POTENTIAL ROLE OF SUBNATIONAL AND LOCAL ACTORS IN REL AND MRV DATA CREATION

FFPRI INTERNATIONAL TECHNICAL SEMINAR, WASEDA UNIVERSITY, TOKYO
WEDNESDAY, FEBRUARY 8, 2012

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Ecosystem Services

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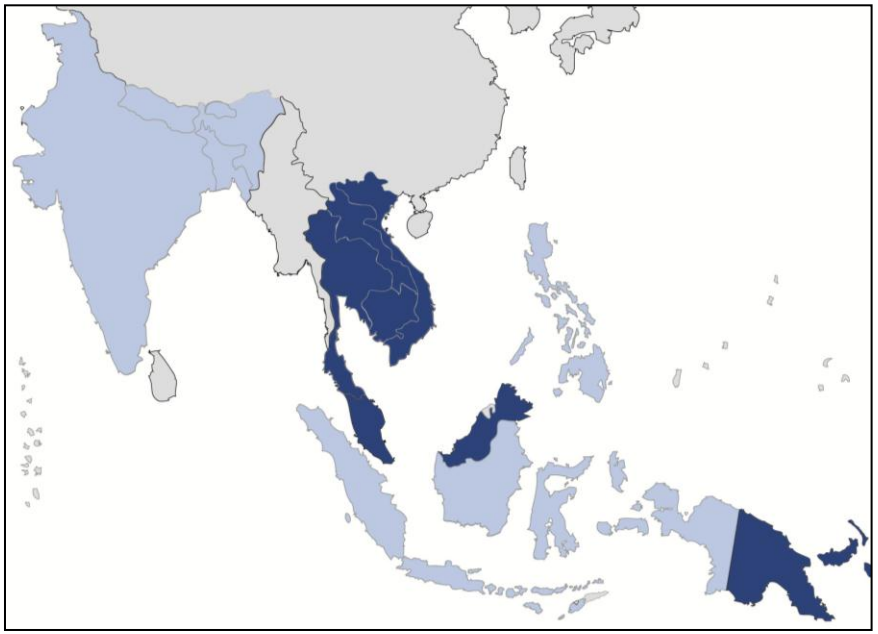
Winrock International Ecosystem Services Team

- Winrock International: nonprofit and mission driven organization
- ECO team is led by Dr. Sandra Brown, IPCC Convening Lead-Author
- Team includes: CDM AR-WG member, VCS AFOLU Steering Com., CAR Dev. Comm,
- WI-ECO lead author on many CDM/VCS/ACR AFOLU methodologies
- Advising governments and providing technical assistance on national REDD+ RL and MRV creation
- Provide technical assistance to 10+ CDM/VCS/ACR projects

LOWERING EMISSIONS IN ASIA'S FORESTS

- 5 years – USAID RDMA
- *Target countries:* Cambodia, Laos, Vietnam, Thailand, Malaysia, PNG
- *Capacity Building:* on REDD+ preparedness and pilot implementation
  - REDD+ Policy Strategies
  - RL/MRV Tech Support
  - Input to integration of REDD+ into higher education
  - REDD+ Strategy Piloting



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SNV Netherlands Development Organisation

