Environment and Climate Regional Accession Network ECRAN

Environment and Climate Regional Accession Network (ECRAN)

Report on the Regional Training Seminar on assessment of GHG Inventories in the Forestry and Other Land Use

15-16 April 2015, Sarajevo

Enviroment and Climate Regional Accession Network ECRAN

ENVIRONMENT AND CLIMATE REGIONAL NETWORK FOR ACCESSION - ECRAN

WORKSHOP REPORT

Activity 3.2

REPORT ON THE REGIONAL TRAINING SEMINAR ON ASSESSMENT OF GHG INVENTORIES IN THE FORESTRY AND OTHER LAND USE

Sarajevo, 15-16 April 2015

This Project is funded by the European Union

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Contents

LIST OF ABREVIATIONS	
AFOLU	Agriculture, Forestry and Other Land Use
CRF	Common Reporting Format
EPA	Environmental Protection Agency of Montenegro
EU	European Union
GEF	Global Environmental Facility
GHG	Greenhouse Gas
HWP	Harvested Wood Products
INSTAT	Statistical Data of Annual Publication of Albania
IPCC	Intergovernmental Panel on Climate Change
IPPU	Industrial Processes and Product Use
LULUCF	Land Use, Land Use Change and Forestry
MMD	Monitoring Mechanism Decision
MOEPP	The Ministry of Environment and Physical Planning in FYR of Macedonia
MRV	Monitoring, Regulation and Verification
MS	Member State
NIRs	National Inventory Reports
SEPA	Serbian Environmental Protection Agency
UNDP	United Nations Developing Programme
UNFCCC	United Nation Framework Convention on Climate Change

I. Background/Rationale

Effective monitoring, reporting and verification (MRV) of greenhouse gas (GHG) emissions is critical for tracking progress towards the achievement of emission reduction targets.

As Parties to the United Nations Framework Convention on Climate Change (UNFCCC) and its Kyoto Protocol, the European Union and Member States are required to report annually on their GHG emissions. They also have to report regularly on their climate change policies and measures through National Communications.

The annual EU GHG inventory report is prepared on behalf of the European Commission by the European Environmental Agency each spring. In line with UNFCCC reporting requirements, each Member State's annual inventory covers emissions up until two years previously.

Regulation (EU) No 525/2013 on mechanisms for monitoring and reporting greenhouse gas emissions and for reporting other information at national and Union level relevant to climate change (hereinafter: Monitoring Mechanism Regulation or MMR) fully substitutes the Decision No 280/2004/EC (Monitoring Mechanism Decision or MMD) and as such provides the legal basis to implement revised domestic commitments set out in the 2009 climate and energy package (20-20-20 commitments), as well as to ensure timely and accurate monitoring of the progress in implementation of these commitments.

The revised mechanism also enhances the current reporting rules on GHG emissions to meet requirements arising from current and future international climate agreements as well as the 2009 climate and energy package. It aims to improve the quality of data reported, help the EU and Member States keep track of progress towards meeting their emission targets for 2013-2020 and facilitate further development of the EU climate policy mix.

With the submission of the National Inventory Reports (NIRs), Member States have to provide information on various elements needed to prepare the Union greenhouse gas inventory report, including a general uncertainty assessment.

The report on *Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories* of the UNFCCC provides good practice guidance to assist all parties to the Kyoto Protocol in producing inventories that are neither over nor underestimates so far as can be judged, and in which uncertainties are reduced as far as practicable. To this end, it supports the development of inventories that are transparent, documented, consistent over time, complete, comparable, assessed for uncertainties, subject to quality control and quality assurance, and efficient in the use of resources.

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II. Objectives of the Training

Objectives

The main objective of this training seminar is to gradually improve/increase technical knowledge and institutional and procedural capacities of the ECRAN countries to prepare submissions of the National Inventory Reports according to the requirements of the MMR.

The training seminar is covering following activities of ECRAN's Working Group 2 on "National inventory systems and the EU Monitoring Mechanism Regulation":

- Sub-task 2.2.A. related to regional technical training seminars on GHG inventory in **Forestry and Other Land Use** (formerly Land Use, Land Use Change and Forestry (LULUCF) sectors in accordance with the Revised 1996 IPCC Guidelines)

Sub-task 2.2.A. is dealing with identification of gaps in activity data and providing recommendations for establishment of data flow system for gap filling as well as checking the overall quality of implemented emission factors in GHG emission estimates with focus on key categories in Forestry and Other Land Use.

The results of this training will feed into assessment report which will include recommendations for short and long-term inventory improvements in relation to applied methodology, activity data and emission factors in the beneficiaries.

This regional training seminar is based on the *2006 IPCC Guidelines for National Greenhouse Gas Inventories.*

Expected Results

- Quality control check of key categories with focus on completeness and accuracy
- Identification of activity data gaps and providing recommendations and guidance for gap filling
- Improved skills in selecting emission factors and other calculation parameters in Forestry and Other Land Use sector
- Setting priorities for country-specific short and long-term GHG inventory improvements

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III. Highlights

Reference is made to Annex I for the agenda. Below only the main elements are highlighted. The presentations are presented in Annex III.

