Minutes of Second Meeting of REDD+ Readiness Roadmap Preparation

Working Group 1; National Forest Monitoring System (NFMS) and Forest Reference Emission Levels/Reference Levels (RELs/RLs)

Meeting held on June 07, 2013 in Islamabad

The second meeting of working groups for REDD+ Readiness Roadmap held on June 07, 2013 in Islamabad. There are four working groups (WGs). The WG1 is for National Forest Monitoring System (NFMS) and Forest Reference Emission Levels/Reference Levels (RELs/RLs).

The following members of the WG1 attended the meeting, discussed each item of the agenda and made decisions.

Sr. No.	WG Member	Status	Organization/ City	Email Address/Contact#
1.	Dr. Shahzad Jehangir	Member	MOCC ISB	jehangir2000@hotmail.com 0519245586, 0306-4288079
2.	Mr. Raees Khan	Chairperson	FAO, Peshawar	Raees.khan@fao.org 03468544194
3.	Ms. Urooj Saeed	Secretary	WWF	usaeed@wwf.org.pk 042 111993725, 03014511828
4.	Mr. Kifayatullah Baloch	Member	KP Forest Department	balochitc@gmail.com 03337262673
5.	Dr. Mohsin Iqbal	Member	GCISC, ISB	mohsin.iqbal@gcisc.org.pk +92-51-2077300, Ext: 457
6.	Dr. Bashir Ahmad Wani	Member	SLMP ISB	wani48@hotmail.com 0321-5179203
7.	Major Muhammad Tanvir	Member	Survey of Pakistan RWP	dmp@surveyofpakistan.gov.pk 0519290222, 223
8.	Mr. Irfan Akhtar	Member	SUPARCO Karachi	irfanswat@hotmail.com 03159290306
9.	Mr. Abdul Sattar Khatri	Member	Sind Forest Department	abdulsattar_khatri2000@yahoo.com, 03213094010
10.	Mr. Usman Akram	Member	WWF ISB	uakram@wwf.org.pk 03334388135
11.	Mr. Afrasiyab	Facilitator	MoCC/ ICIMOD	mafrasiyab@gmail.com 03245029077

The item-wise discussions are made as;

1) **Election of Chair and Secretary for the WG**
Prof. Dr. Sarwat N. Mirza, Dean Forestry, Range Management & Wildlife, Arid Agriculture University; the chair of the working group did not attended the meeting. With the consensus of the group, Mr. Raees Khan, FAO, Peshawar, chaired the second meeting of the working group.

Submission of Documents to the Group Facilitator
Following reports/documents representing the forests and land uses sectors of Pakistan were shared with the group facilitator which will be provided to Ms. Eveline Trines (Consultant on REDD+) who will be quoting/using these into the **REDD+ Readiness Roadmap** as reference material.

Document	**Organisation**	**Year of Publication**	**Version**
Mangroves Cover Assessment of Pakistan	WWF - Pakistan	2010	Hard and Soft
Sixty Years Change Analysis Report of Guzara and State Owned Forests of Murree Forest Division	Punjab Forest Department and WWF - Pakistan	2013	Hard and Soft
LandCover Change Analysis of Selected HKH Region in Pakistan	WWF – Pakistan and ICIMOD	2011	Hard and Soft
Fixed Point Photography Based Monitoring of Mangrove Plantations	WWF - Pakistan	2013	Hard and Soft
Atlas of Forest Boundary of Centimeter Level Accuracy, Murree	Punjab Forest Department and WWF - Pakistan	2013	Soft
Atlas of Pakistan	WWF and Pakistan Forest Institute Peshawar	2012	Hard
National report on demand and supply of wood and wood products	MAANICS and Ministry of Environment	2004	Soft
Survey to Assess Wood Vegetation and Wood Volume on Non-Forest Areas in Pakistan	ASIANICS Agro DEV International and Ministry of Environment	2005	Soft
National Forest and Rangeland Resource Assessment Study (NFRRA)	Pakistan Forest Institute, Ministry of Environment	2004	Soft
Forest Statistics of Pakistan	Engineering Central Consultants, EGC (PVT) LTD and Ministry of Environment	2005	Soft

