

REDD+ Monitoring, and Measurement, Reporting and Verification workshop

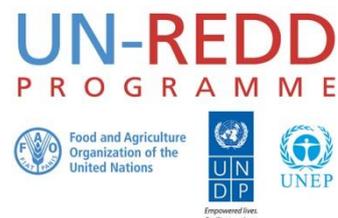
“Training the Trainers”

Report

Second regional workshop

Lima, Peru

4-7 July 2016



REDD+ Monitoring, and Measurement, Reporting and Verification workshop

“Training the Trainers”

Report



25-July-2016

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General Workshop information

Sponsors

World Bank Forest Carbon Partnership Facility (WB FCPF)

UN-REDD Programme of the Food and Agriculture Organization of the United Nations (FAO/UN-REDD)

REDD+ partnership

Global Forest Observations Initiative (GFOI) Office, with funding from the Australian and Norwegian Governments

United States SilvaCarbon Program

GOFC-GOLD Land Cover Office

Wageningen University (WU)

Boston University (BU)

US Department of Interior

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List of Acronyms

BU	Boston University
FAO	Food and Agriculture Organization of the United Nations
GFOI	Global Forest Observations Initiative
GHG	Greenhouse Gas(es)
GOFC-GOLD	Global Observation for Forest Cover and Land Dynamics
IPCC	Intergovernmental Panel on Climate Change
MGD	Methods and Guidance Document from GFOI
MRV	Measuring, Reporting and Verification (of forest related greenhouse gas emissions)
NFI	National Forest Inventory
NFMA	National Forest Monitoring and Assessment
R&D	Research and Development
REDD+	REDD+ refers to the UNFCCC decision (COP16, 2010) on: “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 forest and enhancement of forest carbon stocks in developing countries.”
UNFCCC	United Nations Framework Convention on Climate Change
UN-REDD	United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries
WB FCPF	World Bank Forest Carbon Partnership Facility
WU	Wageningen University

1. Background

1.1 The need for REDD+ MRV training support

The performance-based climate mitigation framework REDD+¹ encourages the reduction of emissions related to deforestation and forest degradation, and removals through enhanced forest carbon stocks and improved forest management. These activities should be measured and reported to the United Nations Framework Convention on Climate Change (UNFCCC); including a process of verification. This requires methodologies for estimating actual emissions and removals and for establishing the reference level. UNFCCC requests countries to build robust and transparent national forest monitoring systems to facilitate the measurement and reporting of forest related greenhouse gas (GHG) emissions, following the guidelines and guidance from the Intergovernmental Panel on Climate Change (IPCC).

Various training materials and tools have been developed to support forest monitoring and MRV for REDD+, (see section 3.2), and will be introduced in the workshop. All of these products aim to support and facilitate country processes with the development of capacities for implementing a national system for monitoring forest area and area changes, the associated carbon stocks and changes; and for MRV of REDD+ activities.

Additionally, the Global Forest Observations Initiative (GFOI) has been established as an international partnership on forest monitoring and, measurement, reporting and verification (MRV) issues for REDD+. GFOI brings together a community of international experts, donors and specialist organisations and provides a forum for them to consolidate their considerable resources in to a more holistic and specialised package of support for REDD+ countries.

1.2 The REDD+ training workshops

To make available training materials more accessible for countries and REDD+ / forest monitoring professionals, four (4) regional one week workshops are planned in three different continents: one in South-East Asia (in English), one in Latin America (in Spanish) and two in Africa (in French and English). The basic concept of these workshops is to “train the trainers”. A selected group of around 35 participants from countries in each region (2-3 per country) will attend with the aim of further disseminating the knowledge and insights gained to and train other relevant people who are involved in REDD+ monitoring and reporting in their country, in order to further build their capacities.

The workshops will be jointly organized by GFOI partners who include World Bank FCPF, Silvcarbon, FAO/UN-REDD, Wageningen University, GOF-C-GOLD, and Boston University. Organization of the workshops will be under the coordinating leadership of Wageningen University.

¹ REDD+ refers to the UNFCCC decision (COP16, 2010) on: “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 forest and enhancement of forest carbon stocks in developing countries.”

