



# Proceeding of the workshop on Forest Reference Emission Level (FREL)/ Forest Reference Level (FRL)



**Bangladesh Forest Department**  
**26 February 2017**

**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)

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### **Disclaimer**

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## **EXECUTIVE SUMMARY**

Bangladesh is currently planning to construct and submit FREL/FRLs to the UNFCCC in 2018 under the UN-REDD National Program of Forest Department. In view of this, the first training workshop on Forest Reference Emission Levels (FREL) and/or Forest Reference Levels (FRL) was held at the Bureau of Statistics in Dhaka, on 28-30 November 2016. The objective of this workshop was to build national capacities on the development of FRELs/FRLs under REDD+.

The materials from the first training workshop and outputs were used to facilitate the discussion in this half-day workshop. The objective of this workshop was to inform and communicate with the high level officials from the Forest Department and other FREL stakeholders the elements that need to be considered when constructing a FREL for Bangladesh. Thirty participants ( 21 male and 9 female) from the Forest Department and members from the MRV Working Group joined the workshop. The discussion was facilitated by the focal point of the UN-REDD national Programme. The presentations and discussions were focused on the REDD+ activities that need to be considered for the FREL construction, forest definition, area covered under FREL, construction methodology etc. The agenda and the participants list is attached in Appendix of the document.

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# 1. INTRODUCTION

Bangladesh is currently implementing the National Programme under the UN-REDD Programme. One of the objectives of the national programme is to support the development of FRELs/FRLs for Bangladesh. FRELs/FRLs will act as a benchmark to assess the effectiveness of the national REDD+ project. Defining accurate FREL/FRLs will ensure that reduced emissions of GHGs and enhancements of forest carbon stocks are real and verifiable.

Decision 4/CP.15 recognizes that developing country Parties should establish FRELs/FRLs in a way that is transparent considering historical data, and adjusting for national circumstances. According to decision 12/CP.17, FRELs/FRLs should be consistent with the national greenhouse gas inventory and should be updated periodically as appropriate, taking into account new knowledge, new trends and any modification in scope and methodologies.

At this stage, it is difficult to ascertain how Bangladesh's FRELs/FRLs will be developed in a way that will both reflect historical data as well as present and future national circumstances. However, decision 12/CP.17 specifies that the development of FRELs/FRLs will be performed following a step-wise approach enabling Parties to improve them by incorporating better data, methodologies and where appropriate additional pools, noting the importance of adequate and predictable support as referenced by decision 1/CP.16. Countries are requested to establish FRELs/FRLs at a national level with sub-national approaches as interim measures. Therefore, Bangladesh needs to consider the use of historical data, and possible adjustments for national circumstances, in accordance with relevant decisions of the UNFCCC.

Training was organized on FREL/FRL development involving the participants from different stakeholder organizations in November 2016. As a follow up of that training, an interactive discussion was planned to engage the different level officials of forest department and MRV working group to provide them more insight on different issues related to the development of FREL/FRL.

# 2. OBJECTIVES

The objective of the training was to build national capacities on the development of FRELs/FRLs for REDD+. The specific objectives were:

- 1) Provide information on international guidance that has been provided on the construction of FREL/FRLs for REDD+;
- 2) Provide an overview of examples of FRELs/FRLs developed by other countries;
- 3) Discuss key elements that need to be considered when developing a potential FREL/FRL for Bangladesh such as
  - a. National objectives: identify policies and measures related to forest land area changes;
  - b. Data analysis: Assessment of historic forest cover and change; capacity to assess current and future emissions;
  - c. Scope: Identification of pools and gases to include in a FREL/FRL;
  - d. Structure: What are options for REL/RL methodologies?
  - e. Scale: National, subnational and/or nested?
- 4) Begin to identify capacity gaps and data needed for the establishment of a FREL/FRL;

5) Construct a REL/RL activity for developing RELs/RLs for the country.

