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Acronyms

BMUB	Environment, Nature Conservation, Building and Nuclear Safety, Germany
CBNA	Capacity Building Needs Assessment
CBOs	Community Based Organizations
CSOs	Civil Society Organizations
COP	Conference of Parties
DGTTTF	Democratic Governance Thematic Trust Fund
FD	Forest Department
FPIC	Free, Prior and Informed Consent
FREL	Forest Reference Emission Level
FRL	Forest Reference Level
GDP	Gross Domestic Product
GHGs	Green House Gases
GIS	Geographic Information System
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (German Development Agency)
GoM	Government of Myanmar
ICIMOD	International Center for Integrated Mountain Development
INGOs	International Non-Government Organizations
IPCC	Intergovernmental Panel on Climate Change
KFS	Korea Forest Service
MONREC	Ministry of Natural Resources and Environmental Conservation
MRV	Measurement, Reporting and Verification
NFI	National Forest Inventory
NFMS	National Forest Monitoring System
NDC	Nationally Determined Contributions
NFMS	National Forest Monitoring System
NGOs	Non- Government Organization
POINT	Promotion of Indigenous and Nature Together
RBP	Results-Based Payments
RECOFTC	The Center for People and Forest
REDD+	Reduced Emission from Deforestation and Forest Degradation and Carbon Enhancement
ROK	Republic of Korea
SDGs	Sustainable Development Goals

SFM	Sustainable Forest Management
SIA	Social Impact Assessment
SIS	Safeguard Information System
TWG	Technical Working Group
UNDP	United Nations Development Program
UNDRIP	United Nations Declaration on the Rights of Indigenous People
UNREDD	United Nations REDD Programme
UNFCCC	United Nations Framework Convention on Climate Change

Capacity Needs Assessment of REDD+ in Shan State Myanmar

1. Background

Myanmar has the largest remaining forest area in continental Southeast Asia and almost 44 percent of the total land surface is endowed with forests. The scientific forestry in Myanmar was introduced in Myanmar as early as the late 19th Century. Notwithstanding that fact that Myanmar is the pioneer country in Southeast Asia region which adopted the scientific forest management, conversion of forests into other land uses and degradation of forests are the main environmental challenges imposing on the country. The country has the third highest rate of deforestation in the world and has lost 1.3 million acres of forests between 2010 and 2015.

Recognizing the rapid rate of deforestation and forest degradation in the country, the government of Myanmar (GoM) has committed to set aside the 30 percent of the total country area as reserved forests and protected public forests, and another 10 percent as the Protected Areas. Those Nationally Determined Contributions (NDCs) will have to be fulfilled by the year 2030. However, this could pose the new challenges for the local communities and forest dwelling people of the country whose living depends on the forests. Moreover, NDC could also have consequences for the economy, which largely depends on land-based activities such as agriculture, fishery and resources extraction.

According to the recent census by the GoM, more than 70 percent of the total population lives in the rural areas. The rural population largely depends on forests, resources extraction and agriculture for their living. Moreover, the economic structure of the country is mainly characterized by the land-based activities such as agriculture and resources extraction. In 2015, agriculture and resources extraction accounted for more than 60 percent of total GDP of the country. On the contrary, agriculture and resources extraction are the two main drivers of deforestation in Myanmar. In order for Myanmar to fulfil Sustainable Development Goals (SDGs) and to achieve sustainable development of the country, the GoM needs to restructure the economy and finds out sustainable routes to the economic development.

Amidst such dilemma of over-dependency on land-based economy and urgent need to stop deforestation, the GoM needs to find a mechanism which will check the rapid rate of deforestation and forest degradation, and save the remaining forests of the country. On the other such a mechanism should also encourage the sustainable development of the country without any hindrance to the rapidly growing economy.