2. Workshop objectives

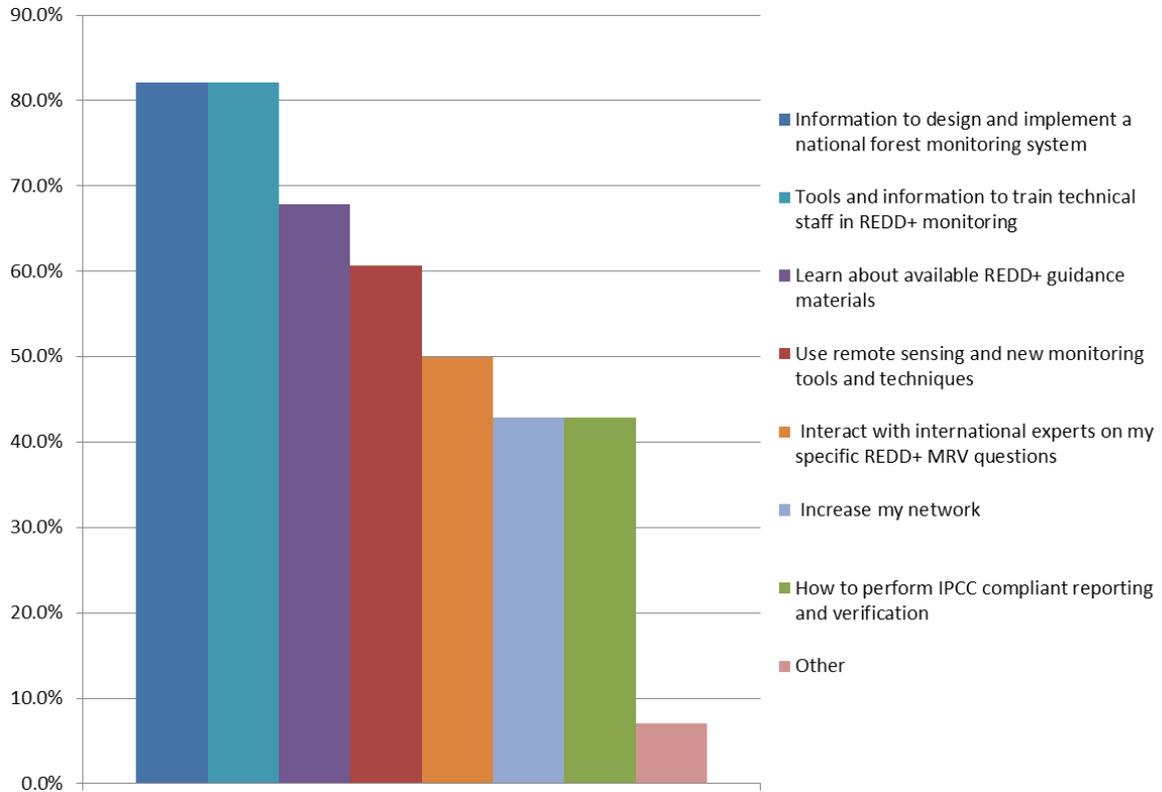
This workshop from 4-7 July in Lima, Peru, was the second in the series of four regional workshops. This workshop was held in Spanish. The aim of the workshop is to build upon existing expertise and experiences and to use available training materials and tools in a broad capacity development context to help build countries' capacities and to spread the use and increase the impact of available knowledge and tools.

After the successful completion of the workshop, participants should be able to become 'multipliers' by further disseminating the knowledge and experience gained and train other relevant people who are involved in REDD+ monitoring and reporting in their country. In the workshops, participants learn about the different training materials and tools that are available and how these different materials all fit together in the "bigger picture" of REDD+ MRV capacity building. Participants will also know how and where to make request for further appropriate training and make use of available tools for implementation. Direct interactions with leading international experts present at the workshop will be facilitated so specific issues can be discussed face to face.