### 3. SUMMARY OF THE WORKSHOP

Several presentations were made by the experts. The first presentation was about the Introduction to Forest Reference Emission Levels and/or Forest Reference Levels (FREL/FRLs) under the UNFCCC. It covered the following topic

- General understandings on FREL/FRLs
- Purpose of FREL/FRLs
- Examples of FREL/FRLs for various purposes

It was mentioned in the presentation that countries aiming to undertake REDD+ activities under the UNFCCC are required to develop the following elements:

- A national strategy or action plan;
- A national forest reference emission level and/or forest reference level or, if appropriate, as an interim measure, subnational FREL/FRL, in accordance with national circumstances
- A robust and transparent national forest monitoring system for the monitoring and reporting of the [REDD+] activities
- A system for providing information on how the safeguards ...are being addressed and respected throughout the implementation of the [REDD+] activities

Difference between FREL and FRL was explained

Forest Reference Emission Level (FREL)	Forest Reference Level (FRL)
FREL includes only emissions from deforestation and degradation. Activities that <b>reduce emissions</b> , for example from: <ul style="list-style-type: none"><li>• Reducing deforestation</li><li>• Reducing forest degradation</li><li>• Sustainable management of forests (emissions)</li></ul>	FRL includes both emissions by sources and removals by sinks. Includes activities from the "+" that <b>enhance forest carbon stocks</b> , for example from: <ul style="list-style-type: none"><li>• Afforestation/Reforestation</li><li>• Conservation of forest carbon stocks</li><li>• Sustainable forest management (removals)</li></ul>

Figure 1: Difference between FREL and FREL

Bangladesh should decide purposes for developing the base line or reference level! There are mainly three different purposes for developing the reference level. They are

- **Domestic use:** To assess policies and measures taken or to meet a national objective.
- **Global responsibility:** To contribute to slowing global warming by pledging to reduce national emissions below a stated level.



- **Potential finance:** To access funding by demonstrating performance against a baseline.

Examples of FREL/FRL developed for various purposes by other countries such as Cambodia and Brazil were presented for more clearance..

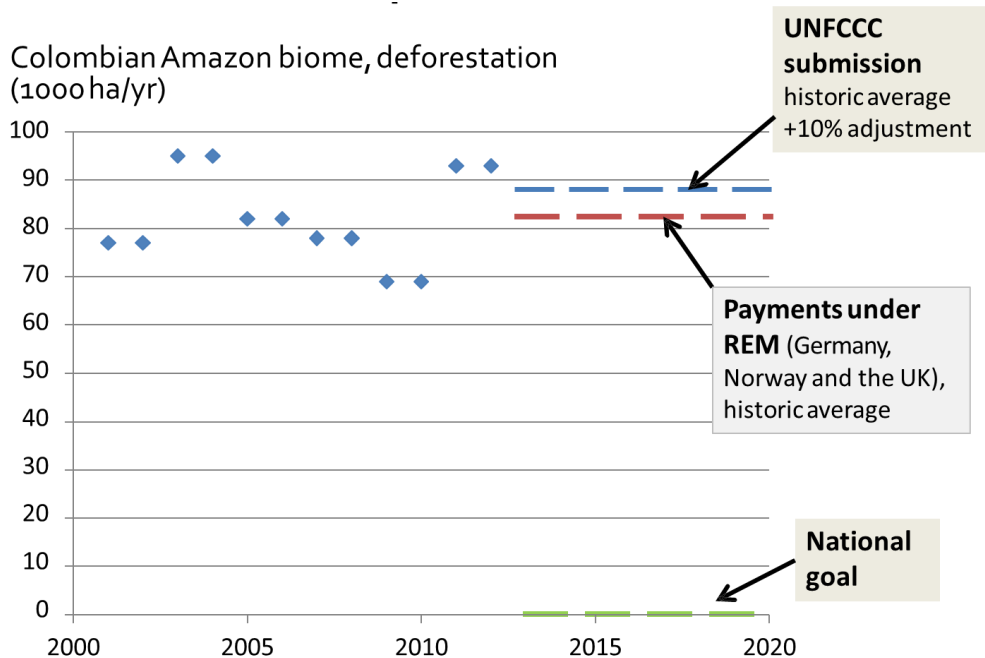


Figure 2: Example of FREL from Colombia.

