



# Proceeding of the training workshop on activity data for REDD+ forest reference levels



**Bangladesh Forest Department**  
**05 - 07 March 2018**

**UN-REDD**  
PROGRAMME



The UN-REDD Programme, implemented by FAO, UNDP and UNEP, has two components: (i) assisting in developing countries to prepare and implement national REDD strategies and mechanisms; (ii) supporting the development of normative solutions and standardized approaches based on sound science for a REDD instrument linked with the UNFCCC. The programme helps empower countries to manage their REDD processes and will facilitate access to financial and technical assistance tailored to the specific needs of the countries.

The application of UNDP, UNEP and FAO rights-based and participatory approaches will also help ensure the rights of indigenous and forest-dwelling people are protected and the active involvement of local communities and relevant stakeholders and institutions in the design and implementation of REDD plans.

The programme is implemented through the UN Joint Programmes modalities, enabling rapid initiation of programme implementation and channelling of funds for REDD efforts, building on the in-country presence of UN agencies as a crucial support structure for countries. The UN-REDD Programme encourage coordinated and collaborative UN support to countries, thus maximizing efficiencies and effectiveness of the organizations' collective input, consistent with the "One UN" approach advocated by UN members.

The UN-REDD Bangladesh National Program is implemented by the Bangladesh Forest Department under the leadership of Ministry of Environment and Forests. United Nations Development Program (UNDP) and Food and Agriculture Organization (FAO) are the two implementing partners.

### **Contacts**

**Rakibul Hassan Mukul**

Project Director  
UN-REDD Bangladesh National Programme  
Bangladesh Forest Department  
Email: [pd-unredd@bforest.gov.bd](mailto:pd-unredd@bforest.gov.bd)

**Matieu Henry**

Chief Technical Advisor  
Food & Agriculture Organization of the United Nations  
Email: [matieu.henry@fao.org](mailto:matieu.henry@fao.org)

Suggested Citation: **Jalal, R., Hira, S.** 2018. Proceeding of the training workshop on activity data for REDD+ forest reference levels. 5-7 March 2018, Dhaka, Bangladesh Forest Department, Food and Agriculture Organization of the United Nations.

### **Disclaimer**

This report is designed to reflect the activities and progress related to UNJP/BGD/057/UNJ UN-REDD Bangladesh National Programme. It does not reflect the official position of the supporting international agencies including FAO and UNDP and should not be used for official purposes. Should readers find any errors in the document or would like to provide comments for improving the quality they are encouraged to contact one of above contacts.

## **EXECUTIVE SUMMARY**

A three-day training workshop on activity data for REDD+ forest reference levels was held at the Bangladesh Forest Department in Dhaka from 5 to 7 March 2018. The training organized by the Forest Department of Bangladesh and the Food and Agriculture Organization under the UN-REDD Programme. The workshop was conducted by Mr Rashed Jalal, Remote sensing and GIS expert from FAO in Bangladesh. In total, nine participants (four males and five females) from the Resources Information Management System (RIMS) unit of Bangladesh Forest Department attended the training.

The objective of the workshop was to calculate and analyze activity data for developing REDD+ activities for the construction of forest reference level and conduct an accuracy assessment on the REDD+ activities. The workshop was formatted through discussions, lectures, and practices exercises using different software and platforms, such as ArcGIS, 'Open Foris Collect Earth' and SEPAL and participants performed hands on exercise in each session of the workshop

# Table of Contents

## Contents

EXECUTIVE SUMMARY .....	3
1. INTRODUCTION .....	5
2. OBJECTIVE .....	5
3. Summary of the WORKSHOP .....	5
3.1 1 <sup>st</sup> Day of Workshop .....	6
3.2 2 <sup>nd</sup> Day of Workshop .....	6
3.3 3 <sup>rd</sup> Day of Workshop .....	6
4. RECOMMENDATION FOR NEXT STEPS .....	7
APPENDIX 1. AGENDA .....	8
APPENDIX 2. PARTICIPANT LIST .....	9
APPENDIX 3. EVALUATION .....	10

## **1. INTRODUCTION**

The global climate change mitigation mechanism of REDD+ is now prominently included in the Paris Agreement. REDD+ is a mechanism to provide readiness finance and results-based payments to developing countries to reduce their GHG emissions from forest loss. The REDD+ activities are: (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. Negotiations over this mechanism under the UNFCCC resulted in 2013 Warsaw Framework on REDD+, a package of decisions to help countries implement REDD+, including development of national strategies (NS) or action plans (AP), as well as national forest monitoring systems (NFMS), forest reference emission levels/forest reference levels (FREL/FRL), safeguard information system (SIS).