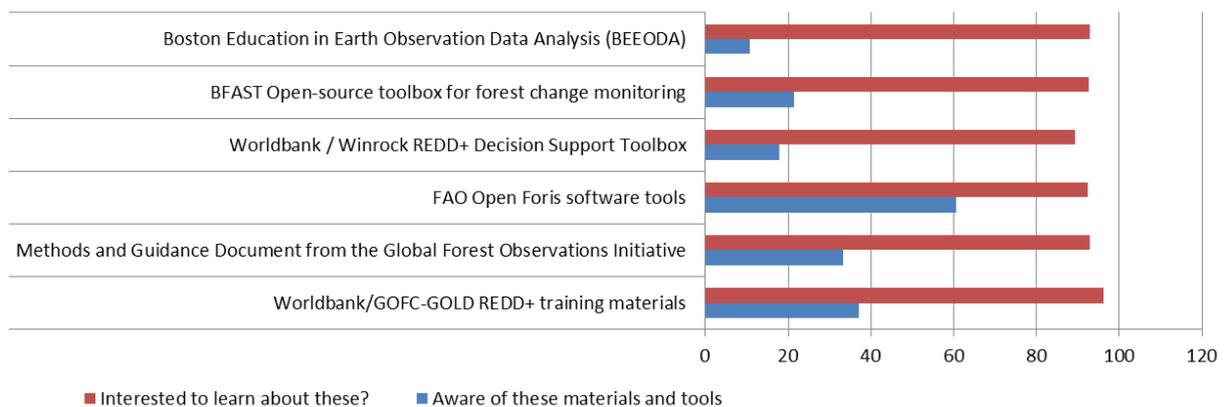
Through these regional workshops the materials will become more accessible for a wider public. Interactive settings, such as the workshops, allow course participants to ask specific questions and to better comprehend the topics and apply the knowledge to their own country context. Workshop participants bring back the knowledge to their own country and can spread the newly acquired knowledge and insights within their home institutions and networks.

Before the workshop an online survey was held among participants to gauge their interests and knowledge level:

What are you most interested to get out of the workshop?



Which of these materials are you aware of / interested to learn about?



3. Training materials that were used/presented during the workshops

WB/GOFC-GOLD training materials:

The WB/GOFC-GOLD training materials consist of lecture presentations, practical examples of implementation under different country circumstances, and exercises and tutorials. The training materials provide a strong basis for use in comprehensive educational and pedagogical approaches, thereby using the GOFC-GOLD Sourcebook, GFOI MGD and other guidance material as background documents. They consist of fourteen modules under three main components: REDD+ Background and Design, REDD+ Measuring and Monitoring and REDD+ Assessment and Reporting. They are freely available at: http://www.gofcgold.wur.nl/redd/Training_materials.php and <https://www.forestcarbonpartnership.org/redd-training-material-forest-monitoring>

The GFOI Methods and Guidance Document (MGD)

The MGD provides step-by-step advice on how to estimate emissions and removals associated with REDD+ activities, focusing on operational methods and freely available data. The MGD describes the use of remotely sensed and ground-based data in combination, and is systematically linked to IPCC guidance. This document published in English, Spanish and French are freely available at: <http://www.gfoi.org/methods-guidance>

REDDcompass

The GFOI has also developed an overarching application called REDDcompass , which links available training products in an easy to follow workflow approach, accompanying countries all the way through the otherwise complex process of developing these systems and capacities. REDDcompass is a web-based application which enables users to progressively work through the key themes, concepts and actions of REDD+ National Forest Monitoring Systems (NFMS) for Measurement, Reporting and Verification (MRV) gaining access to a suite of GFOI methods and guidance, space data resources, training materials and tools along the way. Available at: <http://www.gfoi.org/reddcompass>

FAO Open Foris software tools

Open Foris is an FAO-led initiative to develop, share and support specialized software tools required by countries and institutions to implement multi-purpose forest inventories. It is a set of free and open-source software tools that facilitates flexible and efficient data collection, analysis and reporting. Available at: <http://www.fao.org/forestry/fma/openforis/en/>

WB FCPF / Winrock REDD+ Decision Support Toolbox

The REDD+ Decision Support Toolbox by Winrock International in partnership with the World Bank FCPF provides a methodological framework for countries to enhance their near term capacity for producing REDD+ FRLs/FREs. The framework outlines the decisions and steps needed to develop a FRL/FREL, the capacity, data, and technical steps needed to carry out each component. Available at: <https://redd-dst.ags.io/accounts/login/>

BFAST Open-source toolbox for forest change monitoring

BFAST training materials and open-source toolkit enables countries to monitor changes in forests (e.g. deforestation and near real-time alerts) using satellite images (e.g. Landsat). Training materials and software are available here: <http://changemonitor-wur.github.io/>

BEEODA/ MGD

The Boston Education in Earth Observation Data Analysis (BEEODA) is a suite of open source software and education materials designed to provide practitioners with the software tools necessary for securing activity data. The software and materials have been designed to allow practitioners to make use of novel and often required methods such as time series analysis, object based image analysis and statistical inference, and have been developed to support implementation of the guidance outlined in the MGD. The education material is centered around modules which provide detailed instructions for completion of various image processing tasks. More information available here: <http://beeoda.org> and <http://github.com/beeoda>.