Highlights Day 1

Day 1 – Sarajevo, Bosnia and Herzegovina, 15 April 2015

Introduction to Sub-task 2.2-A: Module 2 – Imre Csikós, Davor Vesligaj

- Mr Csikós and Mr Vesligaj presented overview of tasks and modules in Activity 2, main goals, approach to and structure of the training for Sub-task 2.2-A: Module 2 which is presented on figure 1.
- Main goals of the training are to provide information, guidance and good practice in preparation of GHG inventory in LULUCF sector, including: definitions, methodologies, activity data, emission factors and reporting requirements.

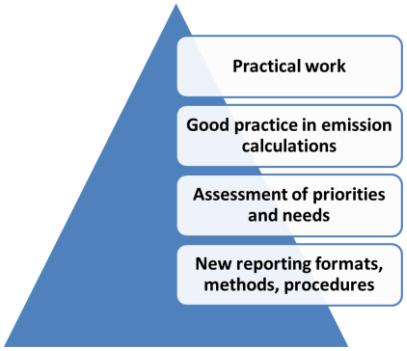

Figure 1

Introduction to LULUCF/AFOLU sector – Tomasz Kowalczewski

Mr Kowalczewski in his introductory presentation explained basic definitions, concept, scope and requirements of reporting from LULUCF sector in the framework of the UNFCCC, particularly related to reporting of emissions by sources and removals by sinks resulting from human induced land use, land use change and forestry activities. Figure below illustrates land use categories as defined by the IPCC (settlements and other land are not presented).

In addition, he provided an overview of EU climate and energy package till 2020 and post 2020 and role of LULUCF sector in meeting the mandatory GHG emission reduction targets. It is important to emphasis that LULUCF emissions/removals are not accounted for in the in 2020 target, but the 2030 target will include LULUCF and the scope of reporting will be in accordance with decision EU/529/2013.

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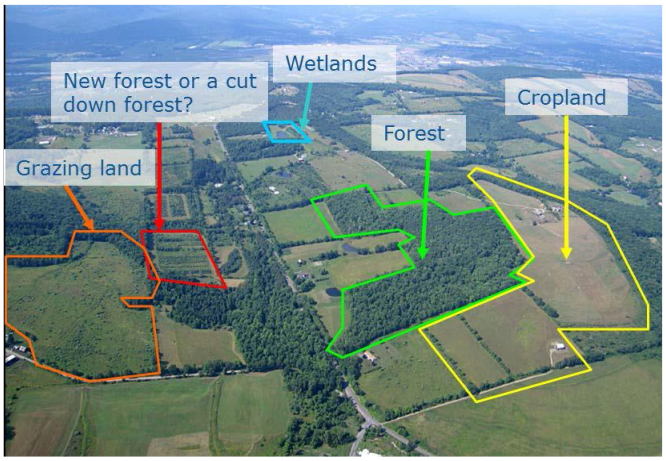

Introduction to *2006 IPCC Guidelines for National Greenhouse Gas Inventories* with focus on the source and sink categories in Forestry and Other Land Use – Generic methodologies applicable to multiple land-use categories – Harry Vreuls

- The 2006 Guidelines continue to use the estimation of emissions and removals from sources or sinks occurring on managed land as a proxy for anthropogenic emissions and removals and do not include emissions and removals on unmanaged lands. Emissions from wild fires and other disturbances on unmanaged lands are only included if followed by a land use change. All the emissions or removals on managed lands whether of natural or man-made origin are reported.

- Direct N2O emissions: The 2006 Guidelines broadened the scope of the direct N2O emissions estimations by including guidance on direct N2O emissions from all managed land in one place, by broadening the subcategories for organic N amendments and by including N inputs from urine and dung from grazing animals.

- The indirect N2O emission from managed solids arising from agricultural inputs of N have been amended by some new sources of indirect N such as N in crop residues and N-mineralisation associated with loss of soil organic matter due to land-use change or management on mineral soils added in 2006 Guidelines. The sources of indirect N2O emissions follow the sources as outlined for direct N2O emissions from soils. The detailed changes were presented.

- 2006 IPCC Guidelines introduce the estimation of indirect N2O emissions from the N volatilization from manure management systems. The method requires data of the amount of N excreted and managed in each manure management system.

- Adding urea to soils during fertilisation leads to a loss of CO2 that was fixed in the industrial production process. This source category was included in 2006 IPCC Guidelines because the CO2 removal from the atmosphere during urea manufacturing is estimated in the Industrial Processes and Product Use Sector (IPPU Sector).

- Emissions from wildfires were addressed as well. The 2006 IPPC guidelines now provide a more generic approach to emissions from fire.

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- N20 emissions from manure management: The tier 2 and tier 3 methods have now been more clearly defined.
- Improved default emission factors of default parameters were presented for enteric fermentation, manure management, direct and indirect emissions from agricultural soils.
- 2006 IPCC Guidelines provide different tier methods for reporting the storage of carbon in wood products and its subsequent release as CO2 and provides guidance on reporting whatever accounting approach for Harvested Wood Products (HWP) is chosen.