National Environmental Information Management System (NEIMS) Reports	Free Lance Consultant for Ministry of Environment	2011	Soft
ASIA Least Cost Greenhouse Gas Abatement Strategy-Pakistan (ALGAS)	Asian Development Bank, Global Environment Facility and United Nations Development Programme	1998	Soft
ASIA-PACIFIC FORESTRY SECTOR OUTLOOK STUDY II, PAKISTAN COUNTRY OUTLOOK PAPER	Ministry of Environment and Columbus House Associates	2008	Soft
Study on timber harvesting ban in NWFP, Pakistan	Interoperation under PAK-Swiss integrated Natural resources management	2010	hard

2) Review of Minutes of the First Meeting

The minutes for the first meeting were reviewed. There were few missing points which were not addressed in the first meeting due to time constraints. The group members discussed those points which are as follows;

Fuel wood consumption is a major driver of deforestation as most of the communities residing along the forest ecosystem are dependent on fuel wood as sole source of energy. Hence alternate sources such as wind energy, solar energy, biogas plants and Micro-Hydel projects etc, be provided to the communities.
Forest Policies should be revised and ground realities should also be depicted in making such policies instead of considering only theoretical measures.

Most of the planning and consumption of resources is generally now focussed on meeting the emergencies both natural and manmade such as earthquake and floods and prevailing complex emergencies of KP, FATA. One of the limitations in better management of natural resources is lack of long term planning; problems are dealt with planning envisioned of short-term and adhoc bases.

Strategies should be defined to increase the national forest cover using scientific knowledge. Stakeholder's involvement in plantation activities can lead to better results. Forest policies should set direction for introducing JFM and Participatory Forest Management and to involve communities in all cycles of management. Forest management plans should include soil stabilisation, watershed management, and participatory forest management.

3) Possible Table of Content of REDD+ Roadmap

The main activity of the meeting was to discuss the possible five major points of the table of contents of REDD+ roadmap. The WG 1 discussed these points in detail of which summary are as follows;

Institutional arrangements for the implementation of the NFMS/MRV activities

For the short term projects i.e. pilot studies, existing GIS laboratories should be used. However, Ministry of Climate Change (MoCC) should develop a REDD cell within ministry of which a separate entity of MRV should be established. Recommendation or even notification be issued by MOCC for setting REDD+ cell in all federating units. REDD cell will collect and collate the data and implement reporting standards and will enhance the coordination among provinces and departments. ToRS should be developed for the REDD cell and its allied divisions in all provinces/ federating units.

Most of the studies in Forest sector are incorporating forest assessments but not GHG reporting (carbon fluxes). This is an important issue and should be addressed on scientific basis in order to proceed further in carbon industry.

At provincial level Working Plan Circle of each Province needs to be strengthened and upgraded through opening of REDD+ cell in it for carrying out the regular inventories at a periodical interval. The expertise of the usage of SRS data is limited and scattered. The laboratories having equipments, lack human resources and the setups having human resources have limited software/hardware available. Very few properly functional labs are available in Pakistan. This area needs to be improved by removing all mentioned weak points.

No model studies available for understanding the CFC phenomenon. In addition to the documentation of the readiness plan, parallel activities should be conducted as model/pilot case studies.

Issues to be addressed in order to build capacities to implement the GHG inventory for the forest sector

Training to the right persons is an issue so far. Dedicated GIS staff should be hired with specific ToRs of forest assessments. The additional tasks, if given to the foresters, should be acknowledged and incentives should be provided. However, capacity building of specialized and dedicated staff should be conducted and entrusted to the specialized units.

On job trainings should be provided to the officials of Forest Department so that the practical knowledge could be attained instead of only theoretical basis.