COVE

The CEOS Visualization Environment (COVE) tool is a browser-based system that leverages Google-Earth to display satellite sensor coverage areas and identify coincidence scene locations. The NASA CEOS System Engineering Office (SEO) worked with the Committee on Earth Observing Satellites (CEOS) Working Group on Calibration and Validation to develop the COVE tool. <http://www.ceos-cove.org/index.php/covetool>

3. Workshop outcomes

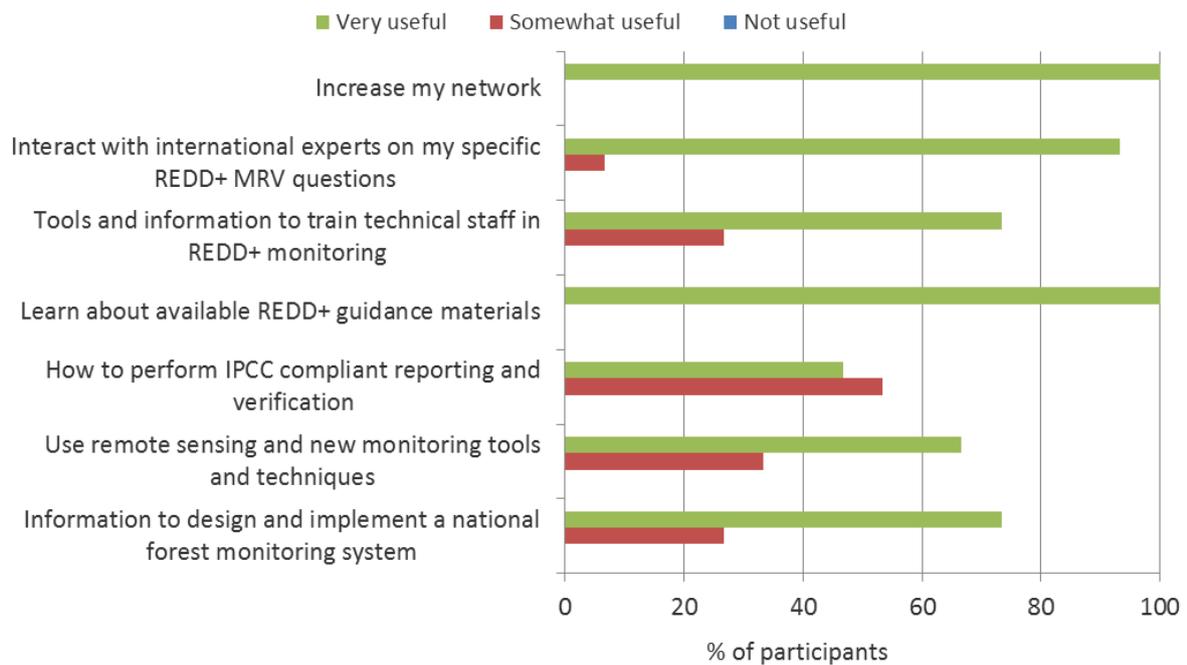
The workshop outcome for a specific country and partners is a “way forward” plan based on the knowledge and understanding of various open-source training materials and tools available and presented during the workshop. Workshop participants will be aware of how to access and use materials and tools and how to develop a plan for further training for their country and regional circumstances and activities. The follow up idea of the workshop is to also build a user community of these materials and tools. Participants get to know the experts that are developing and making these tools available so they can also be contacted for questions and feedback afterwards. So specific workshop outcomes will be:

- The establishment of a network / community of practice for building capacities for REDD+ national forest monitoring systems and MRV in South-East Asia using the tools available
- The establishment of partnerships with all workshop organizations and participants. Workshop participants will be aware of all the guidance and training materials, portals and tools that are available, and their relationships. They will make connections across the different organizations and contact points for seeking further information and training.
- Workshop participants are expected to perform practical training afterward the workshop and to deliver at least 1 module at one occasion in the next 6 months after the workshop.
- A survey will be sent around approximately 6 months after the completion of the workshop to assess the impact and usefulness of the workshop.
- A series of Webinars are planned and will be recorded over the course of the next year after the workshop. If workshop participants are interested, they have the opportunity to collaborate on this and use this opportunity to continue to engage in this network while having the experts ready to respond to their specific needs and requests.