Specific methodologies and approaches applicable to multiple land-use categories – Peter Weiss

- Mr. Weiss provided comprehensive presentation on specific methodologies and approaches applicable to land-use categories, including forest land, cropland, grassland, wetlands, settlements and other land and three pools: biomass, dead organic matter and soil.
- For forest biomass (remaining forest), which represents a most significant pool in most countries, there are two methods applicable, i.e. gain-loss method and stock-difference method. Other forest land sub-categories include: dead wood in forests, litter in forests, mineral soil in forests, organic soil in forests, forest fires and harvested wood products.
- For cropland (remaining cropland) methodologies are available for biomass in cropland (for annual cropland no biomass carbon stock change is assumed) and mineral soil in cropland. Dead wood and litter in cropland are not relevant in general. Organic soil in cropland is likely not very significant for most of the ECRAN countries
- For biomass in grassland, tier I approach assumes no biomass carbon stock change. Higher tier methods require country-specific information. Mineral soil in grassland is based on country-specific area information on changes in grassland management types and default or country-specific soil carbon stocks. Dead wood and litter in cropland are not relevant in general. Organic soil in cropland is likely not very significant for most of the ECRAN countries.
- For wetlands, methodology is only provided for peatlands.
- For biomass in settlements, tier I approach assumes no biomass carbon stock change. Dead wood and litter in cropland are only relevant in forest-like urban parks. Tier I approach for mineral soil in settlements assumes no changes in carbon stock.
- Other land is often considered as unmanaged which implies that there is no requirement that emissions/removals should be estimated.
- Mr. Weiss also provided overview of methodologies applicable in cases of land-use change in different subcategories (for details please see presentation in separate link provided below).

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"From RENA to ECRAN" – country presentations on status of national system for GHG inventory preparation, key elements of LULUCF inventory and progress made since end of RENA project

- Croatia – Croatia's experience with the development of national system for GHG inventory preparation in part related to LULUCF sector was presented by Marija Vihovanec, Igor Stankic and Delfa Rados. The iinstitutional arrangement for inventory preparation in Croatia is regulated in Part II of the Regulation on the Monitoring of Greenhouse Gas Emissions, Policies and Mitigation Measures in the Republic of Croatia (OG 87/12) entitled National system for the estimation and reporting of anthropogenic greenhouse gas emissions by sources and removals by sinks. Significant improvement has been achieved in completeness and consistency of estimation of emissions and removals from LULUCF sector in Croatia since first GHG inventory was prepared in 2001. One of the key drivers was the use of different instruments of the European Commission (IPA TAF 2007 project, TAIEX instrument, EU projects supporting EU MS in KP reporting) since 2011. Currently, there are three large projects in different stage of completeness which aim at further improvement of reporting from LULUCF sector.

- Serbia – Ivana Dukic, Ivana Antonovic and Andjelka Radosavljevic from the Serbian Environmental Protection Agency (SEPA) presented the current status of LULUCF inventory development in Serbia. The Ministry of Agriculture and Environment Protection is the National Focal Point for the UNFCCC while the inventory preparation is under the responsibility of SEPA. Emissions and removals in the sector Forestry and Other Land Use are reported in the subcategory land remaining in the same category and land converted to another land use category for the period 1990-2013. Country specific data for forests are used from *Global Forest Resources Assessment 2010 – Country Report*. For other land use categories data are extracted from Statistical Yearbooks, calculated, or IPCC default values were used. A major problem is the limited information on the land use changes and the conversion between the separate categories.

- The former Yugoslav Republic of Macedonia - The Ministry of Environment and Physical Planning (MOEPP) has been designated as the National Focal Point to the UNFCCC and as Designated National Authority (DNA) for Kyoto Protocol implementation. The activity data on land use and land use change are gathered form the annual statistical reports published by the State Statistical Office of the former Yugoslav Republic of Macedonia. The statistical office gathers these data through one quarterly and several annual surveys based on accounting and other records provided from the public forestry enterprise, PE "Makedonski Sumi", and national parks. Critical issues identified are: very limited activity on land use and forestry limits the complexity and the accuracy of the GHG emissions calculation; data on land use change are not available; it is important to develop a new forestry inventory that will determine the area, stock, density, annual growth, tree species, commercial and illegal logging, fires and other disturbances, flooding as well as land conversion in forests, croplands, grasslands and settlements.

- Kosovo*[1] - Mr Berisha presented the current status of national system and GHG inventory preparation in the LULUCF sector. Institutions responsible for functioning of national system are: Ministry of Environment and Spatial Planning and Ministry of Agriculture, Forestry and Rural Development. Data

[1] This designation is without prejudice to positions on status, and is in line with UNSCR 1244 and the ICJ opinion on the Kosovo declaration of independence.

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providers are: Kosovo* Forestry Agency, Kosovo* Cadaster Agency and Kosovo* Statistical Agency. Critical issues and capacity building needs identified are: need for improvement of quality and availability of activity data; cooperation between institutions should be enhanced and specific trainings and seminars are required to improve capacities of local stakeholders.

- Bosnia and Herzegovina – Mr Senad Oprasic presented overview of institutional and legal framework for climate change mitigation in Bosnia and Herzegovina, critical issues and progress made in relation to LULUCF sector. Data needed for calculations of emissions/removals for other land categories are partly available but not enough adequate, consistent and complete. Other carbon pools are not included due to a lack of activity data accessibility. Main critical issues are: lack of permanent funding for reporting; lack of relevant implementing regulations for data collecting requirements; and lack of activity data needed for reporting to IPCC and fulfilling commitments under the UNFCCC.

