

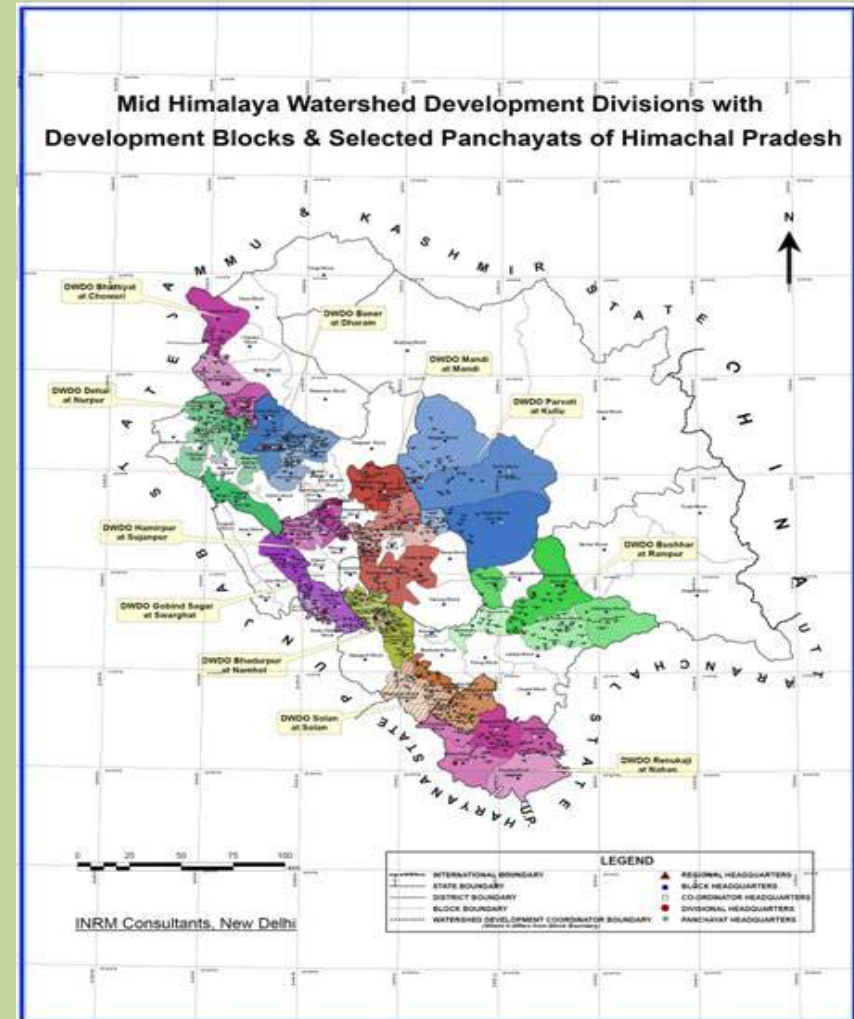


# HP Bio- Carbon Reforestation Project- Improving Livelihoods & Watersheds

*[A Sub-Project of the Mid Himalayan Watershed Development Project]*

*Issues and Constraints in Methodology*

# Project Location



# Revenue from Sale of CERs

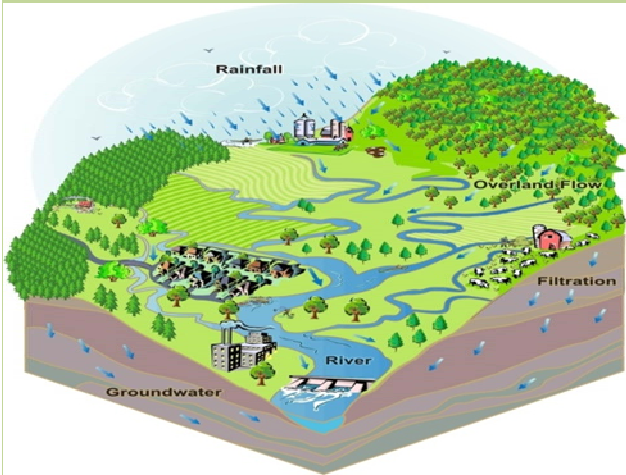
	<b>CERs (tCO<sub>2</sub>-e)</b>	<b>CERs/year (tCO<sub>2</sub>-e)</b>	<b>CERs revenue (Rs./year) at US\$ 5/tCO<sub>2</sub></b>	<b>CER revenue (Rs./year) at US\$ 10/tCO<sub>2</sub></b>
<b>Total for the whole project area</b>	<b>8,28,016</b>	<b>41,979</b>	<b>19,87,23,840</b>	<b>2,96,29728</b>
<b>Average per hectare</b>	<b>207</b>	<b>10.34</b>	<b>2481.6</b>	<b>7137.6</b>