REDD+, with its economic incentives for the conservation of forests, is a mechanism, which could contribute to the sustainable if carefully crafted. Reducing Emissions from Deforestation and forest Degradation (REDD+) is one of Global effort to redirect these actions. REDD+ aims to provide incentive as performance based payment to those stakeholders who maintain their forest standing and increase forest carbon stocks. To be effective design and implementation on REDD+, UN-

REDD program was evolved in 2008. REDD+ is now paid growing attention by developing countries.

Myanmar is a member country to United Nations Framework of Climate Change Convention since 1994. Myanmar endeavored to participate in the international climate negotiation meetings to the extent possible since then. The activities related to Reducing Emissions from Deforestation and Forest Degradation mechanism were introduced into Myanmar in 2011. Myanmar has also become a partner country to the UNREDD programme at the same time.

REDD+ Readiness Roadmap, a foundation for the further REDD+ activities in Myanmar, was completed in 2013 with the technical and financial support of the UNREDD programme. The country is still in the process of REDD+ readiness phase and is expected to complete the REDD+ strategies this year. Reducing emissions from Deforestation, reducing emissions from forest Degradation, role of conservation, sustainable management of forest and enhancement of forest carbon stocks are Five key activities of REDD+. Formulation of drivers and strategies for REDD+ requires some baseline information relative to positively or negatively impact of existing and planned activities in Myanmar.

2. Rationale

In December 2013, the German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB) agreed to fund the regional programme “REDD+ Himalayas: Developing and using experience in implementing REDD+ in the Himalayas”. This capacity building programme for REDD+ is jointly implemented by ICIMOD and GIZ in the four Hindu Kush Himalaya countries i.e. Bhutan, India, Myanmar and Nepal. Under this initiative, REDD+ activities have already been planned in all the four countries through consultative workshop held in each country.

In Myanmar the country specific objective of the REDD+ Himalaya programme is to develop capacity of the REDD+ stakeholders and to develop instruments in preparation for REDD+ Readiness by undertaking and identifying gaps in the readiness phase. As part of the developing capacity for relevant REDD+ stakeholders, the study is undertaken.

The purpose of the study is to assess the capacity needs for the implementation of REDD+ in Myanmar. The following are the objectives of the study:

- To assess the capacity needs for REDD+ implementation in Myanmar
- To identify capacity interventions for REDD+ implementation
- To support the development of national REDD+ competency framework in Myanmar

3. Methodology

The report is primarily focused on desk review of the REDD+ related documents in Myanmar. Key documents that were reviewed for the study included, but not limited to,

- Government policy documents, legislations, rules and instructions
- Myanmar REDD+ Readiness Road Map
- REDD+ National Strategy (Draft) of Myanmar
- Previous studies on capacity needs of REDD+ in the country
- Documents of the past and present REDD+ projects
- Scientific papers and articles

In addition to the desk review of the REDD+ documents, consultation meeting and key informant interviews were also conducted to give insights into the current REDD+ implementation and to reflect the capacity needs of the REDD+ practitioners. Key informant interviews were conducted with the representatives from key stakeholders such as local communities, REDD+ project executors, government agencies and civil society organizations.

4. Key Capacity Builders for REDD+ in Myanmar

4.1 Forest Department

Forest Department, under the Ministry of Natural Resources and Environmental Conservation (MoNREC), is the key capacity builder of REDD+ mechanism in Myanmar. It is also the focal department for the implementation of REDD+ activities. Currently, Forest Department is implementing multiple REDD+ projects.

4.2 UNREDD Program Myanmar

With support from the Government of Norway, the UN-REDD Programme, in partnership with the Regional Community Forestry Training Centre (RECOFTC), assisted the Government of Myanmar (GoM) and other stakeholders to develop a REDD+ Readiness Roadmap in the period July 2012-August 2013. Most of the information included in the Roadmap was derived from the work of three multi-stakeholder Technical Working Groups (TWG) during the period December 2012-April 2013. A draft document was then subject to six consultation events – two national workshops and 4 sub-national workshops (see Consultation Annex to the Roadmap). A revised document was produced reflecting inputs from the consultation events.