- Albania – All activity data for each IPCC sector including Forestry and Other Land Use are provided from Statistical Data of Annual Publication of Albania -INSTAT. The GHG inventory is based on the IPCC Revised 1996 Guidelines. It has a narrower and deeper analysis than the previous inventory and has addressed all emission/sink categories called for in the IPCC Guidelines. Albania is one of the few European countries where there has been a decline in forest area in recent decades, due to clearance for agriculture, overgrazing and cutting for fuel-wood, in particular during the transition period (around 1990). Main critical issues are: lack of a national cadastre (to reflect all types of land use (agricultural land, forest, pastures, abandoned lands, water areas, urban area, etc.) and data provided by the forestry cadastre used for calculation of the GHGs are not acurate (they are mostly based on the national forest Inventory from 1985)

- Montenegro – Mr Dusko Mrdak presented the overview of national system and inventory related issues in Montenegro. The Environmental Protection Agency (EPA) of Montenegro is the institution responsible for conducting gas inventory. EPA Montenegro calculates emissions and sinks in forestry using data in possession of the Forest Administration under the Ministry of Agriculture and Rural Development, and the Statistical Office of Montenegro-Monstat. The First National Forest Inventory of Montenegro was prepared by the Forest Administration under the Ministry of Agriculture and Rural Development. Critical issues are mainly related to non-availability of activity data and data quality.

Build-up of "ECRAN GHG Inventory Priority Matrix (IPM)" – facilitators: Davor Vešligaj, Imre Csikós, team leads: Tomasz Kowalczewski, Harry Vreuls, Peter Weiss

- Based on a countries presentations there are several findings and priorities identified in relation to GHG inventory development in LULUCF sector:
    - ECRAN countries have already put a lot of effort to improve quality of reporting from LULUCF sector.
    - Steady improvement in reporting from LULUCF sector is visible.
    - There is a need to set up priority activities in short- to mid-term period.

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- Establishment of national system for LULUCF is one of the priorities with focus on institutional arrangements and cooperation.
- There is a need to conduct National Forest Inventory which is a five to six year process

Highlights Day 2

Day 2 – Sarajevo, Bosnia and Herzegovina, 16 April 2015

Overview of the common reporting format (CRF) in Land Use, Land Use Change and Forestry sector and inter-linkages with AFOLU categories – Tomasz Kowalczewski

- Mr Kowalczewski presented the key features of the CRF tables in part related to the LULUCF sector (as in the current version of the CRF Reporter software) and provided detailed information on the content of the each CRF table in a stepwise manner (example of the CRF table is provided in Figure 3). Please also check a set of CRF tables in Annex III to this report.

TABLE 5 SECTORAL REPORT FOR LAND USE, LAND-USE CHANGE AND FORESTRY
(Sheet 1 of 1)

Inventory 2012
Submission 2014 v4.2
CROATIA

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	Net CO_2 emissions/removals[1), (2)]	CH_4 [(2)]	N_2O [(2)]	NO_x	CO	NMVOC
	(Gg)					
Total Land-Use Categories	**-6,615.42**	**2.30**	**0.07**	**0.25**	**37.56**	**1.64**
A. Forest Land	**-7,220.01**	**2.18**	**0.03**	**0.10**	**34.40**	**1.49**
1. Forest Land remaining Forest Land	-7,045.94	2.15	0.03	0.10	33.86	1.44
2. Land converted to Forest Land	-174.07	0.03	0.00	0.00	0.54	0.05
B. Cropland	**198.31**	**NO**	**0.03**	**NE**	**NE**	**NE**
1. Cropland remaining Cropland	155.79	NO	NO	NE	NE	NE
2. Land converted to Cropland	42.53	NO	0.03	NE	NE	NE
C. Grassland	**-132.35**	**0.12**	**0.01**	**0.15**	**3.15**	**0.15**
1. Grassland remaining Grassland	2.07	0.12	0.01	0.15	3.15	0.15
2. Land converted to Grassland	-134.42	NO	NO	NE	NE	NE
D. Wetlands	**15.73**	**NO**	**NO**	**NE,NO**	**NE,NO**	**NE,NO**
1. Wetlands remaining Wetlands [(3)]	NE,NO	NO	NO	NE	NE	NE
2. Land converted to Wetlands	15.73	NO	NO	NO	NO	NO
E. Settlements	**522.90**	**NO**	**NO**	**NE**	**NE**	**NE**
1. Settlements remaining Settlements [(3)]	NE	NO	NO	NE	NE	NE
2. Land converted to Settlements	522.90	NO	NO	NE	NE	NE
F. Other Land	**NO**	**NO**	**NO**	**NE**	**NE**	**NE**
1. Other Land remaining Other Land [(4)]						
2. Land converted to Other Land	NO	NO	NO	NE	NE	NE
G. Other *(please specify)* [(5)]	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**
Harvested Wood Products [(6)]	NE	NE	NE	NE	NE	NE
Information items[(7)]						
Forest Land converted to other Land-Use Categories	NO	NO	NO	NO	NO	NO
Grassland converted to other Land-Use Categories	NO	NO	NO	NO	NO	NO

