitoring systems, capacity building and other preparatory and demonstration activities ('readiness' activities); (ii) ongoing costs of implementing national policies and measures; and (iii) compensation payments to forest owners for forgone profits (opportunity costs).

There are many promising avenues for raising the overall volume of funding needed to exploit the REDD-plus potential. The desired funding can be arranged through (a) Official Development Assistance and other forms of public funding could be a source of finance for countries with restricted access to REDD-plus global mechanisms. The other option is a market-based mechanism that would trade certified emission reductions (CERs) similar to the Clean Development Mechanism in an “offsets” market in which industrialized nations can purchase emission credits to offset their emissions and thus meet their respective emissions reduction commitments.

3. Setting the reference level for REDD-plus payments

There are three types of the ‘baseline’ emerging in the current debate. These are: (i) the historical baseline, that is, the rate of deforestation and degradation (DD) and the resulting GHG emissions over the past x years; (ii) the projected business-as-usual (BAU) scenario, that is, how would emissions from DD evolve without the REDD-plus activity, and (iii) the crediting baseline, that is, the level at which REDD-plus payments should start. A BAU baseline is the benchmark for assessing the impact of REDD-plus measures that were implemented (and ensuring additionality), whereas the crediting baseline is the benchmark for rewarding the country (or project) if emissions are below that level. While BAU baselines can be seen as technical issues, whereas setting crediting baselines is largely a political question. Almost all submissions from different countries use historical deforestation as the point of departure, and most also recommend that ‘national circumstances’ and ‘rewarding early action’ be taken into account. These principles still have to be put into practice.

A key dilemma facing negotiators is that, on the one hand, generous baselines, based on ‘country-by-country’ assessments that take national circumstances into account, may create ‘tropical hot air’, which undermines the environmental integrity (overall emissions reductions) and the credibility of REDD-plus. On the other hand, too-tight crediting baselines may make an agreement unacceptable. In short, the balancing act between the risk of ‘tropical hot air’ and the participation and political acceptance of REDD-plus by countries is likely to be the key to success.

4. Dealing with leakage

Leakage has always been one of the key concerns in the REDD-plus debate. How can we ensure that reduced deforestation and degradation (DD) in one geographical area does not lead to more DD and higher emissions in another area? There are a number of ways to deal with leakage or ‘displaced emissions’. These include: (i) monitoring what is happening outside the

project boundaries; (ii) moving to a higher scale of accounting and crediting, which is indeed one of the main arguments for a national approach vis-à-vis a subnational approach; (iii) discounting credits based on estimates of the extent of the leakage; (iv) redesigning interventions to minimise leakage; and (v) neutralizing leakage with complementary activities, such as ‘alternative livelihoods’ components. Leakage can therefore be accounted for and incentives can be structured to reduce leakage. At the same time, leakage is a natural part of an economy’s ability to adapt against changed circumstances; hence it cannot be entirely eradicated.

5. Ensuring permanence and assigning liability

Permanence is another major concern in the REDD-plus debate. How can we make sure that a forest area saved today will not be destroyed tomorrow? Who should be held liable if that happens? How can REDD-plus contracts and financial mechanisms be designed to ensure permanence? One aspect of ensuring permanence in projects or countries are managing risks of re-emission. To address liability case, some system of commercial liability such as (i) project credit buffers (temporary banking of credits); (ii) pooling risk among several projects; (iii) commercial insurance; and (iv) sharing liability in the form of forest compliance partnerships between Annex I and non-Annex I countries, must be put in place.

6. Monitoring, Reporting, and Verification (MRV) carbon emissions from forests

It is concerned with different forest monitoring technologies and the tradeoffs between the different methods. There are two main methods for monitoring: (i) the stock-difference approach, which measures forest carbon stocks at different points in time, and (ii) the gain-loss approach, which estimates the net balance of additions and removals from the carbon pool. There is a tradeoff between the cost and the accuracy of the methods. In some countries, the need for a high level of precision requires the use of fine-resolution imagery to detect forest degradation or small-scale deforestation, imagery repeated over time to overcome cloud cover limitations or imagery that requires significant expertise to process (e.g. analysing radar images), all of which come at a cost. Similarly, ground measurements, crucial to verify and measure carbon stocks, are time consuming and relatively expensive at a large scale, such as a national inventory.