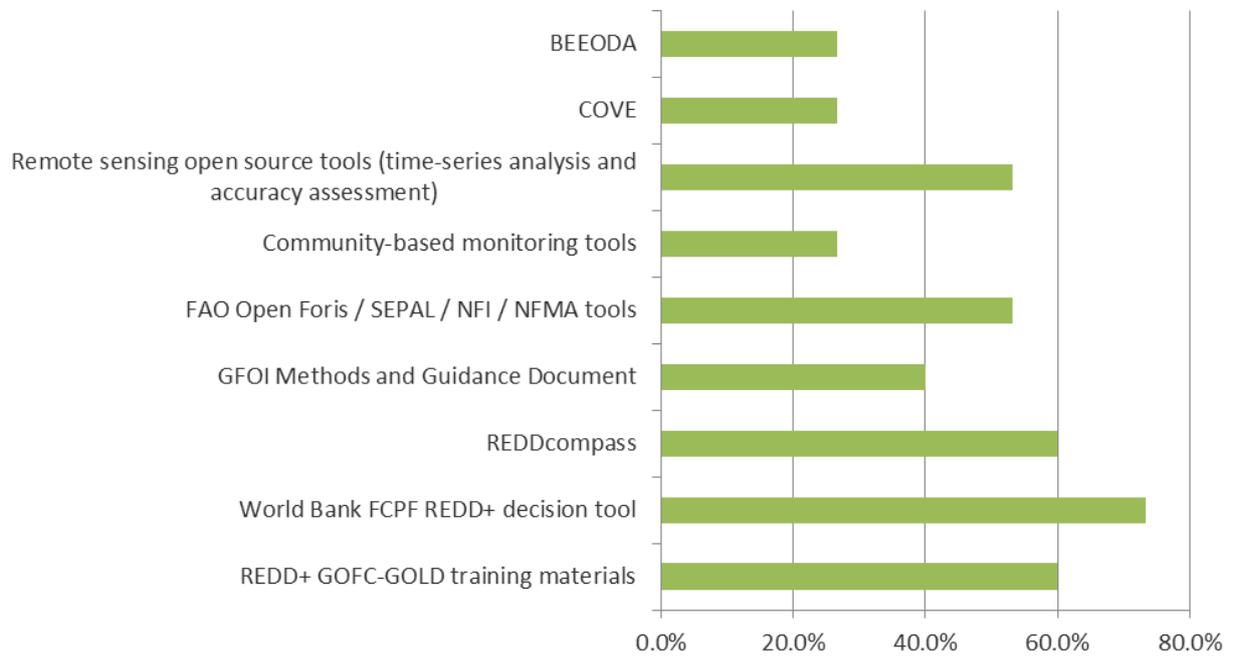


After the workshop, participants were asked to fill in a survey regarding the objectives, tools and quality of the workshop:

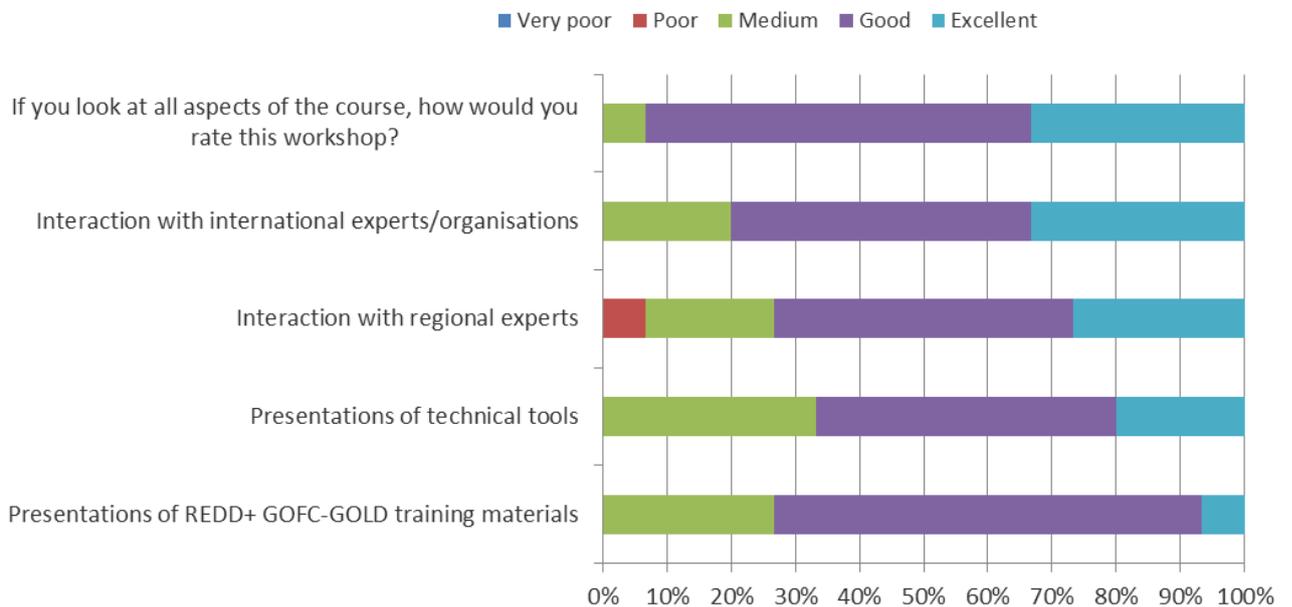
Was this workshop useful for you regarding the following aims?



Which of the tools, if any, do you plan to use for your further work?



How do you rate (time allocated and quality):



4. Workshop agenda

Day 1, 4 July - Opening, Introductions and Training WB/GOFC-GOLD training materials: Presentation of (selection and/or combination) of GOFC-GOLD training materials, including discussion		
Time	Activity	Person Responsible
09:00 – 09:30	Registration and coffee	Sarah Carter & Alvaro Lau
09:30 – 10:00	Opening: Welcome word from organising team and sponsors:	
	<ul style="list-style-type: none"> • Inge Jonckheere (UNREDD) • Zenia Salinas (World Bank FCPF) • Rosa Román (Wageningen / GOFC-GOLD) • Sylvia Wilson (SilvaCarbon) 	Inge Jonckheere
	General introduction to capacity building programmes and tools	
10:00 – 10:30	Tour de table	Workshop participants
<i>10:30 – 11:00 Coffee break</i>		
11:00 – 11:15	World Bank FCPF / Winrock REDD+ decision support tool	Zenia Salinas
11:15 – 11:30	An introduction to the REDDcompass	Jenny Hewson
11:30 – 12:00	Interactive discussion on country-specific issues and needs Results from questionnaire (Rosa Roman)	Inge Jonckheere Workshop participants
<i>12:00 – 13:30 Lunch</i>		
13:30 – 15:00	Interactive discussion on country-specific issues and needs – <i>continued</i>	Inge Jonckheere Workshop participants
15:00 – 16:00	Session 1: Presentation of GOFC-GOLD training materials, including discussion (various presenters) <ul style="list-style-type: none"> - Intro(Rosa) - Module 1.1 UNFCCC context and requirements and introduction to IPCC guidelines (Rosa Roman) 	Rosa Román
<i>16:00 – 16:30 Coffee break</i>		
16:30 – 18:00	Session 2: Presentation of GOFC-GOLD training materials, including discussion (various presenters) <ul style="list-style-type: none"> - Module 1.2: Framework for building national forest monitoring systems for REDD+ (Rosa Roman) - Module 1.3: Assessing and analyzing drivers of deforestation and forest degradation (Rosa Roman) 	Rosa Román
Day 2, 5 July - Training WB/GOFC-GOLD training materials: Presentation of (selection and/or combination) of GOFC-GOLD training materials, including discussion		
9:00 – 10:30	Session 3: Presentation of GOFC-GOLD training materials, including discussion (various presenters) <ul style="list-style-type: none"> - Module 2.2: Monitoring activity data for forests remaining forests (incl. forest degradation) (Javier Cano Martin) - Module 2.3: Estimating emission factors for forest cover change (deforestation and forest degradation) (Freddy Argotty) 	Rosa Román
<i>10:30 – 11:00 Coffee break</i>		