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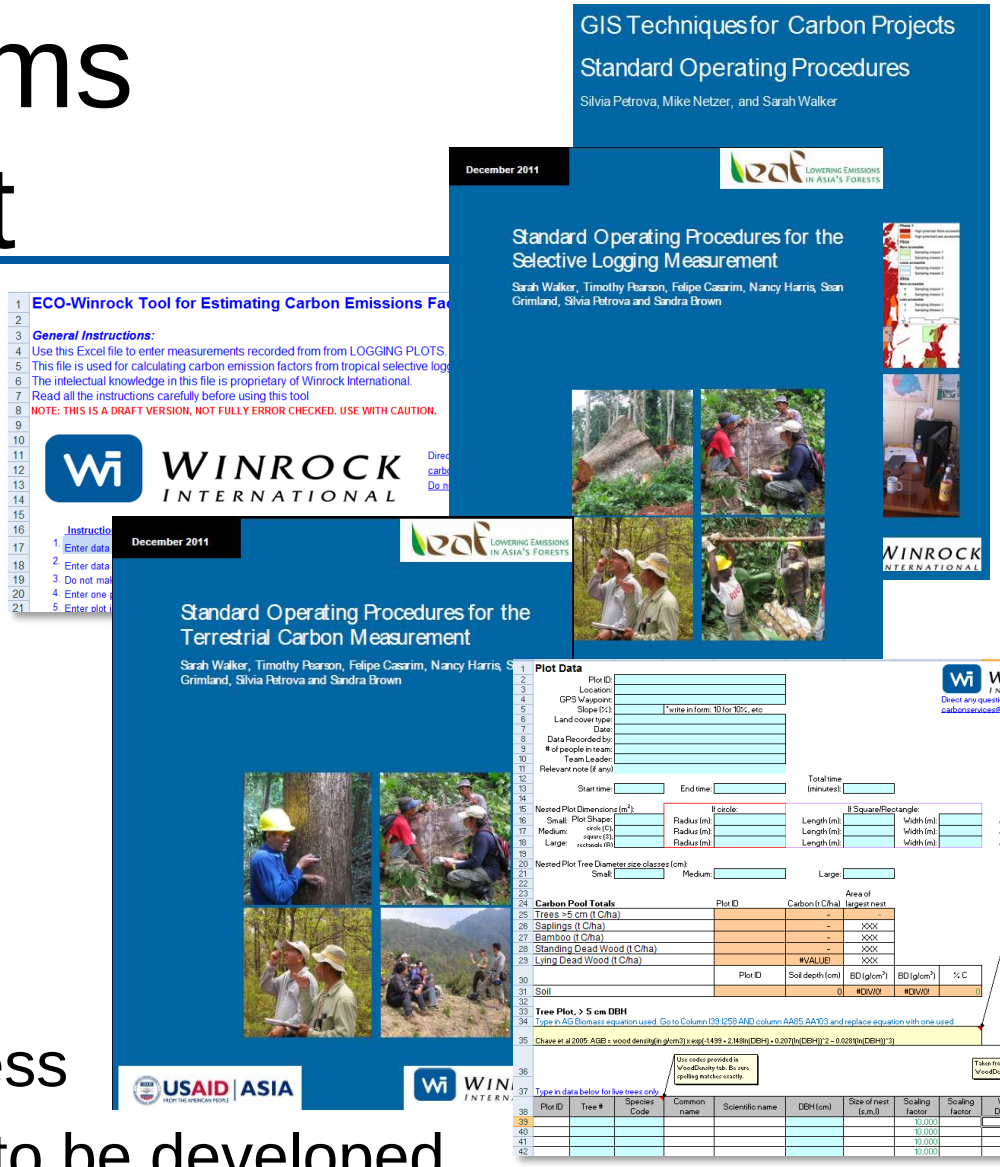
LOWERING EMISSIONS IN ASIA'S FORESTS

- Pilot Actions include:
  - National Assistance:
    - Technical Support Tools and Trainings in RL and MRV Development
  - Local-level Assistance:
    - Interaction of National-Province-District in RL and MRV data creation
    - Local Gov't REDD+ Capacity Improvement
    - Pilot REDD+ Strategy Implementation – focused on improving local livelihoods through C finance

WI - Ecosystems Carbon Toolkit

- SOPs
  - Carbon stocks
  - Logging Emissions
  - Allometric Equations
  - GIS Techniques
- Calculation Tools
  - Carbon stocks
  - Logging Emissions
  - Plot Calculator
- 2012 Peer-review process
- Additional components to be developed



Decision Support Tool for Developing RL/REL

- Funded by World Bank - FCPF
- Provides main steps in RL creation and guidance on key decisions, providing advantages/disadvan.