As the capacity of countries to do MRV is highly variable, a global REDD-plus scheme must be flexible enough to avoid discrimination against countries with poor MRV capacity. A phased approach is recommended to allow for capacity building, to let countries gain experience, and to

eventually integrate them into a performance-based payment mechanism in a future climate regime. Incentives should be put in place that encourage more accuracy and efficiency, and provide support for capacity building. To overcome national capacity and cost constraints, the option of centralized monitoring by an international institution can also be explored.

7. Achieving REDD-plus co-benefits

REDD-plus co-benefits are one of the reasons why it has claimed substantial attention in international climate negotiations. REDD-plus has the potential to alleviate poverty, protect human rights, improve governance, conserve biodiversity, and provide other environmental services, i.e.; co-benefits, as well as reduce GHG emissions. However, REDD-plus also has the potential to generate unintended negative consequences for the poor and powerless if implemented without appropriate safeguards.

Each co-benefit is required to be linked with specific design features of REDD-plus at the global and national levels so that the co-benefits can be achieved without doing harm. Integrating REDD-plus into mainstream economic development strategies is important to ensure REDD-plus financing will benefit the poor and lead to performance-based payments, data transparency and financial accountability. Further, international scrutiny could exert a positive influence on human rights and governance. In addition biodiversity benefits can be enhanced by geographically targeting vulnerable areas.

III. India's stand on REDD-plus

The submission from Ministry of Environment & Forests, Govt. of India on REDD-plus provides a framework of approach to develop and implement a national REDD-plus strategy and actions pursuant to relevant COP decisions for assessment and monitoring of forest carbon stocks, and also for their enhancement.

India's national strategy aims at enhancing and improving the forest and tree cover of the country for enhancement of forest ecosystem services that flow to the local communities. The services include fuelwood, timber, fodder, NTFP and also carbon sequestration. The country recognizes carbon service from forest and plantations is one of the co-benefits and not the main or the sole benefit. Initiatives like Green India Mission (GIM) and National Afforestation Programme (NAP), together with programmes in sectors like agriculture and rural development would add or improve 2 mha of forest and

tree cover annually in the country. This will annually add 2 million tonnes of carbon incrementally, and post 2020, the forest and tree cover will be adding at least 20 million tonnes of carbon every year. This would require an investment of Rs. 90 billion (USD 2 billion) every year for 10 years. The country expects a substantial part of this investment to be met under REDD-plus financial support from UNFCCC.

1. Institutional mechanism for REDD-plus at national level

The Government of India has established a **REDD-plus Cell** in the Ministry of Environment and Forests having the task of coordinating and guiding REDD-plus related actions at the national level, and to discharge the role of guiding, and collaborating with the State Forest Departments (SFDs) to collect, process and manage all relevant information and data relating to forest carbon accounting. National REDD-plus Cell is to also guide formulation, development, funding, implementation, monitoring and evaluation of REDD-plus activities in the States. The Cell is expected to assist the Ministry of Environment & Forests and its appropriate agencies in developing and implementing appropriate policies relating to REDD-plus implementation in the country.

2. National level forest carbon stocks accounting

The forest carbon stock accounting at national level has been institutionalized by making Forest Survey of India (FSI) as the lead Institution for the country, which will have a networking approach involving other national level institutions, viz., Indian Council of Forestry Research and Education (ICFRE), Indian Institute of Remote Sensing (IIRS), Indian Institute of Science (IISc), Wildlife Institute of India (WII), and any other organization that FSI deems fit to co-opt. India intends to further work on i) technological and methodological issues, and ii) policy and definitional issues to be able to contribute proactively in the future deliberations of the UNFCCC on REDD-plus.