<b>Possible purposes of FRELS</b>	<b>Brazil</b>
<b>Domestic use:</b> To assess policies and measures taken or to meet a national objective.	National law set a <b>projected BAU</b> baseline – used for Nationally Appropriate Mitigation Actions (NAMAs)
<b>Potential finance:</b> Access to results-based finance for REDD+ actions.	(1) Amazon Fund baseline; (2) FREL submitted to UNFCCC <i>Both use <b>historic average</b> (with different reference periods)</i>
<b>Global responsibility:</b> As a commitment to reduce emissions below a particular level.	Intended Nationally Determined Contribution (INDC) suggests use of a <b>base year</b> approach

Figure 3: Example of multiple reference levels developed by Brazil.

Second presentation was done to describe the elements of Forest Reference Levels. It explained that

- when submitting a FREL/FRL to the UNFCCC, a country must provide a definition of forest used in its construction;
- The thresholds for forest referred in the IPCC:
  - Minimum crown cover (%)
  - Minimum tree height (m)
  - Minimum area (ha)
- Crown cover threshold

Forest Definition used in Bangladesh is “Land with tree crown cover of more than **10%** and area of more than **0.5 hectares**. The trees should be able to reach a minimum height of **5 meters** at maturity”.

	BRA	CHI	COL	CR	ECU	ETH	GUY	IND	MAL	MEX	PAR	PER	ROC	VIE	ZAM
Crown cover (%)	10	10	30	30	30	20	30	30	30	10	10	10	30	10	10
Tree height (m)	5		5	5	5	2	5	5	5	4	3 to 5	5	3	1.5 to 5	5
Area (ha)	0.5	0.5	1	1	1	0.5	1	0.25	0.5	50	1	0.5	0.5	0.5	0.5

Figure 4: Example of forest definition followed by other countries.

REDD+	IPCC
Reducing emissions from deforestation <sup>9</sup>	Forest land converted to land uses other than forest
Reducing emissions from forest degradation	Forest remaining forest
Conservation of forest carbon stocks	Forest remaining forest
Sustainable management of forests	Forest remaining forest
Enhancement of forest carbon stocks (within an existing forest)	Forest remaining forest
Enhancement of forest carbon stocks (afforestation of land not previously forest, reforestation of land previously converted from another land use)	Other land uses converted to forest land

Figure 5: REDD+ activities identified in the IPCC guidelines.



UNFCCC Guidance to discuss about the scale for the development of FREL/REL was described

- The objective for all countries is to develop a FREL/FRL at a national level
- Subnational FREL(s)/FRLs are acceptable as an interim measure

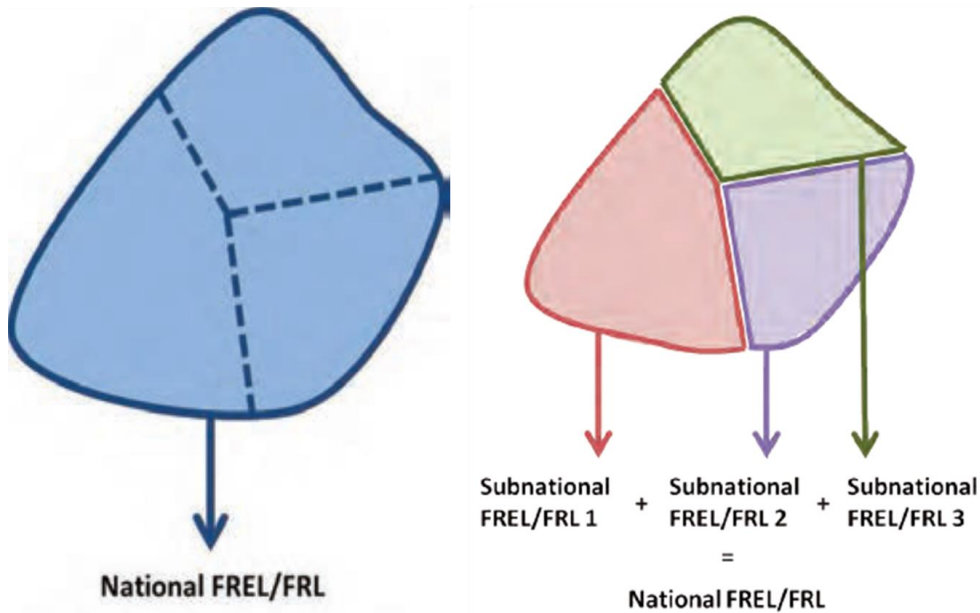


Figure 6: National and subnational development of FREL/FRL.