11:00 –	Session 4: Presentation of GOFC-GOLD training materials, including discussion (various presenters)	
12:00		Rosa Román
	- Module 2.5: Estimation of carbon emissions from deforestation and forest degradation (Craig Wayson)	
	- Module 2.7: Estimation of uncertainties (Eric Bullock)	
12:00 –	Community based monitoring tools	Alvaro Lau
12:45		
12:45 –	Registering for the REDD-compass	Jenny Hewson
13:00		
13:00 – 14:00 Lunch		
14:00 –	Session 5: Presentation of GOFC-GOLD training materials, including discussion (various presenters)	
15:00		Rosa Román
	- Module 3.2: Data and guidance on developing REDD+ reference levels (Zuelclady Araujo)	
	- Module 3.3: Guidance on reporting REDD+ performance using IPCC Guidelines and Guidance (Jenny Hewson)	
15:00 –	Costa Rica: baseline reference emissions levels (FREL)	Leonel Iglesias
15:15		
15:15 –	The Scolel'te Program	Elsa Esquivel Bazán
15:30		
15:30 – 16:00 Coffee break		
16:00–	Introduction on using different available tools	Sylvia Wilson
16:15		
16:15 –	REDD + MINAM Project: Conservation of native forests, Peru	Eduardo Rojas Baez
16:45		
16:45 –	Forest carbon monitoring systems	Edersson Cabrera Montenegro
17:00		
17:00 –	Discussion	Sylvia Wilson
17:30		
Day 3, 6 July - Introduction of available tools, and further opportunities		
08:00 –	Interactive session with time for different presentations	Rosa Roman / All presenters
09:00	- Javier Cano Martin - Methodologies for FREL estimation in forest degradation in Chile	
09:00 –	FAO UN-REDD capacity building programme	Inge Jonckheere
10:30	- General	Adolfo Kindgard
	- LAC: RS	Angel Parra Aiuguaiar
	- LAC: GHG & FREL	
10:30 – 11:00 Coffee break		
11:00 –	GFOI platform and REDDcompass (interactive Exercises)	Adolfo Kindgard
13:00		Angel Parra Aiuguaiar
13:00 – 14:00 Lunch		
14:00 –	FAO Open Foris / SEPAL / NFI/NFMA tools, etc.	Inge / Adolfo / Angel
15:15	Methodology for producing change maps	José Mario Serafini Gauto
15:15 –	Introduction to activities in South America and CookBook	Luis Alberto Vega
16:00	Annex (Forestry and Forest Products Research Institute (FFPRI), Japan)	Isuhaylas
16:00 – 16:30 Coffee break		
16:30 –	Hands on exercise on World Bank Decision support tool	Zenia Salinas
17:15		
18:00	Evening social activity: Tour and dinner	All workshop

participants

Day 4, 7 July - Developing a capacity building plan for trainers		
08:30 – 09:30	Interactive session (parallel session) with time for with different presenters - Rodrigo Martinez Fernandez - Tool to Evaluate Costs and Benefits of REDD +	Rosa Román / All presenters
09:30 – 11:00	Interactive session: BEEODA and uncertainty exercise	Eric Bullock
<i>11:00 – 11:30 Coffee break</i>		
11:30 – 13:00	Interactive session: BEEODA and uncertainty exercise	Eric Bullock
<i>13:00 – 14:00 Lunch</i>		
14:00 – 15:00	Introduction to the COVE tool	Paul Kessler
15:00 – 16:30	Interactive session (parallel session) with time for with different presenters - Interactive session: BEEODA and uncertainty exercise (Eric Bullock) - Interactive Exercises with the Decision Support tool of the World Bank (Zenía Salinas) - Thematic Discussions on issues related to REDD + (Rosa Roman)	Rosa Román
<i>16:30-17:00 Coffee break</i>		
17:00 – 17:15	Workshop closing and certificates	Sylvia Wilson