Total Project Area (in ha)	No. of plantation patches
<b>4003</b>	<b>420</b>

# Plantation Targets Achieved

<b>Year</b>	<b>YEAR WISE</b>
	<b>TOTAL</b>
<b>2006-07</b>	<b>135.35864</b>
<b>2007-08</b>	<b>207.4375</b>
<b>2008-09</b>	<b>556.4892</b>
<b>2009-10</b>	<b>704.0873</b>
<b>2010-11</b>	<b>1281.5</b>
<b>G/Total:</b>	<b>2884.00</b>

# HP- Best Practices- CDM Bio Carbon Project



Plantations Important for Watershed Protection



CDM Money

Fuelwood

Forest Produce

Fodder

Communities Protect Plantations & watersheds For..



# CARBON REVENUE

10 % Overhead Charges

MHWDP/ FOREST DEPARTMENT

PRIVATE LAND

FOREST LAND

COMMUNITY LAND

90 % of carbon revenue

20 % of remaining carbon revenue

80 % of remaining carbon revenue

20 % of carbon revenue

Gram Panchayats' GP FUND (undertaking works as approved in GPWDP )

80 % of carbon revenue

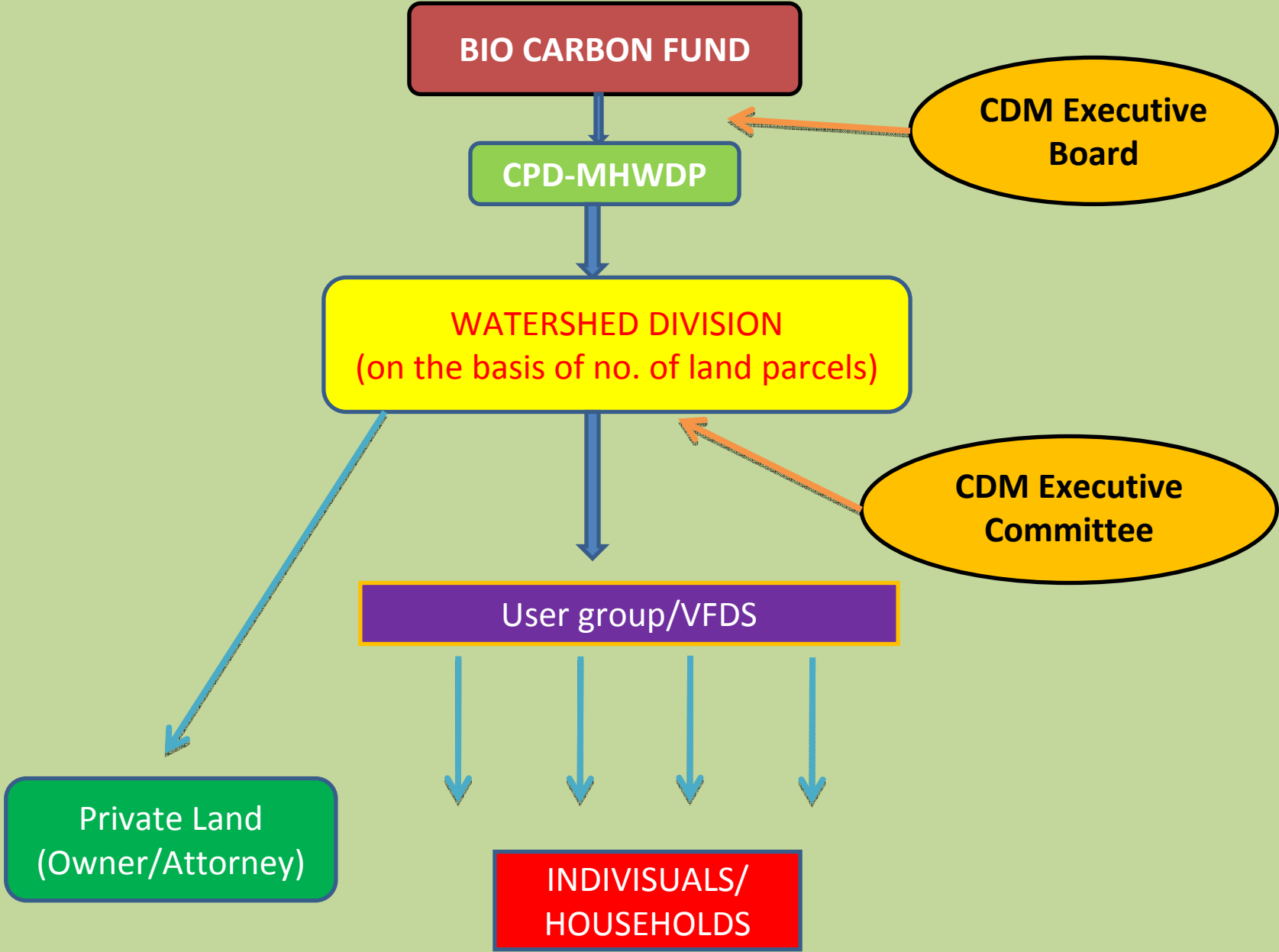
Owner or Attorney

Gram Panchayats' GP FUND (undertaking works as approved in GPWDP )

USER GROUP/VFDS (members responsible for protection of land parcel)

USER GROUP/VFDS USER GROUPS/ VFDS (members responsible for protection of land parcel depending upon their share /rights in land parcel)