If a country decides to start at a subnational scale it should ensure that it has a plan to transition from subnational to a national FREL/FRL over time.

Third presentation highlighted the construction methodology for FREL and examples from other countries. It covered

- Reference period
- Reference period-Country examples
- FREL construction approach
- FREL construction approach- Country examples

Bangladesh needs to take decision on the

- reference period for the development of FREL/FRL and
- construction method may be best for Bangladesh.

Presentation showed the reference period requirements and examples from other countries.

Organization	Guidance provided
UNFCCC	Provides no guidance
FCPF	About 10 years and not more than 15.
VCS JNR	(1) historical annual average emissions or removals over an 8 to 12 year period; or (2) historical trend of emissions or removals based on changes over at least 10 years, both ending within 2 years of the start of the current jurisdictional baseline period.

Figure 7: Guidance regarding the reference period of FREL/FRL.

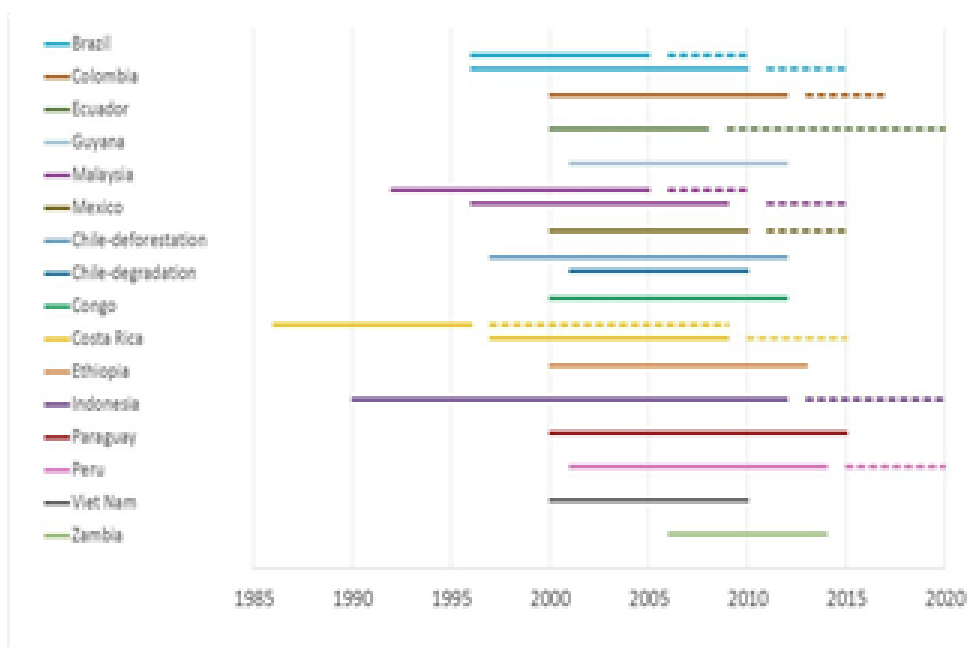


Figure 8. Examples of reference period from other countries.

Presentation described the basic options for the construction of FREL:

- Historical average
- Projection of historical trend
- Adjust for national circumstances

In addition, examples of the construction methodology followed by other countries were also presented.