Submitting a FRL/FREL to the UNFCCC is an involved process that requires understanding national circumstances that drive emissions (and removals) and the adoption of reliable and transparent procedures. The components of a national FRL scale of FRL development, definition of forest, activities, pools and gases to be included needs a comprehensive consultation and understanding in line with guidelines of UNFCCC. In addition, the data and methodology to be adopted, emission factors to be used, assessing fluxes from deforestation and afforestation, especially from forest enhancement and degradation, is a rigorous scientific endeavour that requires knowledge of international (IPCC) guidelines. The FRL submission also should report limitations and future improvements to enable an understanding of the future direction of FRL development.

Under this circumstance, Bangladesh drafted the first FREL/FRL report under the Bangladesh UN-REDD National program, which is submitted to the Ministry of Environment and Forests (MoEF) for their approval and submission to the UNFCCC.

## **2. OBJECTIVE**

The training workshop aimed to enhance the capacity of the participants from the RIMS unit

- To calculate activity data for REDD+ forest reference level;
- To conduct an accuracy assessment on the REDD+ activities
- To use different software and platforms including ArcGIS, 'Open Foris Collect Earth' and SEPAL for the development and analysis of activity data

## **3. SUMMARY OF THE WORKSHOP**

The workshop was formatted into two parts, theoretical and hands on exercise, although giving emphasis on the hands on exercise mostly. The theoretical part covered the definition of the REDD+ activities.

The hands on training covered the following contents.

- Integration of Land cover and Tree cover change data along with defining REDD+ activity in ArcGIS platform.
- Reference data collection using 'Open Foris Collect Earth' software for uncertainty analysis.
- Sample design for reference data and uncertainty analysis in SEPAL cloud computing platform.

### **3.1 1<sup>st</sup> Day of Workshop**

#### **Session 1**

The workshop began with the explanation of development of REDD+ activity data by Mr Rashed Jalal, Remote Sensing and GIS expert of FAO. The activities were explained based on the land cover and tree cover monitoring data of two different time periods.

#### **Session 2**

The session focused on the hands on exercise of integrating the land cover data and tree cover monitoring data into ArcGIS platform. The integrated data were

- Land cover for the year 2000 and 2015
- Tree cover data of 2000 and 2015

### **3.2 2<sup>nd</sup> Day of Workshop**

#### **Session 1**

The following activities were carried out in the session

- Calculating tree cover change using the data from 2000 and 2015
- Defining the land cover (activity based) for the year 2000 and 2015

#### **Session 2**

The following activity was carried out in the session

- Defining the activity based on the tree cover change status.

### **3.3 3<sup>rd</sup> Day of Workshop**

#### **Session 1**

In the first session the officials were introduced to SEPAL, a cloud computing platform, for designing the sample and response design needed for uncertainty analysis. The following activities were carried out in the session:

- Setting up of SEPAL account.

- Get known to the functionalities of the platform.
- Initiate the calculation procedure.
- Collecting data against the samples using 'Open Foris Collect Earth' software.

### **Session 2**

The output from the first session was then used for performing the uncertainty analysis of REDD+ activity data. The error matrix produced in the SEPAL platform then used to calculate the adjusted area for the REDD+ activities.

A wrap up session held at the end to summarize the training components and for general discussion.

## **4. RECOMMENDATION FOR NEXT STEPS**

After the workshop, the officials of RIMS unit of BFD suggested to provide additional training on SEPAL cloud computing platform for sampling design and uncertainty analysis.