Figure 3

- In the presentation Mr Kowalczewski explained inter-linkages between new key source/sink categories structure from 2006 IPCC Guidelines and the CRF tables (see figure 4 below)

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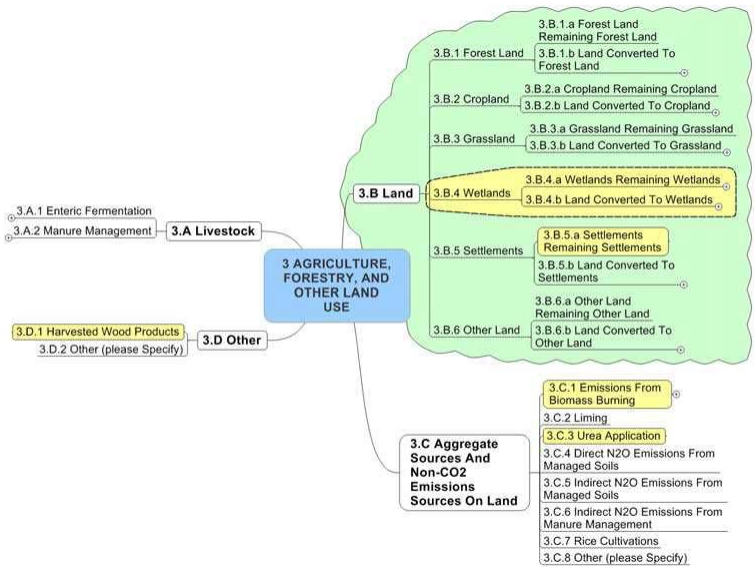

Figure 4

Consistent representation of lands – Peter Weiss

- Mr Weiss gave a comprehensive presentation on consistent representation of land which is a prerequisite for any estimate of emission/removals in the LULUCF sector.
- The development, implementation and improvement of the land use and land-use change assessment system(s) should be given highest priority in LULUCF
- There are three approaches to land use and land use change assessment:
    - Approach 1: total land-use area, no data on conversions between land uses
    - Approach 2: total land-use area, including changes between categories (not spatially explicit)
    - Approach 3: spatially-explicit land-use conversion data
- Mr Weiss emphasized that there are potential challenges due to the possible need of stratification of the estimates and available area data into: climate zones, vegetation types, soil types and different management types. Possible solutions to these challenges include: use of dis-aggregated statistics and maps, use of correlation of crop types with climate and soil types and aggregation or dis-aggregation according to similar/different C stock change factors.
- In a second part of presentation, Mr Weiss presented key features and recommendations for development of national system for LULUCF which is a foundation for the MRV system in LULUCF sector.

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Good practice in selecting emission factors and other parameters in LULUCF sector from 2006 IPCC Guidelines – Tomasz Kowalczewski

- Mr Kowalczewski gave an introduction in the evolution of the IPCC Guidelines from 1996 to 2006 and the main principles on which these guidelines are based upon, including completeness, consistency, comparability, transparency and accuracy.
- He explained the tiers approach which is based on availability of activity data, emission factors and methods for emissions/removals estimation. There are three tiers, i.e. tier 1 which is the most simple approach in estimating emissions/removals based on default values which in most cases do not adequately represent country-specific situation, tier 2 which utilizes country-specific emission factors and other calculation parameters and tier 3 which is based on more complex models and measurements.
- Since most of the ECRAN countries are in early stage of development of a fully-fledged LULUCF inventory it is a good practice to start to estimate emission/removals using the tier 1 approach. It is important to identify key sources/sinks categories and to initiate recalculation of key categories by applying the tier 2 approach in accordance with country capacities.

Practical exercise – facilitators: Davor Vešligaj, Imre Csikós, team leads: Tomasz Kowalczewski, Harry Vreuls, Peter Weiss

- Practical exercise session started by grouping participants in three teams: blue, green and red (see table below)

Team blue	**Team green**	**Team red**
Team lead: Tomasz Kowalczewski	**Team lead: Harry Vreuls**	**Team lead: Peter Weiss**
Turkey The former Yugoslav Republic of Macedonia Montenegro Croatia	Albania Kosovo* Croatia	Bosnia and Herzegovina Serbia Croatia

- The purpose of practical exercise was to further elaborate, discuss and present key issues and challenges identified on a basis of the country presentations and synthesis exercise from previous day, which are, firstly, common for all ECRAN beneficiaries and secondly country-specific.
- Key recommendations are as follows:
    - LULUCF sector has to be an integral part of the National system (NS);

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- External institutions (non-ministerial) has to be a part of the NS (for instance Bureau of Statistics);
- It is advised to establish inter-ministerial working group for GHG reporting;
- Foreign experts could be included in improvements but priority should be on building national capacities, i.e. more experts on national level are needed;
- ECRAN countries should look for EU countries with similarities in order to clarify administrative issues connected with LULUCF reporting;
- Clearly defined role of all institutions should be one of the priorities to avoid redundancy and additional costs; sustainable legislative and financial framework in most cases do not exist and is needed to be established;
- Project based approach for preparation of GHG inventory in general is not the best solution but often it is the only solution if adequate national capacities are not available or are insufficient;
- Define project proposals for establishment of NS and apply for UNDP, EU and GEF funds for financing;