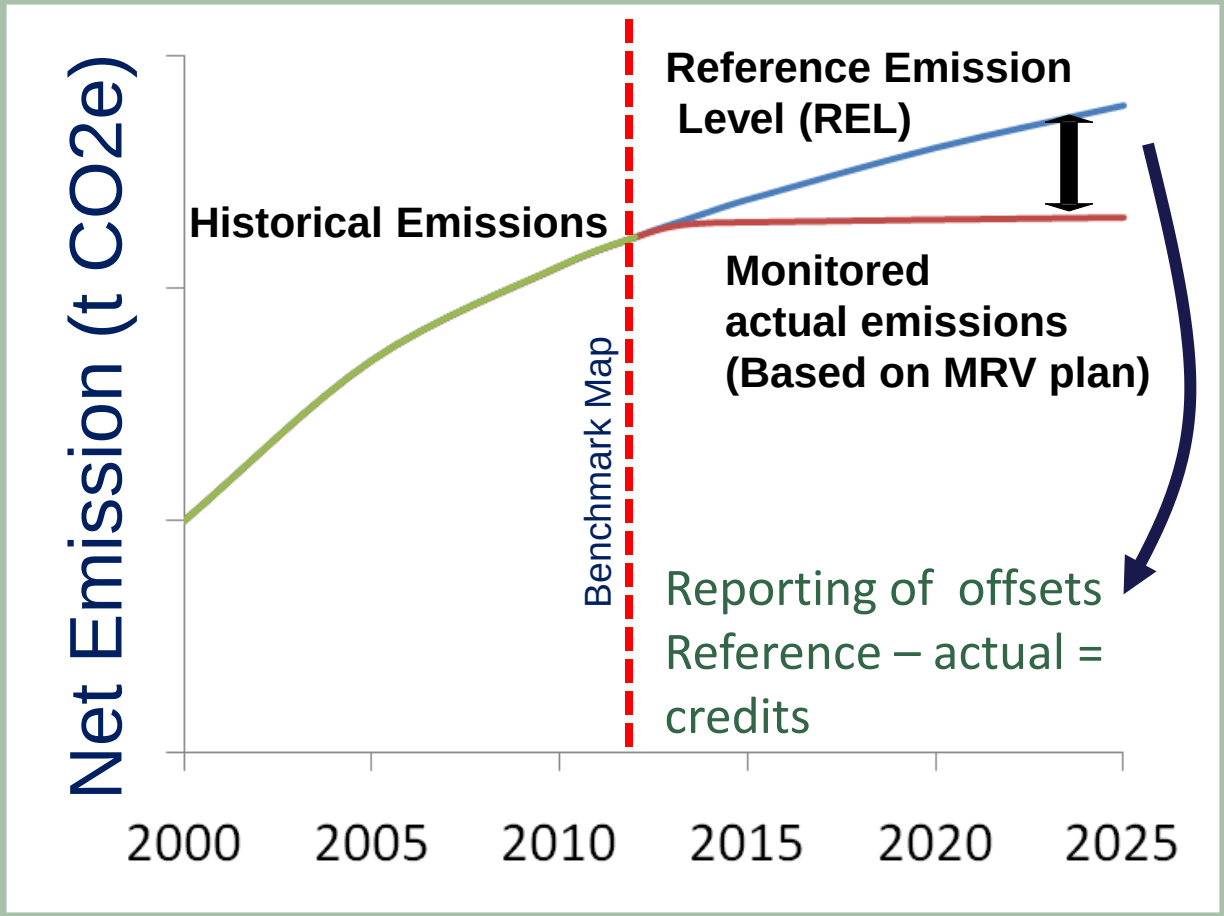
- Hopefully: Under  will expand guidance

Decision Support Tool for Developing RL/REL

- Guidance provided on topics such as:

- Activities to include (Def, Deg, Enhan)
- Defining Forest Definition
- Interactions of National / Jurisd / Project Scale
- Potential linkages of REDD+ to new/existing National Forest Inventory?
- RL adjustments for national circumstances
- Requirements for deforestation location projection in RL creation and MRV