3. Methodological issues of estimation of FCS

India's future strategy in this regard is to devolve more and more responsibility on the State Forest Departments (SFDs) to carry out the assessment and estimation of forest carbon stocks (FCS) in conjunction with the biennial exercise of assessment of forest and tree cover (FTC). This is considered essential to improve the precision level for estimation of FCS as the State Governments can cover more number of sample points, than that being covered by the FSI at present due to constraints of time, finances and inadequate number of technical experts. In future, the SFDs can take the

responsibility of carrying out the inventories for FTC and FCS by more effectively utilizing the services of their Remote Sensing Centres/Space Application Centres. FSI at that time can act as the source for providing remotely sensed data required by the States for the purpose.

4. Policy and definitional issues

More insight into understanding the definition of sustainable management of forest (SMF) is required to steer its proper application in forestry mitigation actions in different parts of the country. In ensuring the safeguards for the rights of the local communities including tribal's, and above all, of women folk of the local communities, India intends to involve the civil society and state forest departments in working out provisions and modalities for the same under the extant Forest Rights Act, and approaches of Joint Forest Management (JFM) and Community Forest Management (CFM). In addition to providing help in developing mechanisms for facilitating flow of REDD-plus incentives and other ecosystem benefits to the local community, it is expected that the Civil society would also contribute in analysis and impact of policy issues relevant to operationalization of REDD-plus in the context of local communities.

5. National forest reference level

India gives highest priority to fixing of the reference level for carbon stocks in its forest and tree cover with a view to making assessment, monitoring, verification and reporting of Baseline forest carbon stocks and Incremental forest carbon stocks. The country considers that the reference level in essence will be a baseline forest carbon stocks position corresponding to a specific year, which may be called as the zero year and needs to be fixed with consensus amongst intra-country stakeholders that would include the Central Government, State Governments, forest experts and scientists, local communities and the civil society. It is presumed that the starting point for fixing a forest reference level will be an agreement on the "zero year" backed by sound logic, time series of scientific historical data, and milestones of relevant legislation and/or policy prescriptions. The reference level would need to be agreed at the technical level, i.e., amongst scientific organizations, and subsequently at the government level involving the Central and the State Governments. Government of India intends to form a consortium of scientific organizations such as Indian Institute of Science, Bangalore; Forest Survey of India, Dehradun; Indian Council of Forestry Research and Education Dehradun; Indian Institute of Remote Sensing, Dehradun; National Remote Sensing Centre, Hyderabad; Centre for Environmental Education, Ahmadabad; Central Government's Ministry of

Environment and Forests (REDD-plus Cell) and State Forest Departments, for evolving consensus on a forest reference level.

6. Social and Environmental Safeguards

Developing countries are expected to follow safeguards, with a view to ensure full participation of indigenous peoples, local communities and other stakeholders, and conservation of natural forests and biodiversity in implementing the REDD-plus activities. India intends to ensure that all REDD-plus incentives available from international sources will flow fully and adequately to the local communities which participate in management of forest resources or are dependent on them for sustenance of their livelihood. A part of the incentives are also expected to be invested in conservation and improvement of the ecosystem services like biodiversity and non-timber forest produce.

7. Pilot projects on conservation, sustainable management of forests (SMF), and enhancement of forest carbon stocks (EFCS)

India intends to launch three pilot projects, one each based on the concept of forest conservation, SMF and EFCS, respectively to understand the intricacies of maintaining baseline forest carbon stocks, forest carbon stocks changes, and forest carbon accounting. These projects may be taken at locations that cover different forest types and socio-geographic regions of the country. For example, project on conservation can be taken up in the Western Himalayan region comprising States of Uttarakhand, Himachal Pradesh and Jammu and Kashmir, whereas Western Ghats should be suitable to test the concept of SMF and EFCS project can be taken up in any of the States registering increase in forest and tree cover according to SFR 2009.