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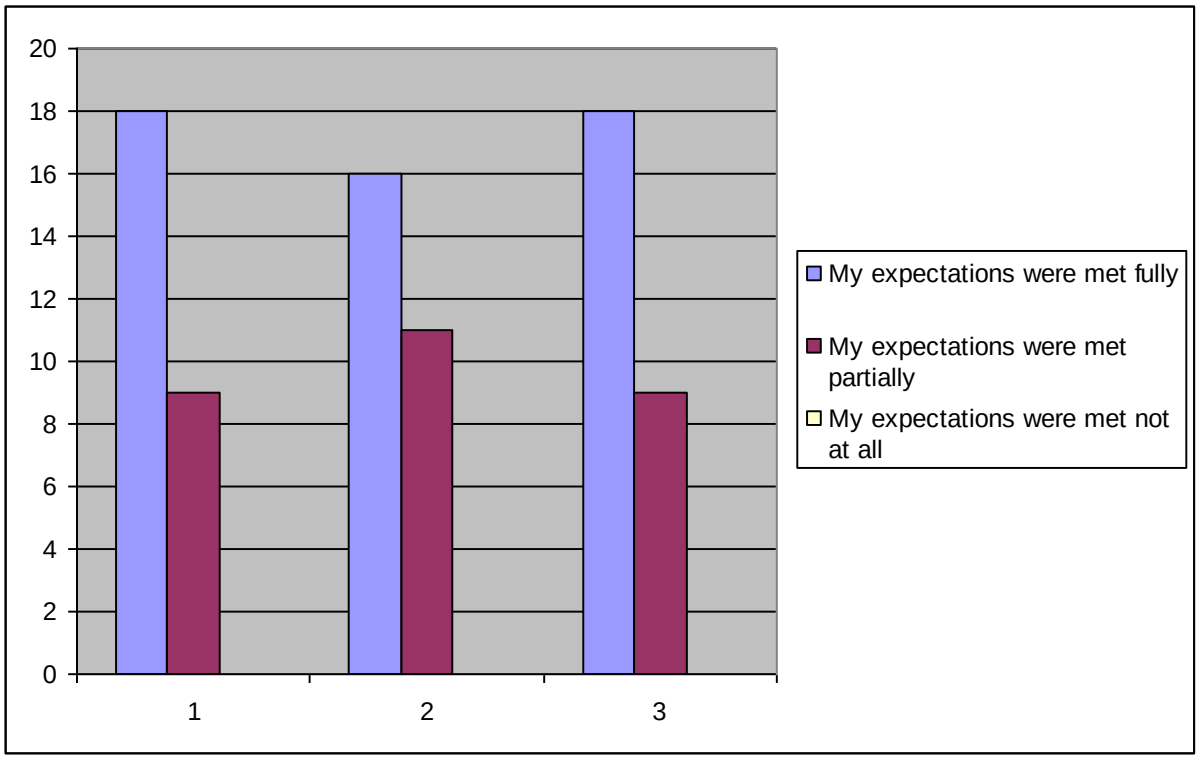
IV. Evaluation

Reference is made to Annex IV. The majority of the participants indicaterd that the training workshop fully succeeded to identify activity data gaps and to provide recommendations and guidance for gap filing. In addition it was indicated that the training helped participants to gradually improve/ increase technical knowledge and institutional and procedural capacities to prepare the future submission of the National Inventory Reports according to the requirements of the MMR. (67% of the participants). The remaining (33% of the participants) indicated that these aspects were partially achieved.

The evaluation also showed that the training helped to improve skills of participants in selecting emission factors and other calculation parameters in the LULUCF/AFOLU sector (60% evaluated this as fully and the remaining as partially.

The results of the valuation are summarise below:

Aspect of the Workshop
1. The training workshop succeeded to identify activity data gaps and to provide recommendations and guidance for gap filing.
2. The training helped us to improve our skills in selecting emission factors and other calculation parameters in the LULUCF/AFOLU sector
3. The training helps us to gradually improve/ increase our technical knowledge and institutional and procedural capacities to prepare the future submission of the National Inventory Reports according to the requirements of the MMR.