Foresters/GIS Professionals should be engaged into case studies of the carbon stock assessments in various ecosystems so that practical experiences should be achieved (carbon assessment and carbon leakages).

Mechanism for forest reporting should be defined at Federal and National Level and the communication among the Forest Departments and Stakeholders should be enhanced which is very limited so far.

Issues to be addressed in order to develop a Satellite Forest Monitoring System

No standardised field data forms are available and hence are being used. Generally, the studies for the forest assessments using GIS/RS data solely depend on desktop conditions with no linkage with ground realities. FAO field data forms can be used effectively through customisation in Pakistan's perspective.

The capacities to use satellite images vary from different departments. Expertise in image interpretation is limited and generally On Screen Digitisation and ISODATA classification are being used which leads to compromising in accurate forest area estimation.

There are very few short term/on job or long term training courses available for the capacity enhancements of the professionals working in the field of Remote Sensing.

The provincial departments have GIS Laboratories being funded by different projects, but unfortunately, the budgets of the Forest departments do not incorporate the cost of the satellite images in their ADP, once project is withdrawn the effective usage of the equipments/man power cannot be sustained due funds problem.

In Pakistan, limited knowledge on the utilization of SAR and LIDAR data is a major constraint for the total carbon stock assessment of an area.

Latest software and equipments are available with only few organisations/departments due to the expensive licensing and thus need monetary support.

Provincial monitoring system has weakened over years, should be reviewed and revived through introducing advance and providing support through images.

Issues to be addressed in order to design a National Forest Inventory

There is not any regular authority for the national forest cover assessments on regular basis. India has Forest Survey of India (FSoI) which conducts ground truthing surveys and field validations to produce National Forest assessment reports on bi-annual basis. Such set up should also be regularised in Pakistan so that the forests are monitored regularly.

There is not any comprehensive inventory of the 'Forests of Pakistan'. The data is available in scattered format, should be collected and displayed at a single platform. National Inventory with separate provincial chapters should be developed. Successful case studies can also be shared among the provincial authorities and can be highlighted on the web portal of the inventory.

Forest demarcation and enumeration of trees and recording should be done on regular basis. All the data should be available on digital systems so that transfers of the incharge Forest officials could not restrain the information and made available and used by everyone concerned with the forests.

Available paper maps with the all the forest divisions should be scanned and available in the form of digital library. Effective knowledge management and sharing should be an important component of National Forest Inventory.

International standards should be followed for the mapping and reporting formats. Field data collection forms, methodologies and reporting system should be standardised at National Level and implemented from macro to micro level studies in Pakistan.

The forest assessments that are being carried out by various organisations/departments only incorporate state owned forests. Such studies should be conducted on both state and Private/Guzara/Shamilat deh forests to incorporate the overall carbon stocks of the specific area.

Issues to be addressed in order to support scientific research on key issues

So far, research is being carried out by different institutions and organisations but mostly in isolation and of general nature. Not much specific scientific assessment regarding carbon stock assessment using satellite images is available/documented.

Model studies should be carried out at different ecosystems of Pakistan so that some baseline data from Pakistan could be available.

Research on each species should be required for carbon stockings. It should be carried out for different trees in different ecosystems.

Carbon stock table should be developed which can be further used for the researchers.

The capacities of GIS professional in the usage of SAR data in Pakistan are limited. Hence trainings are required to use this data for below canopy carbon assessments.

Relief shadow effect is a big constraint which comes while processing the satellite images for forest assessments in a hilly terrain. Generally, this issue is being neglected but should be considered strongly while processing the images. It can be coped with by using extensive ground truth data and DEM models.

Another issue comes while calculating the exact forest cover of an area which is due to the two dimensional geometric corrections of satellite images. The errors of area calculations increase in hilly/mountainous terrain. In Pakistan,

most of the studies for forest assessments does not incorporate this factor and hence introduce inaccuracies in overall area estimations. While conducting the forest cover assessments and boundary delineation, ortho-rectification i.e. 3d geometric corrections should be applied to increase the authenticity of outputs.