8. Financing mechanism for REDD-plus

As per provisions of REDD-plus, the parties to explore financing options for full implementation of the results based actions in the context of national strategies or action plans, policies and measures, and capacity building. India has reiterated its position of favoring a flexible combination of market based and non-market based approaches. Separate financial approaches need to be adopted for providing positive incentives for the two types of carbon stocks under REDD-plus regime. These are Change in incremental carbon stocks and Changes in carbon stocks due to reduced deforestation.

The financial mechanism for providing positive incentives for (a) change in carbon stocks, and (b) Baseline carbon stocks is proposed to be as under:

(i) A market based approach for fluxes with respect to a reference level for actions viz., (a) Reducing emissions from deforestation; (b) Reducing emissions from forest degradation; (c) Sustainable management of forest; and (d) Enhancement of forest carbon stocks; mentioned in paragraph 70 of the AWG-LCA Cancun document.

(i) A non-market based approach for stocks with reference to actions viz.,(e) Conservation of forest carbon stocks; (f) Sustainable management of forest; mentioned in paragraph 70 of the AWG-LCA outcome document.

Government of India has proposed that the terms which are being used in the AWG-LCA and SBSTA text on this agenda item, like deforestation, forest degradation, conservation of forest carbon stocks, sustainable management of forests, enhancement of forest carbon stocks, national forest reference level/Nation reference emission level, and others should be clearly defined. It has also proposed that the developing countries may undertake voluntarily the activities mentioned in paragraph 70 of decision 1/CP.16, and claim incentives for results-based actions following due modalities and procedures agreed by Parties for the purpose. Further, it has suggested that the forest carbon stocks of the entire country will be compiled at the national level, and will comprise such stocks corresponding to the i) Forest cover of the country, and ii) Trees outside forest (ToF) in the country. Selection of ToF will be optional for a developing country. However, ToF once accounted for in the First Accounting Period (FAP) shall continue to be accounted for in the subsequent Accounting Periods (APs) also. Similarly the extent of forest cover accounted for in FAP shall continue to be accounted for in the subsequent APs also.

The country also advocated that the RL/REL for a developing country Party shall be fixed in an open and transparent manner following the procedure agreed by Parties for the purpose, which will include independent expert review by UNFCCC of the proposal of RL/REL submitted by the developing country Party. The countries may use their own methodologies to measure emissions from forest degradation, till a common methodology for the purpose is agreed by the Parties.

IV. Outcomes of Workshops & Conferences on REDD-plus held in India

Since 2010, several workshops and conferences have been conducted at national and regional level on the various issues of REDD-plus in India. The details of these workshops and conferences are given below:

- i) **“Integrating REDD-plus with poverty alleviation and development action”**. Held during DSDS-2010 on 4th February 2010 in New Delhi.
- ii) **“Preparedness of REDD-plus Project in India”** held at India Habitat Centre, on 23rd March 2012 in New Delhi, and organized by TERI.
- iii) **“National Level Consultation on International REDD-plus Architecture and its Relevance for India”**, held on 14th June 2012 in New Delhi, and organized by TERI.
- iv) **“Regional level consultation on preparedness of REDD-plus”** held on 23rd January, 2013 at Bangalore, and organized by TERI.
- v) **“Regional level consultation on preparedness for REDD-plus”** held at Agra on 3-4 February, and organized by TERI.
- vi) **“Regional level consultation on preparedness for REDD-plus”** held at Nagaland on 9th February, 2013, and organized by TERI.

The main objectives of these Conferences were to have a detailed deliberation on key issues pertaining to REDD-plus in India viz., i) Monitoring Reporting and verification ii) Safeguards measures iii) Co-benefits iv) Policy & Governance v) Institutional Framework vi) Forest Reference Level (FRL) vii) Finance viii) Capacity building need ix) Pilot projects. The key points that emerged from the presentations and discussions at these events are as follows:

1. Monitoring Reporting and Verification of Carbon for REDD-plus

A robust yet simple monitoring mechanism is essential for successful implementation of REDD-plus in India. Therefore, the identification of the national level institution for the monitoring, reporting and verification of carbon assessment for the sustainable management of forests on the basis of criteria and indicators developed for sustainable forest management is needed urgently. It was also suggested that the year 1990 may be taken as the base line year depending upon availability of data and the carbon will be assessed by adding above ground and below ground carbon calculated using IPCC guideline.