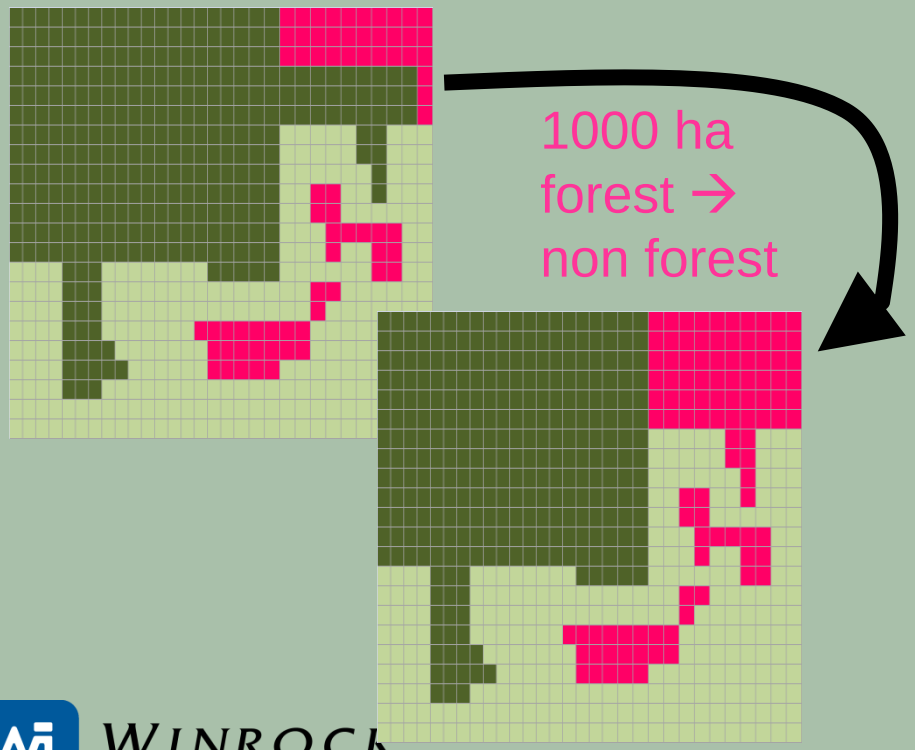
REDD+ Crediting based on: difference between reference level and actual emissions



Basic Historic Emissions and MRV Inputs

Activity Data: Which changes occurred? Where? How much?

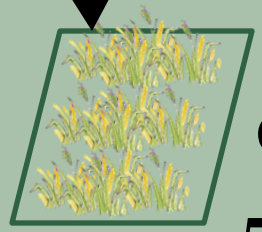
Emission/Removal Factors: How much carbon was emitted/removed per unit of activity data?



Intact Forest Type

500 t CO_2 / ha

Net Emissions: 495 t CO_2 / ha



Cropland

5 t CO_2 / ha

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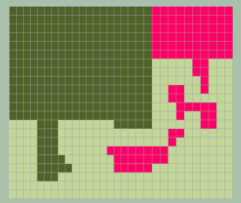
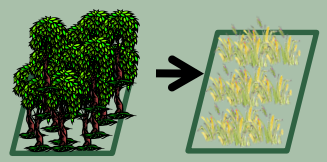
Historic/future emission from LU Change

Activity Data:		Emission Factor:		
Area of change	*	Emissions / unit of change	=	Net Emissions from Land Cover Type
				
1000 ha	*	495 t CO_2/ha	=	495,000 t CO_2

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RL – MRV Development
Technical Decisions

- Historical + MRV: rules / methods must be consistent
  - Pools measured, activities included, emission factors used
- If data sources change/vary, methods for integration/harmonization must be created

Role of Subnational Projects and Local Actors: Need for Definition

- Pilot Activities taking place
  - Jurisdictions, NGOs, voluntary projects
  - High potential for involvement w/ local populations
- Pilot actions need guidance on procedures to institute to support integration into future national system

National – Subnational Harmonization

- Rules, regulations, standards
- Methods for disaggregating at subnat.
- REDD+ Activities accounted for
- Historical period, basemap year
- Forest definition
- Land cover classification system
- Stratification system
- Carbon pools
- Activity Data Classes
- Emission Factors

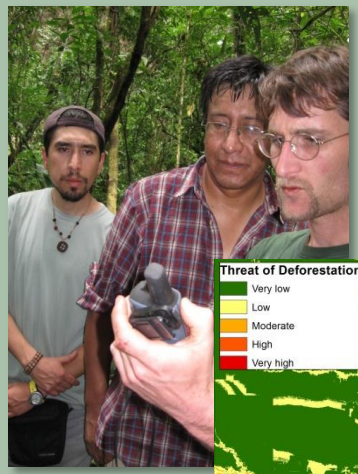
Recommendation: Develop Interim Guidance