The Myanmar REDD+ Readiness Roadmap has six sections:

- Management of REDD+ Readiness Arrangements
- Stakeholder Consultation and Participation
- Development and Selection of REDD+ strategies
- Implementation Framework and Safeguards
- Development of a National Forest Reference Emission Level and/or Forest Reference Level
- Development of a National Forest Monitoring System

The total budget calculated for implementation of these six sections is US\$ 23,320,650 (including administrative costs). This funding will be accessed

through the support of numerous donors and development partners, as well as from the government budget.

Some initial support to the implementation of the Roadmap was provided through the Targeted Support window during 2014-15. In early 2015, Myanmar was invited to submit an Expression of Interest for a full national programme, and subsequently to make a presentation on this Expression of Interest to the 14th and 15th meetings of the UN-REDD Policy Board. The Policy Board provisionally approved the allocation of 5,554,370 to the Myanmar National Programme. This decision became operational following the confirmation of availability of funds provided to the interim governance body on July 6, 2016.

The Myanmar UN-REDD National Programme reflects the needs and requests of the GoM and the comparative advantages of the UN-REDD Programme and specific circumstances of the country. The situation analysis underlying UN-REDD Programmatic Support, including stakeholder analysis, is described in the Roadmap itself (Annex 1) and is not repeated here.

4.3 Promotion of Indigenous and Nature Together (POINT)

POINT was established in March 2012. It is started as a response to the lack of organization led by “Indigenous Peoples” working for Indigenous Peoples’ issues in Myanmar. In the past, only the religious organizations are the strong civil society working for its related indigenous people’s needs of humanitarian and development assistance to some extent. Therefore, the organization POINT was formed in order to fill the gap of promoting the rights of indigenous peoples along with increased awareness on environmental related knowledge.

POINT is a rights-based NGO and concerns with the capacity building of the indigenous people. With regard to the REDD+ mechanism, POINT conducts trainings for indigenous and local communities to ensure they understand their rights. It also provides trainings on Free, Prior and Informed Consent (FPIC) and role of gender in REDD+.

4.4 RECOFTC – The Center for People and Forests

RECOFTC aims to support community forestry development in Myanmar through a program of capacity building that involves action research, training and learning networks, piloting and demonstrating, and widely communicating best practices, that together lead to learning and leverage and the establishment of RECOFTC as the primary support service provider for community forestry in the country. RECOFTC has implemented a regional project on the Grassroots Capacity Building for REDD+ since 2009 with the financial support from the Norwegian Agency for Development in four countries, Indonesia, Lao, Nepal and Vietnam. Myanmar was added as the fifth country to the project in 2013 and the project ended in 2015. The goal of the project was that *“Grassroots stakeholders in Asia are enabled to actively contribute to the REDD+ planning and policy process by effectively participating and communicating their perspective to policy makers and are well positioned to take advantage of potential benefits from*

REDD+ for local socio-economic development". The project aimed to achieve two main outcomes:

- i) Grassroots stakeholders have achieved a greater understanding of the concept of climate change and REDD+ with a focus on social safeguards and ongoing REDD+ developments at a national and international level enabling them to respond to future needs of REDD+ capacity building in their countries, and
- ii) Grassroots stakeholders and their representatives have greater capacity and skills to communicate their aspirations and concerns related to REDD+ to policy makers and other key stakeholders.

5. REDD+ capacity building projects

5.1 Capacity Building for developing REDD+ in the context of sustainable forest management

The project was funded by ITTO and implemented by forest department. The project area covered four townships namely Yedashay, Taungoo, Oat Twin and Phyu in Taungoo District of Bago region. The project fund comprise ITTO supported fund and Government in kind contribution. It started in 2012 and planned to end 2015. Even though it is 3 years project, it has extended to mid 2016. The project mainly aims for strengthening of the capacity of stakeholders in design and implementation of REDD+ in Myanmar with specific focus on facilitating the preparation of REDD+ strategies and Measuring, Reporting and Verification (MRV) system in Teak bearing forest area in Myanmar¹. The program involves