#### Historical average

- Brazil
- Chile
- Sri Lanka
- Nepal
- Uganda
- Costa Rica
- Ecuador
- Ethiopia
- Indonesia
- Malaysia
- Mexico
- Paraguay
- Zambia

#### Projection

- Peru (Linear projection)
- Ghana (Linear projection)
- PNG (Linear projection)

#### Adjustment

- Colombia
- Guyana
- Republic of Congo
- Viet Nam (Hybrid)

UNFCCC Guidance on Methodology: The UNFCCC has not mandated any particular methodology for developing REDD+ REL/RLs. It has only stated that REL/RLs:

- Be expressed in tons of CO<sub>2</sub>eq per year;
- Maintain consistency with GHG inventories;
- Provide a rationale if adjusted from historical levels.

Other Guidance on RL Methodology:

- Finance-related initiatives, to date, have tended to favor the use of historic averages, particularly for developing countries with high historical rates of deforestation
- In some cases, adjustments from historic averages have been allowed – largely for “*High Forest cover– Low Deforestation*” (HFLD) countries

Forth presentation describes Global Forest Watch Data to explain the trends over time and influence on the development of FREL/FRL for different zone of the country.

Fifth presentation showed the results from the exercise carried out during the first training workshop on FREL. This presentation showed the country-specific forestry activities related to REDD+ activities. In view of this, the discussion was followed on the selection of REDD+ activities for Bangladesh.

Table 1. Country-specific forestry activities in relation to REDD+ activities.

REDD+ activities	Forestry activities in Bangladesh	Definition	Location/Zone
Enhancement of forest carbon stocks	Social forestry	(1) On any land which is the property of the Government or over which the Government has proprietary rights, and on any other land assigned to the Government by voluntary written agreement of the owner for the purpose of afforestation, conservation or management through social forestry, the Government may establish a social forestry programme under sub-section (2).  (2) A social Forestry programme is established when the Government by one or more written agreements assigns rights to forest-produce or rights to use the land, for the purposes of social forestry, to person assisting the Government in management of the land.	Hill and sal zone
Enhancement of forest carbon stocks	Reforestation	Reforestation is the reestablishment of forest cover artificially (by direct seeding or planting)	Hill and sal zone
Enhancement of forest carbon stocks	Coastal Afforestation	Afforestation is the establishment of a forest or stand of trees in an area where there was no previous tree cover	Coastal zone
Enhancement of forest carbon stocks	Assisted Natural Regeneration & enrichment plantation		Hill and sal zone
Sustainable Forest Management	Co-management		Protected areas in hill and sal zone
Sustainable Forest Management	Conservation		Hill, sal and Sundarban zone

#### 4. RECOMMENDATIONS FOR NEXT STEPS

- Bangladesh should submit FREL to the UNFCCC reporting, and other purpose can be explored later on , based on data availability;
- The forest definition used for the construction of FREL should be consistent with the definition used in national GHG inventory;
- The activities like emissions, conservation and enhancement of carbon stock should be included for the FREL construction based on the data availability.

- The significant pools and gasses from Bangladesh perspective should be included for the FREL construction;
- Based on the data availability the most recent time period of 2000 to 2010 can be used as reference period. Again in Bangladesh during 1980's and 1990's time period deforestation was highest, so emission activities can consider this time period as reference period.
- Historic average approach can be used for FREL construction in Bangladesh.
- Share the meeting minutes with relevant participant to get concrete suggestion on the discussion points.
- Critical/technical discussion of the suggestions of the participant regarding the discussion during the next MRV group meeting.