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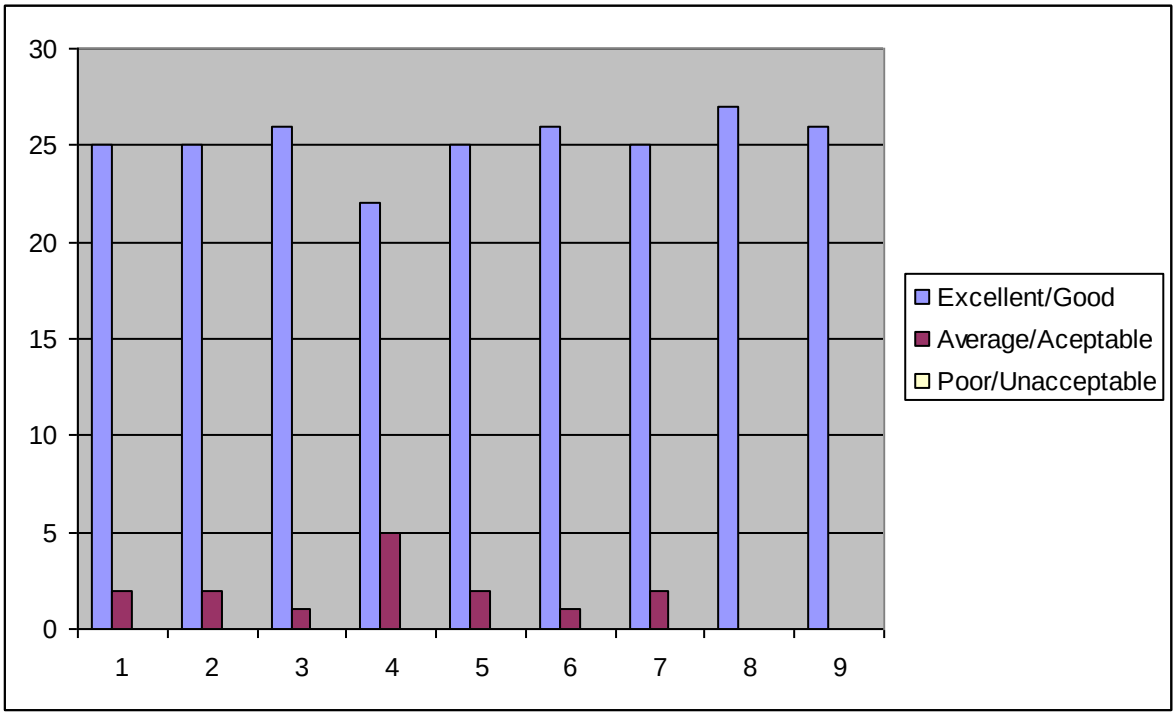
Aspect of the Workshop
1 The workshop achieved the objectives set
2 The quality of the workshop was of a high standard
3 The content of the workshop was well suited to my level of understanding and experience
4 The practical work was relevant and informative
5 The workshop was interactive
6 Facilitators were well prepared and knowledgeable on the subject matter
7 The duration of this workshop was neither too long nor too short
8 The logistical arrangements (venue, refreshments, equipment) were satisfactory
9 Attending this workshop was time well spent



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ANNEX I – Agenda

Day I: Wednesday 15 April 2014				
Start	**Finish**	**Topic**	**Speaker**	**Sub topic/Content**
08:30	**09:00**	**Registration**		
09.00	09.15	Welcome and Introduction to Sub-task 2.2-A (15’)	Imre Csikós, ECRAN Davor Vešligaj, ECRAN	• Introduction of participants • Approval of the agenda • Overview • Overall and specific goals of training seminar
09.15	09.30	Introduction to LULUCF/AFOLU sector	Tomasz Kowalczewski, NIRAS, Poland	• General overview of LULUCF/AFOLU sector • Brief overview of the EU legal framework (Decision 529/2013/EU)
09.30	10.00	Introduction to *2006 IPCC Guidelines for National Greenhouse Gas Inventories* with focus on the source and sink categories in Forestry and Other Land Use (30’)	Harry Vreuls, RVO, Netherlands	• Main changes made in *2006 IPCC Guidelines* as compared with *1996 IPCC Guidelines* • Main categories of emissions by sources and removals by sinks in Forestry and Other Land Use • Q&A
10.00	10:45	Generic methodologies applicable to multiple land-use categories – part I (45’)	Harry Vreuls, RVO, Netherlands	• General inventory framework for applying the methods within specific land-use categories • Generic methods for CO_2 emissions and removals • 15’ QA/QC
10.45	11.00	***Coffee Break (15’)***		

11.00	12:00	Specific methodologies and approaches applicable to multiple land-use categories – part II (60')	Peter Weiss, UBA Austria	• General inventory framework for applying the methods within specific land-use categories • Generic methods for CO_2 emissions and removals • Q&A (15')
12.00	13.00	***Lunch Break (60')***		
13.00	14.00	*"From RENA to ECRAN" – country presentations* Status of GHG inventories in part related to Forestry and Other Land Use – Part I (60')	Croatia Republic of Serbia The former Yugoslav Republic of Macedonia Turkey *(Max 15 minutes presentation per country, presentation template will be provided before)*	• Overview of National system relevant to categories of sources and removals in Forestry and other Land Use (institutions, legislation, organization) • Completeness (years, gases) • Non-estimates (NEs) • Key categories • 3 most critical issues per sector (AD, EF, method) • Progress made
14.00	14.15	***Coffee Break (15')***		
14.15	15.15	*"From RENA to ECRAN" – country presentations* Status of GHG inventories in part related to Forestry and Other Land Use – Part II (60')	Kosovo* Bosnia and Herzegovina Albania Montenegro *(Max 15 minutes presentation per country, presentation template will be provided before)*	• Overview of National system relevant to categories of sources and removals in Forestry and other Land Use (institutions, legislation, organization) • Completeness (years, gases) • Non-estimates (NEs) • Key categories • 3 most critical issues per sector (AD, EF, method)

				• Progress made
15.15	15.30	Build-up of *"ECRAN GHG Inventory Priority Matrix (IPM)"* (15')	Davor Vešligaj, ECRAN Tomasz Kowalczewski, NIRAS, Poland	WG 2 coordinator will develop and present initial matrix with common and country-specific priorities for GHG inventory improvement based on country presentations
15.45	16.00	Conclusions and closing of Day 1 (30')	Imre Csikós, ECRAN	