5. List of participants

Nombre/Name	Organización/Affiliation	País/Country
María Verónica OYARZÚN ACOSTA	Corporación Nacional Forestal (CONAF)	Chile
Javier CANO MARTÍN	Corporación Nacional Forestal (CONAF)	Chile
Ramon Alberto DIAZ BEARD	Ministerio de Medio Ambiente y Recursos Naturales	Dominican Republic
Cyntia ORTIZ ROJAS	Ministerio de Medio Ambiente y Recursos Naturales Dirección de Cambio Climático	Dominican Republic
Carlos MÉNDEZ FERNÁNDEZ	Ministerio de Ambiente y Energía (Fondo Forestal)	Costa Rica
Agustín BÓFFANO CHEBATAROF	Dirección General Forestal - Ministerio de Ganadería, Agricultura y Pesca	Uruguay
Álvaro VALLEJO	Indipendent	USA
Guillermo SANCHEZ	SilvaCarbon	Ecuador
Jenny HEWSON	Conservation International	USA
Eric BULLOCK	Boston University	USA
David URQUIZA	Universidad Nacional de la Amazonia (UNAP)	Peru
Inge JONCKHEERE	Food and Agriculture Organization (FAO)	Italy
Elsa ESQUIVEL BAZÁN	Cooperativa AMBIO	Mexico
Jorge Luis SANTOS ACEITUNO	Instituto de Conservación Forestal (ICF)	Honduras
Freddy ARGOTTY	Centro Agronómico Tropical de Investigación y Enseñanza (CATIE)	Costa Rica
Jubenal RODRIGUEZ MALDONADO	Red Mexicana de Organizaciones Campesinas Forestales, A.C. (RED MOCAF)	Mexico
Omar ORELLANA DIAZ	Food and Agriculture Organization (FAO)	Honduras
Gabriela PARMUCHI	Ministerio de Ambiente y Desarrollo Sustentable	Argentina
José Mario SERAFINI GAUTO	Food and Agriculture Organization (FAO)	Paraguay
Amado Adalberto LÓPEZ BAUTISTA	Consejo Nacional de Áreas Protegidas (CONAP)	Guatemala
Kenset Amaury ROSALES RIVEIRO	Ministerio de Ambiente y Recursos Naturales (MARN)	Guatemala
Adolfo KINDGARD	Food and Agriculture Organization (FAO)	Paraguay
Angel PARRA AIUGUIAR	Food and Agriculture Organization (FAO)	Panama
Edersson CABRERA MONTENEGRO	Instituto de Hidrología, Meteorología y Estudios Ambientales (IDEAM)	Colombia
José Rolando SAMUDIO SANTOS	Instituto Nacional de Bosques	Guatemala
Rovoham MONZÓN	Ministerio de Agricultura Ganadería y Alimentación (MAGA)	Guatemala
Pavel BERMUDEZ	US Peruvian Forest Sector Initiative	Peru
Victor BARRENA ARROYO	Facultad de Ciencias Forestales Universidad Nacional Agraria La Molina (UNALM)	Peru
Brian ZUTTA SALAZAR	National Forest Conservation Program, Ministry of the Environment	Peru
Eddy MENDOZA	Conservation International	Peru

Craig WAYSON	SilvaCarbon	Peru
Liesbeth RODRÍGUEZ	SilvaCarbon	Peru
Luis Alberto VEGA ISUHUAYLAS	Forestry and Forest Products Research Institute (FFPRI)	Japan
Sandra Jhowana RIOS TORRES	Instituto de Investigaciones de la Amazonía Peruana (IIAP)	Peru
Diego GARCIA SORIA	Instituto de Investigaciones de la Amazonía Peruana (IIAP)	Peru
María Elena ROJAS	Food and Agriculture Organization (FAO)	Peru
Jazmine CASAFRANCA	Food and Agriculture Organization (FAO)	Peru
Sylvia WILSON	SilvaCarbon	USA
Chelsea COOK	U.S. Geological Survey	USA
Sarah CARTER	Wageningen University / CIFOR	Netherlands
Rosa Maria ROMAN CUESTA	Wageningen University	Netherlands
Alvaro LAU SARMIENTO	Wageningen University / CIFOR	Netherlands
Rodrigo MARTINEZ FERNANDEZ	World Bank	USA
Lionel IGLESIAS	World Bank	USA
Zenia Maria SALINAS VALLECILLO	World Bank	USA
Gerardo SEGURA	World Bank	USA
Sasha GOTTLIEB	US Forest Service	USA
Yasumasa HIRATA	Forestry and Forest Products Research Institute (FFPRI)	Japan
Raul RODRÍGUEZ FRANCO	Comisión Nacional Forestal (CONAFOR)	Mexico
Paul KESSLER	National Aeronautics and Space Administration (NASA)	USA