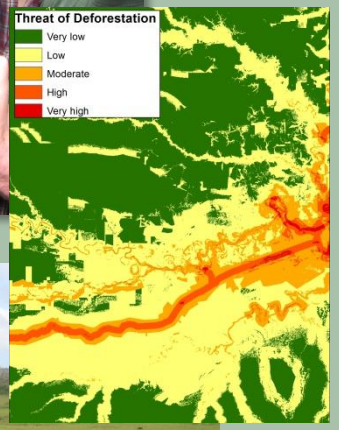
- National-level gov't →interim guidance
- Roles / requirements for interaction
- Endorsement / approval process
- Additionality Requirements
- Leakage – spatial analysis and spatial extent?
- Social and Enviro safeguards/requirements
- Benefit Distribution requirements?

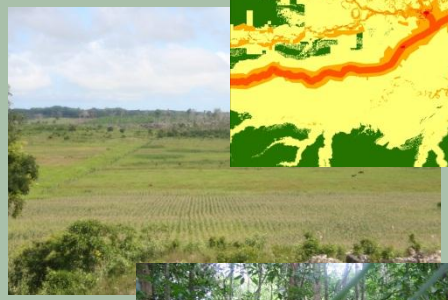
Recommendation: Develop Interim Guidance

- Methodological issues
  - Recognize specific international methods?
  - If project uses diff method from National → rules to demonstrate how to harmonize
  - Data types allowed
  - Accuracy/precision requirements
  - Spatial and temporal projection methods allowed
  - Database/Documentation requirements

Activity Data
Examples of Nesting Decisions







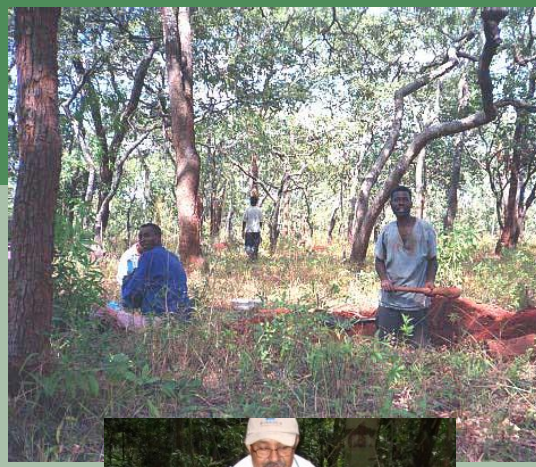
- Is it allowable to include different Activities at different scales?
- Land Use Classes
  - If project/jurisdiction created field-validated maps using different methods from national – how will these be integrated? Who will do this?
  - Can jurisdiction disaggregate classes? Consistency between jurisdictions?
  - Field validation points
    - Government led?
    - 'Projects' provide inputs?
    - Community-based measurements allowed?

Pilot – Potential Inputs

- Additional financial + technical resources for completion of data
- Pilot
  - RL/MRV creation
  - Nesting options
  - REDD+ Strategy implementation
  - Benefit Distribution Systems
  - Role of local actors
  - Database management system

Involvement of Local Actors RL and MRV Creation

- Removes ‘magic’ around ‘carbon’
- Increases sense of ownership of process and activities
- Actors gain understanding of how their activities impact emissions/ removals
- Integral to developing appropriate monitoring indicators
- Proven to increase impact of activities
- Appropriate results-based compensation mechanism must be developed
- Cost/benefit analysis of involving local actors recommended for each component