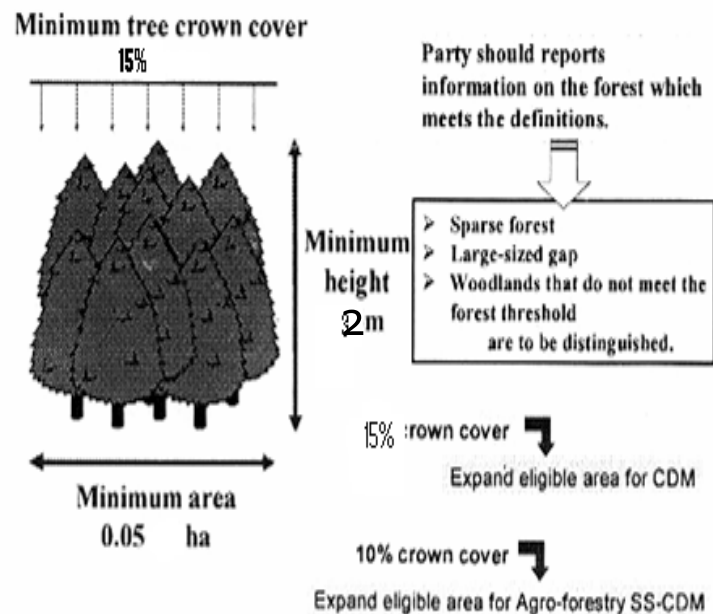
# BIO CARBON FUND FLOW MECHANISM



# Eligibility criteria

## (2) Definition of forest, afforestation and reforestation

### Definitions of Forest (at maturity)



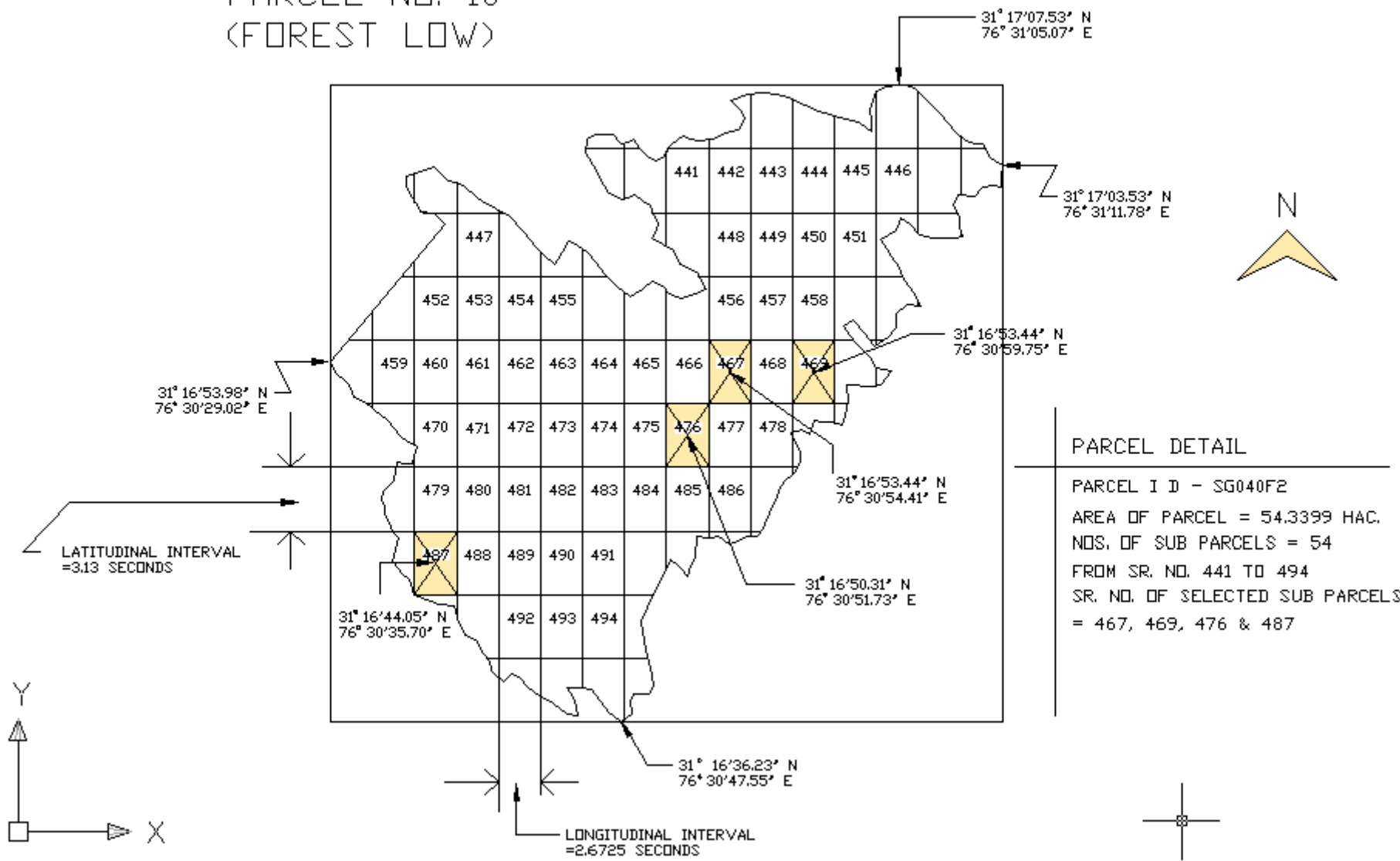
★ Host countries have to select the optimal values for each criteria and report to EB through DNA (Para 8 of Annex , Decision 19/CP.9)

(This is one of participation requirements)

- Tree crown cover value of 15%
- Land area value of 0.05 hectare
- Tree height value of 2 meters



PARCEL NO. 10  
(FOREST LOW)



# SG040\_F2



Imagery Date: May 11, 2009

Image © 2011 GeoEye  
31°16'51.92" N 76°30'52.11" E elev 388 m

©2010 Google

Eye alt 1.73 km

# MAJOR CONSTRAINTS

## PREPARATION OF PDD

- Highly technical job & very few qualified agencies to undertake this work.
- Difficult to project Ex-ante GHG removals due to non availability of growth rates under hill conditions where abrupt changes occur with the change in conditions like altitude, aspect, rainfall, soil conditions etc.
- The methodology prescribed is very stringent, under Lab conditions & in copy-book style which is not possible to practice in the land.
- Base Line Soil Carbon analysis too complicated.