## APPENDIX 1. AGENDA

Venue: Forest Department		
Sunday 26 February 2017		
	Event	Speaker
09.30 – 09.45	Opening remarks	Mr. Rakibul Hassan Mukul,
09.45 – 10.00	Roundtable Introduction	All
10.00 – 10.20	What is a FREL/FRL and what purposes can it serve?	Mr. Golam Rakkibo Professor Forestry and Wood Technology Discipline Khulna University
10.20 - 10.50	<b>Discussion</b> <ul style="list-style-type: none"> <li>Why Bangladesh wish to develop FREL(s)/FRL(s)?</li> </ul>	
10.50 – 11.00	<b>Tea Break</b>	
11.00 – 11.20	What needs to be considered in the development of FREL <ul style="list-style-type: none"> <li>Activities</li> <li>Pools</li> <li>Gases</li> <li>Scale</li> </ul> Examples from other countries	Anatoli Poultouchidou FAO Consultant UN-REDD
11.20 – 11.50	<b>Discussion:</b> <ul style="list-style-type: none"> <li>What activities make sense for Bangladesh to include in a FREL?</li> <li>What pools and gases will be included?</li> <li>What makes more sense for Bangladesh to develop FREL/FRL at a national or subnational level</li> </ul>	
11.50 – 12.10	How to construct a FREL? <ul style="list-style-type: none"> <li>Reference period</li> <li>Approach</li> </ul> Examples from other countries	K M Nazmul Islam FAO consultant UN-REDD
12.10- 12.40	<b>Discussion:</b> What reference period and construction method make the most sense for Bangladesh?	
12.40 – 13.00	What is the status of data collection on the development of FREL in Bangladesh?	Tasnim and Tariq
	<b>Discussion:</b> What should be the next steps for the development of FREL in Bangladesh?	



## APPENDIX 2. PARTICIPANT LIST

SI No.	Name of the Participants	Gender (M/F)	Designation & Organization	Mobile Number	E-mail Address
1	Md Zaid Hussain Buiyan	M	DCCF, FD	01712-074350	dccf_edtw.bforest.gov.bd
2	Uttam Kumar Saha	M	CF, FD	0715-545120	crpafd@gmail.com
3	Prof. Dr. Al Amin	M	Professor, IFES, CTG	01819-820184	prof.alamin@yahoo.com
4	Md. Mozahorul Islam	M	DCCF(PRL), BFD	01713-002891	mazahar.raj@gmail.com
5	Hossain Mohammad Nishad	M	DFO, BFD	01715-005677	hmnishad@gmail.com
6	Md. Rakibul Hassan Mukul	M	ACCF	01711-438032	lalpipray@gmail.com
7	Dr. Md. Golam Rakibul	M	Professor	01730-062903	golamrakibul@yahoo.com
8	Mariam Akhter	F	FO	01711-70697	
9	K.M Nazmul Islam	M	National Consultant, GHG	01535-874379	nazmul@ifescu.ac.bd
10	Sharmin Akhter	F	ACF, FD	01916-522803	sharminbfd31@gmail.com
11	Mahmuda Roksana Sultana	F	ACF, FD	01761494621	sultana_rakhi@yahoo.com
12	Ummey Habiba	F	DCF,FD	01712-583892	habiba-fd@yahoo.com
13	Shawkat Imran Arafat	M	ACF, CNFD	01719-705838	shawkat.imran.arafat@gmail.com
14	Khan Zarin Tasnim	F	FAO	01911283958	zarin.khan@fao.org
15	Rashed Jalal	M	FAO	01723383854	rashed.jalal@fao.org
16	Anatoli Poultochuchidau	F	FAO		anatoli.poultochidau@fao.org
17	Abdullah-al-Mamun	M	ACF, Sylhet Forest Division	01776834219	mamunbfd31@gmail.com
18	Md. Mahmudul Hossain	M	ACF, FD	01711980036	mahmudforest@gmail.com

19	Nasim Aziz	M	UNREDD		
20	Matieu Henry	M	FAO	01745-134861	matieu.henry@fao.org
21	Marufa Akhter	F	ACCF,FD	01712-561817	marufaakhter@gmail.com
22	Shamima Begum Shewli	F	SRO, FD	01931-407861	to.shewli992gmail.com
23	Md Mozahidur Rahman	M	AD, DoE	01717-583212	razu.fwto3@gmail.com
24	Zaheer Iqbal	M	DCF,FD	01711443750	
25	Fatema Tuz Zohora		DCF,FD	01712655290	
26	Mohammad Aminul Islam	M	ACCF	01712503494	
27	Remi D'Annunzio	F	UN-REDD HQ		
28	Liam Costello	M	FAO		
29	Md. Mahmudur Rahman	M	PSO, SPARRSO	01913510107	mahmud@sparso.gov.bd
30	Dr. Abu Syed	M	Fellow, BLAS	01730019213	mabusyed@gmail.com