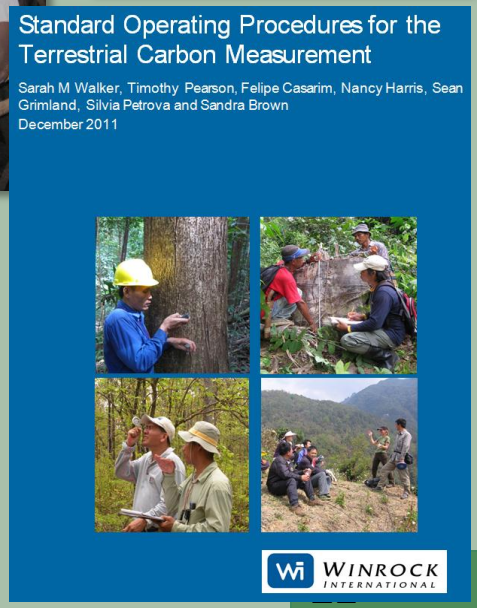


Activity Data – Potential Local Input

- Emission Driver analysis
  - Field surveys
    - Extension officers and/or local organizations
- Field Validation of land cover maps
  - GPS derived – higher accuracy
  - Mobile phone derived – accuracy lower, but allows more points
  - Implement straightforward and objective standard operating procedures
- Non-spatial historical activity data – examples:
  - Population
  - Timber production rates
  - Firewood/charcoal production rates
  - Fertilizer used

Emission Factors – Potential Local Input

- Conduct Field Measurements
  - EF creation
  - Monitoring
- SOPs – Local by Design
  - Range of formal education and literacy levels
  - Tasks grouped by education
  - Guidelines limit subjective estimation
  - Limited level of training needed for meaningful contribution!



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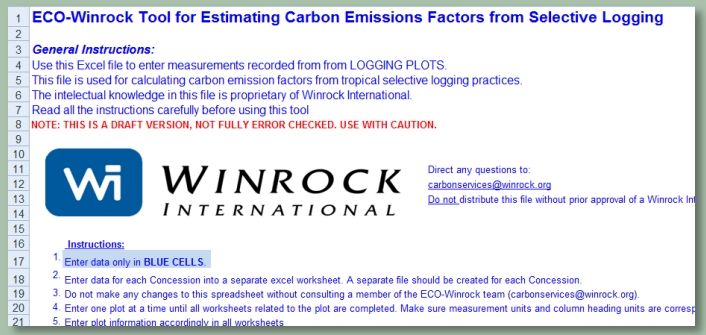
Winrock Carbon Toolkit

- Calculation Tools:
  - Plot calculator
  - Carbon stock calculator
  - Logging emission factors
  - Destructive sampling
- Allows data analysis to be conducted using standard approach
- Requires only limited staff to understand data calculation methods to high level


ECO-Winrock Tool for Estimating Carbon Emissions Factors from Selective Logging

General Instructions:
Use this Excel file to enter measurements recorded from from LOGGING PLOTS.
This file is used for calculating carbon emission factors from tropical selective logging practices.
The intelectual knowledge in this file is proprietary of Winrock International.
Read all the instructions carefully before using this tool
NOTE: THIS IS A DRAFT VERSION, NOT FULLY ERROR CHECKED. USE WITH CAUTION.

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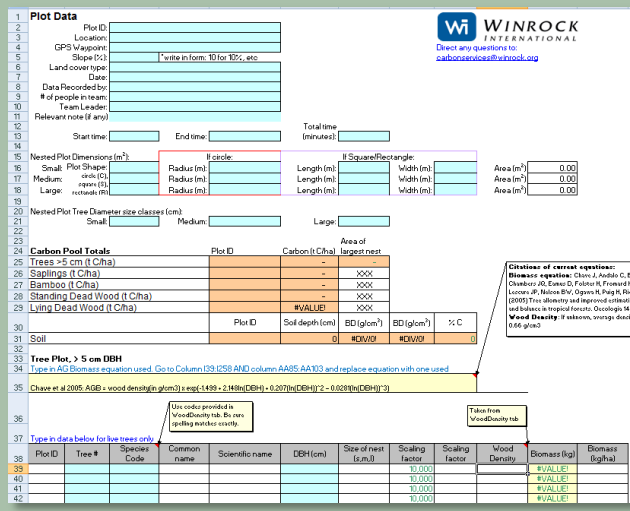
Direct any questions to:
carbonservices@winrock.org
Do not distribute this file without prior approval of a Winrock Int