# Defining the project boundary

- Project boundary is one that “geographically delineates and encompasses all anthropogenic GHG emissions by sources and removals by sinks that are significant on lands under the control of the project participants and reasonably attributable to the proposed project activity.
  - The project activity may contain more than one discrete parcel of land. However each discrete parcel of land should have a unique geographical identification with the boundary clearly defined for each discrete parcel.
- Geographically delineating hundreds of land parcels being considered for a CDM project is
  - very time consuming and expensive task
  - Requires technical expertise
- This could be a limiting factor as sometimes the project proponents could be farmers’ cooperatives or even village forest management committees or panchayats who lack such expertise

# Demonstrating land eligibility

- In order to prove land eligibility, it is required that project proponents provide the following verifiable information:
  - Aerial photographs or satellite imagery complemented by ground reference data; or
  - Ground based surveys (land use permits, land use plans or information from local registers, land use or land management register)
- Procuring aerial photographs or satellite imageries is an expensive proposition
  - data required for proving land eligibility under CDM is not readily available
  - data needs to be processed by agencies such as the Forest Survey of India or the National Remote Sensing Agency
  - Conducting ground based surveys is a laborious process and requires people with knowledge of the region.

# DEMONSTRATING LAND ELIGIBILITY

- Difficulty in Exclusion of small chunk from a parcel coming under forest definition.
- Ascertaining the status of land is difficult because of non delineation & demarcation of lands on ground and revenue department is custodian of record which is generally not available to carry out demarcations to ascertain the ownership of land.
- The rights & privileges of right holders on Forest & Community lands are hindrance to methodology of CDM.
- The capacity of proponent is not matching with the requirement of validators, Verifier & CDM board of UNFCCC.
- Deletion of streams, rocky area very difficult.
- Small compact patch of natural growth may not be deleted.

# Establishing baseline

- Establishment of baseline – time consuming, involves cost and technical know-how needed, particularly when a project involves:
  - Multiple land categories
  - Land parcels extending across a large area and are in contiguous
  - Land parcels extend over steep slopes and tough terrain

# Demonstrating additionality

- Barrier analysis
  - Transparent documentation required for different questions or criteria at the scale of the project – i.e. panchayat or forest division or taluk is not available
  - Records difficult to access and procure
  - Impossible to justify from all perspectives as required- institutional, financial, social, and technical, etc



# Common practice analysis

- Possible at the regional or state level
- Difficult to conduct the same at the level of panchayat or taluk or forest division
- Records or documentation available for public or government lands
- Documentation or evidence for private lands – largely based on PRA and revenue records, sometimes not so updated

# Estimating leakage

- Difficult to estimate and quantify the pressure on land parcels included for the project area
- Communities dependent on multiple land parcels for grazing and fuelwood extraction purposes
- Multiple stakeholders dependent on land parcels
- Shift of pressure is difficult to identify and quantify given the dependence of communities on multiple land parcels and multiple community groups dependent on identified land parcels

# Calculation of CERs

- Requires growth rates for estimating carbon stock accumulation rates and in turn CERs
- In projects involving multiple land categories and multi-species A/R there are issues related to choice of species, choice of growth rates and estimation of CERs

## *Calculation of CERs...*

- Growth rate data not available or limited for non-forestry species
- Growth rate data for species growing under agro-forestry systems and private plantations limited
- Data for increment on species grown on degraded land categories limited
- Baseline growth rate: Unavailable

# VALIDATION

- *High processing cost.*
- *Lengthy & time consuming process.*
- *Difficult to fix permanent bench marks around parcels & around small vegetation patches excluded from that parcel.*
- *Difficult to prove additionality.*
- *Difficult to asses & prove leakages.*
- *Base line data changes with the change in parcel and very difficult to average it.*

# GENERAL

- There is no Manual for project preparation
- E.B. Guidelines are to be made simpler
- No mechanism for quick reference to EB or seeking clarifications.
- Cost of preparation, validation and verification is very high due to stringent methodologies, therefore it does not make a economic sense.