Day II: Thursday 16 April 2014				
Start	**Finish**	**Topic**	**Speaker**	**Sub topic/Content**
08:30	**09:00**	**Registration**		
09.00	09.15	Introduction to Day 2	Imre Csikós, ECRAN	
09.15	09.45	Overview of the common reporting format (CRF) in Land Use, Land Use Change and Forestry sector and interlinkages with AFOLU categories (30')	Tomasz Kowalczewski, NIRAS, Poland	• Source categories • Background data and documentation boxes • Cross-cutting and including elsewheres (IEs) • Q&A

09.45	10.45	Consistent representation of lands (60’)	Peter Weiss, UBA Austria	• Land-use categories • Representing land-use areas • Matching land areas with factors for estimating GHG emissions and removals • Quality assurance and quality control • Q&A (15’)
10.45	11.00	***Coffee Break (15’)***		
11.00	11.30	Good practice in selecting emission factors and other parameters in LULUCF sector (60’)	Tomasz Kowalczewski, NIRAS, Poland	• Selection and application of emission factors and other calculation parameters for selected source categories LULUCF sector with examples • Time-series consistency • Q&A
11.30	12.00	Introduction to practical exercise	Tomasz Kowalczewski, NIRAS, Poland	
12.00	13.00	***Lunch Break (60’)***		
13.00	14.00	Working on GHG emission calculations and QC checks in CRF category 5.A. Forest land (60’)	Peter Weiss, UBA Austria, Harry Vreuls, RVO, Netherlands Tomasz Kowalczewski, NIRAS, Poland	• 4 ad-hoc inventory teams will be formed based on identified common and country-specific issues and priorities (one team = two ECRAN countries) • team work with expert supervision
14.00	14.15	***Coffee Break (15’)***		

14.15	15.15	Working on GHG emission calculations and QC checks in CRF categories 5.B.-F. All other land categories (60')	Peter Weiss, UBA Austria, Harry Vreuls, RVO, Netherlands Tomasz Kowalczewski, NIRAS, Poland	
15.15	15.45	Discussion, Conclusions, evaluation and wrap up (30')	All participants	

ANNEX II – Participants

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ANNEX III – Workshop materials (under separate cover)

Workshop materials including presentations, exercise materials and agenda, can be downloaded from:

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ANNEX IV – Evaluation

Statistical Information

1.1	Workshop Session	Sub-task 3.2.2 A: Regional training seminar on the assessment of GHG inventories in the Forestry and Other Land Use Sector (LULUCF/AFOLU)
1.2	Facilitators name	As per agenda
1.3	Name and Surname of Participants (evaluators) optional	As per participants' list

Your Expectations

Please indicate to what extent specific expectations were met, or not met:

My Expectations	My expectations were met		
	Fully	Partially	Not at all
1. The training workshop succeeded to identify activity data gaps and to provide recommendations and guidance for gap filing.	IIIII IIIII IIIII III	IIIII IIII	
2. The training helped us to improve our skills in selecting emission factors and other calculation parameters in the LULUCF/AFOLU sector	IIIII IIIII IIIII I	IIIII IIIII I	
3. The training helps us to gradually improve/ increase our technical knowledge and institutional and procedural capacities to prepare the future submission of the National Inventory Reports according to the requirements of the MMR.	IIIII IIIII IIIII III	IIIII IIII	

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Workshop and Presentation

Please rate the following statements in respect of this training module:

Aspect of Workshop	Excellent	Good	Average	Acceptable	Poor	Unacceptable
1 The workshop achieved the objectives set	IIIII IIIII IIIII I	IIIII IIII	II			
2 The quality of the workshop was of a high standard	IIIII IIIII IIII	IIIII IIIII I	II			
3 The content of the workshop was well suited to my level of understanding and experience	IIIII IIIII IIIII	IIIII IIIII I	I			
4 The practical work was relevant and informative	IIIII IIIII IIIII II	IIIII	IIIII			
5 The workshop was interactive	IIIII IIIII IIIII II	IIIII III	II			
6 Facilitators were well prepared and knowledgeable on the subject matter	IIIII IIIII IIIII IIII	IIIII II	I			
7 The duration of this workshop was neither too long nor too short	IIIII IIIII IIIII IIII	IIIII I	II			
8 The logistical arrangements (venue, refreshments, equipment) were satisfactory	IIIII IIIII IIIII IIIII IIIII I	I				
9 Attending this workshop was time well spent	IIIII IIIII IIIII I	IIIII IIIII				

Comments and suggestions

I have the following comment and/or suggestions in addition to questions already answered:

Workshop Sessions:

- Excellent

Facilitators:

- Facilitators have good knowledge
- Excellent
- Excellent!!!

Workshop level and content:

- Good
- Very good, well structured
- Very useful
- The approaches in selection of proper emission factors, as well as land stratification approaches should perhaps need a bit longer workshop, or the workshop should have focused only on that subject
- More practical country examples, with real time data. Prior to the workshop individuals should be provided with the CRF tables and be provided with background explanatory note on emission factors

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