- collection REDD+ related information and raising awareness through different Information, Education, and Communication - IEC materials;
- capacity building for government staffs and other stakeholders for the development of REDD+ strategies through workshops, training and discussion;
- formulation of National REDD+ strategies through multi-stakeholders' consultation and formation of REDD+ core unit and coordination with other relevant organizations;
- preparation of comprehensive REDD+ capacity building work plan;
- Increasing the number of qualified persons for REDD+ activities including carbon measuring through several training, workshops, meeting;
- capacity building for Free, Prior and Informed Consent to stakeholders in project area;
- establishment of demonstration sites and pragmatic implementation of REDD+ activities on ground;
- preparation of standard guidelines for carbon measuring and effective forest inventory;
- study of forest cover and conduction of forest inventories.

Key outputs in this project are formation of REDD+ core unit, publication on REDD+ national strategies, social and environmental safeguards in Myanmar,

standard guidelines for Carbon measuring and forest inventory and REDD+ demonstration site.

5.2 Capacity Building on improving Forest Resource Assessment and Enhancing the involvement of local community to address adverse impact of climate change

The project was, (2013-2015), two years long regional one covering Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Myanmar, Philippines, Singapore, Thailand and Vietnam with financial support from the Republic of Korea (ROK). The total budget amount to 2000000 US\$ for regional and 138249 US\$ for Myanmar any involvement of government contribution. It aimed to enhance the capacity of Forest Resource Assessment (FRA) for ASEAN Member States as one of enabling condition to achieve Sustainable Forest Management (SFM) and to address forest management issues in the context of climate change and mitigate adverse impact of climate change through enhanced involvement of local community to sustainable management of the forest and development of alternative livelihoods to cope with. The key activities along with this project comprised capacity need assessment on conducting Forest Resource Assessment, organizing regional workshop event, providing training for trainers of Remote sensing and Geographic Information System, supporting equipment and high resolution images. Results of this project implementation are capacity development on Remote Sensing and GIS and provision of high resolution images.

5.3 Strengthening Myanmar National Forest Monitoring System Land Use assessment and capacity building

FAO has long history in supporting technical and funding assistance to forest department particularly on forest resource assessment. This project aims to enhance capacity of stakeholders working in the area of forest cover analysis and forest inventory. It is two years, 2014 to 2016, long project and its main activities were development of national forest monitoring system (NFMS) action plan, upgrading current forest monitoring system in compliance with Intergovernmental Panel on Climate Change (IPCC) guidelines, provision of training, workshops and conducting field survey in parallel with enhancing capacity of Remote Sensing and GIS. National Forest Monitoring System is also utmost important for the design and implementation of REDD+. Currently, training on RS and GIS has been accomplished and working on the image analysis of Landsat 8 across the country.

5.4 Capacity Building of relevant stakeholders for REDD+ readiness of Myanmar

Korean Forest Service has its interest to support funding on REDD+ readiness especially for capacity building programs. Recently it has supported and accomplished REDD+ capacity building program at Taungoo District, Bago region. This project is also capacity building of REDD+ in the western Bago

region. It was supposed to start in 2015 and will end 2018. And it is not started yet. The project location focus on three different reserved forest such as southern and northern Zarmari RF, Shwe Laung Ko Tu Kwe R.F in Bago district, western Bago region. It is under negotiation between KFS and FD.

5.5 REDD+ Himalayas: Developing and using experience in implementing REDD+ in the Himalayas

The International Centre for Integrated Mountain Development (ICIMOD) is a regional intergovernmental learning and knowledge sharing centre serving the eight regional member countries of the Hindu Kush Himalayas – Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal, and Pakistan – and based in Kathmandu, Nepal. Globalization and climate change have an increasing influence on the stability of fragile mountain ecosystems and the livelihoods of mountain people². ICIMOD has also been working with FD in different areas. It has substantial experiences gained from the member countries on REDD+ initiatives. The above named project is still in negotiation to implement in Myanmar. The project is supposed to start in 2015 and finish in 2018. The project will spend about euro 0.3 million for REDD+ in Myanmar.