## APPENDIX 1. AGENDA

Day	Time	Topic
1	9:30 – 10:30	Presentation on the development process of REDD+ activity data
	10:30 – 13:00	Software demonstration of the development process
	13:00 – 14:00	Lunch break
	14:00 – 17:00	Hands on exercise (Land cover change map)
2	9:30 – 13:00	Hands on exercise (Land cover – tree cover integration)
	13:00 – 14:00	Lunch break
	14:00 – 17:00	Hands on exercise (REDD+ activity)
3	9:30 – 13:00	Hands on exercise (Uncertainty analysis – sample and response design)
	13:00 – 14:00	Lunch break
	14:00 – 16:00	Hands on exercise (Uncertainty analysis – adjusted area)
	16:00 – 17:00	Wrap up

**APPENDIX 2. PARTICIPANT LIST**

<b>Name</b>	<b>Gender</b>	<b>Organization</b>	<b>Email</b>
<b>Zaheer Iqbal</b>	M	RIMS unit, BFD	z.iqbal60@gmail.com
<b>Shamima Begum Shewli</b>	F	RIMS unit, BFD	shewlibfd@gmail.com
<b>Afroza Begum</b>	F	RIMS unit, BFD	b.afroza@yahoo.com
<b>Md. Tariq Aziz</b>	M	RIMS unit, BFD	tariqaziz9718@gmail.com
<b>Mariam Akhter</b>	F	RIMS unit, BFD	mariamakter2002@gmail.com
<b>Rashed Jalal</b>	M	FAO	Rashed.jalal@fao.org
<b>Shrabanti Hira</b>	F	FAO	Shrabanti.hira@fao.org
<b>Nazmul Islam</b>	M	FAO	nazmul.islam@fao.org
<b>Anatoli Poultouchidou</b>	F	FAO	anatoli.poultouchidou@fao.org

## APPENDIX 3. EVALUATION

Code	Question	Respondent number	Percentage
	Male	2	33%
	Female	4	67%
How often do you participate in training related to forest monitoring?			
	First time	2	33%
	1-3 every year	2	33%
	More than 3 per year	2	33%
	Regularly (approximately one per month)	0	0%
I would describe myself as?			
	A professor/academic	1	17%
	A student	0	0%
	Forest Department staff	4	67%
	Government staff (outside Forest Department)	0	0%
	NGO staff	0	0%
	Private consultant	1	17%
	Other	0	0%
My professional background relates most closely to:			
	Forester	2	33%
	GIS/RS	3	50%
	Statistics	0	0%
	Social survey/assessment	0	0%
	Economics	0	0%
	Natural Resource Management	0	0%
	Ecology	0	0%
	other	1	17%
My years of relevant experience is:			
	1-2 years	3	50%
	3-5 years	1	17%
	5-7 years	0	0%
	8-10 years	1	17%
	More than 10 years	1	17%
The training was relevant to my daily work			

Code	Question	Respondent number	Percentage
	Strongly agree	4	67%
	Agree	2	33%
	Neutral	0	0%
	Disagree	0	0%
	Strongly disagree	0	0%
I had enough previous knowledge to understand the content of the event			
	Strongly agree	3	50%
	Agree	2	33%
	Neutral	1	17%
	Disagree	0	0%
	Strongly disagree	0	0%
The training met my expectations in terms of the content and learning outcomes			
	Strongly agree	3	50%
	Agree	3	50%
	Neutral	0	0%
	Disagree	0	0%
	Strongly disagree	0	0%
The learning resources provided were adequate and useful			
	Strongly agree	3	50%
	Agree	3	50%
	Neutral	0	0%
	Disagree	0	0%
	Strongly disagree	0	0%
The resource person presented information in a way that i could understand and was easy to follow			
	Strongly agree	4	67%
	Agree	2	33%
	Neutral	0	0%
	Disagree	0	0%
	Strongly disagree	0	0%
I feel confident to be able to carry out the tasks described in the training without supervision.			
	Strongly agree	3	50%
	Agree	2	33%
	Neutral	1	17%

Code	Question	Respondent number	Percentage
	Disagree	0	0%
	Strongly disagree	0	0%
I was pleased with the venue/meeting room/snacks etc			
	Strongly agree	4	67%
	Agree	2	33%
	Neutral	0	0%
	Disagree	0	0%
	Strongly disagree	0	0%
Are there other people/agencies/organisations that you think should have been included in the training?			
	Probably would be good to have some of the potential stakeholders in similar training like DoE, SPARRSO, MoEF and some of the member from MRV working group.		
	Forest academics of any University		
	Any other comments?		
	Training duration was very short		
	It would be good to make a video of the whole content as a course for future use in the RIMS unit.		