The Government of India should take initiative to build the capacity of State Forest Departments with respect to MRV and carbon assessment. The expertise available with existing institutions like the National Remote Sensing Agency (NRSA), Forest Survey of India (FSI), and Indian Council of Forestry Research and Education (ICFRE) could be effectively utilized. Additional elements to capture information relevant for REDD-plus projects could be built into their existing monitoring system. The optimum

application of emerging technology of Remote Sensing, GIS can be very instrumental in the whole exercise of MRV.

2. Safeguards measures, Co-benefits and local community involvement

There should be an adequate safeguards to the biodiversity and right of the local forest dependent community (FDC) for the implementation of REDD-plus. It is to be ensured that there should be an equitable benefit-sharing mechanism for the success of the programme among the forest dependent communities. As the communities in forest fringe villages are actively protecting and managing forests so they can be crucial for implementing REDD-plus by involving them more directly to the management and conservation framework of forest. Providing natural resource based employment to the forest dependent community to overcome the problem of unsustainable harvest which would help in the conservation of forests and enhancement in the carbon stocks. There is also a need to quantify the benefits derived from forests by the FDCs so that if there would be pressure on the forest, other non natural resource based employment for FDCs can be explored.

REDD-plus is a low-cost mitigating option with multiple co-benefits for forest dependent communities and forest biodiversity. Forest Biodiversity should not be sacrificed for carbon and there should be adequate safeguards to it for the implementation of REDD-plus. All key stakeholders and community based organizations at the grassroots level need to be involved in designing, implementing, and monitoring of REDD-plus activities. There is a tremendous potential for rejuvenating the Joint Forest Management (JFM) programmes as well as other community-based conservation programmes if these are aligned with strategies for implementing REDD-plus. JFM programmes as well as other community-based conservation programmes can also be directed towards increasing biodiversity.

3. Capacity building

REDD-plus activities need to be mobilized at the local level by engaging local communities in drawing a work plan and a budget. There is a need to build capacity of forest dependent communities for carbon assessment and project formulation under REDD-plus which should be simple, easy and step by step approach at various levels, so that they can be benefitted with finances, generated from the selling of enhanced carbon. The need of identification of Center of Excellence for REDD-plus from whom State Governments could take technical assistance was also highlighted. There is a need for greater thrust on Research in relevant areas and

transferring the knowledge to field in simple language for benefit at field level.

To significantly strengthen REDD-plus action, there is a urgent need to have regular capacity building workshops of stakeholders at national and regional level on REDD-plus. To achieve this Ministry of Environment and Forests should provide training to the forest officials and JFMCs on REDD-plus concept, and assessment of carbon, and also project formulation. There is need to build capacity of forest dependent communities for carbon assessment and project formulation under REDD-plus which should be simple, easy to understand and step by step approach at various levels, so that they can be benefitted with finances, generated from the selling of enhanced carbon.

4. Payments for Ecosystem Services (PES) and REDD-plus

REDD-plus is not a panacea for all the issues. It could be one of the tools to address the issue of deforestation and forest degradation which is the core problem of the forestry sector. Linkage of payments for ecosystem services (PES) with the REDD-plus mechanism could be forged but first evaluation of ecosystems goods and services is essential, an aspect in which our country lags behind. As an alternative approach to REDD-plus, the Livelihoods and Landscapes Strategy (LLS)-a global programme of IUCN-which takes a holistic view by looking at forests as being part of a larger landscape has the potential to provide integration with other land uses to enhance livelihoods of the poor.