5.6 Mitigation of climate change impacts through restoration of degraded forests and REDD+ activities in Bago Yoma Region, Myanmar

The project was funded by the Korea Forest Service (KFS) and was implemented from 2011 until 2014. This was among the pioneer REDD+ activities in Myanmar and capacity building on REDD+ was one of the key priorities of the project. The project was implemented by the Forest Department of Myanmar. The following are the primary objectives of the project:

- To initiate pilot activities for restoration of degraded forests and conservation of eco-systems for mitigating climate change impacts and supporting sustainable forest management;
- To measure baseline carbon stocks and set reference scenario of carbon emissions through a reliable MRV system focusing on REDD+ readiness; and
- To strengthen capacity and enhance awareness of FD staff and relevant stakeholders in REDD+ readiness and eco-systems conservation.

The main activities of the project were:

- Awareness raising about REDD+, climate change and forests;
- Capacity building and development of MONREC and relevant stakeholders;
- Rural development activities as an initial step of formulating a performance based benefit distribution system;
- Demonstration of enhancing forest carbon stock with people's participation (establishing community woodlots, arboretum, forest conservation);
- Measuring, reporting and verification (MRV) and carbon measurement according to IPCC guidelines;
- Forest Inventory and forest cover change assessment (ground check, RS/GIS);

- Research on major drivers of deforestation and forest degradation (at district level).

5.7 Improvement of the quality of life of ethnic minorities in the Naga area in Myanmar through youth participation in REDD+ readiness process Funding Source: Democratic Governance Thematic Trust Fund (DGTTF), UNDP

Executing Entity: UNDP

Implementing Agencies: UNDP

Implementation Period: 2 years (2013 to 2015)

Project Location: Khamti, Layshi and Lahe Township in Sagaing Region

Key Results

Output 1: Strengthened the network of Civil Society Organizations (CSOs)/Community Based Organizations (CBOs) with enhanced roles for youths, advocating a right based approach for REDD+

Output 2: Enhanced awareness of ethnic minority youths in the Naga Area on Climate Change, Reducing Emission from Deforestation and Forest Degradation (REDD+), the United Nations Declaration on the Rights of Indigenous People (UNDRIP), and implications for right based development; and

Output 3: Trained youth representatives and enhanced awareness on anti-corruption measures, and approaches to promote transparency and equity in benefit distribution.

5.8 Grassroots Capacity Building for REDD+

Implementing Agency: RECOFTC in partnership with local NGOs, CSOs, Govt. Agencies.

Duration: 2013-2015

Location: To be determined

Project Objectives: Grassroots stakeholders in Asia are enabled to actively contribute to the REDD+ planning and policy process by effectively participating and communicating their perspective to policy makers and are well positioned to take advantage of potential benefits from REDD+ for local socio-economic development.

Main activities:

- Conducting a CBNA for grassroots level stakeholders;
- Develop a set of training packages;
- Deliver training programs for project implementing partners, and national and sub-national level facilitators, and other key stakeholders on how to effectively raise grassroots stakeholder awareness and knowledge on climate change;
- Implement training and capacity building programs for grassroots stakeholders.

5.9 Study on the strengthening methodological and technological approaches for reducing deforestation and forest degradation within the REDD implementation framework: application in Myanmar

Implementing Agency: REDD+ Core Unit, Planning and Statistics Division and Forest Research Institute, FD, MONREC

Duration: 2012-2013 (12 months) and 2013-2014 (12 months)

Location: Kalaw and Nyaung Shwe Township, Shan State

Project Objectives:

- To strengthen RS/GIS capacity of FD staff in order to support the REDD+ readiness process;
- To demonstrate the preparation of carbon mapping in selected areas;
- To share and exchange knowledge and experiences regarding REDD+ readiness activities.