Instructions:
1. Enter data only in BLUE CELLS.
2. Enter data for each Concession into a separate excel worksheet. A separate file should be created for each Concession.
3. Do not make any changes to this spreadsheet without consulting a member of the ECO-Winrock team (carbonservices@winrock.org).
4. Enter one plot at a time until all worksheets related to the plot are completed. Make sure measurement units and column heading units are corresp
5. Enter plot information accordingly in all worksheets


Plot Data

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Plot ID:
Location:
GPS Waypoint:
Slope (%):
Land cover type:
Date:
Data Recorded by:
# of people in team:
Team Leader:
Relevant note (if any)

Start time: End time: Total time (minutes):

Nested Plot Dimensions (m²):
Small: Plot Shape: If circle: Radius (m): If Square/Rectangle: Length (m): Width (m): Area (m²): 0.00
Medium: circle (C); square (S); rectangle (R) Radius (m): Length (m): Width (m): Area (m²): 0.00
Large: Radius (m): Length (m): Width (m): Area (m²): 0.00

Nested Plot Tree Diameter size classes (cm):
Small: Medium: Large:

Carbon Pool Totals	Plot ID	Carbon (t C/ha)	Area of largest nest
Trees >5 cm (t C/ha)		-	-
Saplings (t C/ha)		-	XXX
Bamboo (t C/ha)		-	XXX
Standing Dead Wood (t C/ha)		-	XXX
Lying Dead Wood (t C/ha)		#VALUE!	XXX

	Plot ID	Soil depth (cm)	BD (g/cm³)	BD (g/cm³)	% C
Soil		0	#DIV/0!	#DIV/0!	0

Tree Plot, > 5 cm DBH
Type in AG Biomass equation used. Go to Column I39:I258 AND column AA85:AA103 and replace equation with one used

Chave et al 2005: AGB = wood density(in g/cm3) x exp(-1.499 + 2.148ln(DBH) + 0.207(ln(DBH))^2 - 0.0281(ln(DBH))^3)

Use codes provided in WoodDensity tab. Be sure spelling matches exactly.

Taken from WoodDensity tab

Type in data below for live trees only

Plot ID	Tree #	Species Code	Common name	Scientific name	DBH (cm)	Size of nest (s,m,l)	Scaling factor	Scaling factor	Wood Density	Biomass (kg)	Biomass (kg/ha)
							10,000			#VALUE!	
							10,000			#VALUE!	
							10,000			#VALUE!	
							10,000			#VALUE!	

Citations of current equations:
Biomass equation: Chave J, Andalo C, [illegible] Chambers JQ, Eamus D, Folster H, Fromard F, Higuchi N, Kira T, Lescure JP, Nelson BW, Ogawa H, Puig H, Ri (2005) Tree allometry and improved estimation of carbon stocks and balance in tropical forests. Oecologia
Wood Density: If unknown, average density 0.66 g/cm3

Participatory Monitoring

- Existing Tools for Part. Monitoring are being adapted for REDD+
- New technologies (smart phones) Options

- Alerts of activities
  - Alerts used to initiate monitoring of activity in a location
  - Alert used to attempt to stop activity
  - Ex: MOABI project - NORAD / WWF/ OSFAC/WRI project
- Monitor implementation of REDD+ Strategies
  - Monitoring involvement of community members in strategies – eg – use of improved cookstove, fertilizer, farming technique

Participatory Monitoring

- Monitoring of 'activity data'
  - Area of deforestation
  - Trees planted / area planted
  - Trees logged
  - Firewood/charcoal created
- Updating of Emission Factors
- Estimation of Emissions/Removals
- Examples:
  - USAID – Winrock – ARBCP Asia Regional Biodiversity Conservation Program - PES project in Vietnam
  - Plan Vivo – Voluntary market standard
    - Community organizations created
    - Members conducted regular monitoring of all participating farmers
    - Results-based payment mechanism used

LOWERING EMISSIONS IN ASIA'S FORESTS

- Pilot participatory mon. project
  - Start in Laos + Vietnam
  - Provincial REL input
  - District MRV through part. mon.
  - REDD+ Strategy: integrated land use planning
  - Results-based Benefit Distribution System

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THANK YOU!

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