5. Institutional Framework, Policy & Governance for REDD-plus

The Government of India needs to put in place a suitable institutional mechanism at national level, sub-national and local levels for the implementation of REDD-plus, besides defining linkages with the emerging international mechanism for REDD-plus. There is a great need of developing a national level strategy for implementation of REDD-plus which should also necessarily take into account the issues of regional variability. The role of other concerned Ministries, Departments, Institutions, and private sector also needs to be worked out to supplement REDD-plus implementation. There is a great scope of convergence of developmental programme in areas within forest and fringe forest areas from Rural Development, Tribal and Social Welfare, Health, Education, and Power Department for holistic development of forest dependent communities.

The State governments need to evolve Gram Sabha based forest governance model and bring appropriate legislative reforms or administrative orders to empower Gram Sabhas to initiate JFM. The Gram Sabha should be core centric body to constitute committee on REDD-plus and Joint Forest Management Committee while the State Forest Department can provide the technical guidance for monitoring the implementation of management plan. The corporate sector, being an emitter of GHG, must play a role in carbon sequestration through sustainable development of forests. Assigning a role to corporate and industry sector through relevant policy & implementation mechanism is also needed.

6. Financing of REDD-plus Pilots

The Government of India should make efforts to overcome the inadequacy of financial resources for the implementation of sustainable management of forests for enhancing carbon stocks. Though, International policies with respect to REDD-plus are still under negotiation stage but India has to prepare itself for implementation of REDD-plus projects and make use of the funds available through carbon financing. So, Government of India should fund at least one pilot study on REDD-plus in each state of the country. Since there is no regulatory market operational for REDD plus, Government of India should avail the funding from voluntary markets for preparedness activities including undertaking research and pilot projects. Few voluntary mechanism like Plan Vivo, VCS etc. and Forest Carbon Partnership Facility (FCPF) of World Bank are the windows available for carbon finance and preparedness for REDD-plus but India has not joined these facilities yet.

For operationalisation of REDD-plus, there is need to take up pilot project for identification of gaps in technological and implementation aspects. The Government of India may establish linkage with FCPF and UN-REDD so that grants may be obtained for the capacity building of communities and forest officials for the implementation of REDD-plus. The Government of India may take initiatives to attract voluntary market at national level also for carbon finance under REDD-plus to pass on financial incentives to the community for the conservation of forests.

Community Forest Resource Committee at Gram Sabha, Van Panchayats and the JFMCs, etc are the appropriate institutions to start with REDD-plus pilot project in India jointly with the support of State Forest Department. It was suggested to have small scale pilot REDD-plus projects so that benefits could passed to the community easily.

V. Capacity building on REDD-Plus: IGNFA initiative

A **“Cell for REDD-plus in relation to global warming and climate change”** has been set up in Indira Gandhi National Forest Academy, Dehradun to equip itself to impart latest knowledge and skills on REDD-plus to various stakeholders especially Indian Forest Service Probationers, In-service Indian Forest Service Officers, participants of Joint Trainings for IAS/IPS/IFS, Higher Judiciary Courses, Indian Revenue Service, Indian Railway Traffic Service and other Courses. The mandate of the Cell is to deliberate upon and opinion building on issues relating to:

- a) International REDD-plus framework;
- b) Modalities, procedures and current debate on negotiations;
- c) National REDD-plus framework;
- d) Construction of National Forest Reference level;
- e) Forest Governance and Implementation of REDD-plus in India;
- f) Assessment of carbon stocks and MRV issues;
- g) Capacity building of stakeholders in REDD-plus implementation;
- h) REDD-plus financing possibilities; and similar other issues related to REDD-plus.

Two Committees have been constituted for functioning of the REDD-plus Cell:

- i) The **“Apex Academic Committee on REDD-plus in relation to global warming and climate change”**, which involves the stakeholders, viz., MoEF, FSI, ICFRE, WII, IIRS and other experts in the field of Forests and Climate Change. The Apex Committee plays an advisory role to the Cell.
- ii) The **“Core Academic Committee on REDD-plus in relation to global warming and climate change”** consists of experts drawn from forestry institutions located in Dehradun and MoEF, New Delhi. The Core Academic Committee looks after day to day working of the Cell.