Main activities:

- Organize RS/GIS training in Myanmar (20participants) and in Japan (3 participants);
- Organize REDD+ workshop in Myanmar;
- Conducting surveys (socio-economic, forest cover and community forestry activities) in Nyang Shwe and Kalaw Townships;
- Developing carbon mapping of some selected areas (e.g. Community forests and some areas of Nyaung Shwe Township).

6. Capacity needs in relation to the Warsaw REDD+ Framework

The Warsaw Climate Change Conference took place from 11-23 November 2013 in Poland. It included the 19th session of the Conference of the Parties (COP 19) to the UN Framework Convention on Climate Change (UNFCCC). At the COP 19, Parties adopted the “Warsaw REDD+ framework,” a series of seven decisions on REDD+ finance, institutional arrangements and methodological issues. “Warsaw REDD+ framework” is the fundamental components of the REDD+ and every REDD+ countries should prepare “Warsaw REDD+ framework” as a REDD+ Readiness. “Warsaw REDD+ framework” includes four elements as follows:

- National Strategy &/or Action Plan
- National Forest Monitoring System
- Forest Reference Level
- Safeguards Information System

6.1 National Strategy &/or Action Plan

The NS/AP is one of the four design elements which have been agreed internationally as prerequisites for REDD+ implementation and to access Results-Based Payments (RBP) (Decision 1/CP.16, paragraph 71(a)), in accordance with Decisions 12/CP.17 and 11/CP.19).

REDD+ NS/APs describe how emissions will be reduced and/or how forest carbon stocks will be enhanced, conserved and/or sustainably managed in the implementation of REDD+ (phases 2 & 3). NS/APs are integrative products of

and processes of the readiness phase (phase 1), drawing from all the analytical work, stakeholders' dialogue and strategic decisions made to prepare an effective and efficient implementation of REDD+ (phase 2).

There are no detailed prescriptions in the decision texts regarding the actual content of a NS/AP and no template to follow. Nonetheless, paragraph 72 of Decision 1/CP.16 indicates that when developing (phase 1) and implementing (phase 2) their NS/AP, Parties are requested to address, inter alia:

- *Drivers of deforestation and forest degradation;*
- *Land tenure issues;*
- *Forest governance issues;*
- *Gender considerations;*
- *Cancun REDD+ Safeguards;*
- *Ensuring full and effective participation of relevant stakeholders, inter alia, indigenous peoples and local communities.*

6.2 National Forest Monitoring System

One of the key component of four elements of REDD+ implementation, National Forest Monitoring System plays important role. It has been defined in the REDD+ Academy Journal as “NFMS is a system for recording and monitoring how land is used in a country, and to develop data which show the levels of Greenhouse Gas (GHG) Emissions and Removals related to forests”. As being responsible to MoNREC in the NFMS, above-ground and below ground biomass assessment manual provide development of Emission Factor in different ecosystem and different species. It is a core step for the improvement of higher tier estimation of GHG in the land use sector. However IPCC 2006 guidelines have more activities to be considered in the calculation of GHG Inventory. For example, biomass burning from the land preparation of different sector (subsistence and commercial agriculture and forestry in particular) are also quite important.

In order to function for the assessment of emission factors for the LULUCF sector GHG inventory, the NFI data collection methodology will need to be re-designed to measure forest carbon stocks, as part of a multipurpose NFI. The NFI should aim to account for as many of the five IPCC forest carbon pools as possible, and will be a key tool for the planning and management of the forest and other land use sectors. The NFI should become a key tool to inform national land use planning, by collecting and making available data on timber stocks, biodiversity and human uses of forests, in addition to carbon stocks. Consultations will be held at the national and sub-national levels to gather input from diverse stakeholders to inform the selection of parameters for data collection through the multipurpose NFI.

To inform and guide this process capacity building is required on IPCC guidance and guidelines for NFIs, including on NFI sampling strategies, data collection methodologies, process documentation, uncertainty analyses, data management and storage, and quality assurance and quality control (QA/QC)

measures. International support will be sought from countries with multipurpose NFIs in place, to learn lessons from best practice. Once the above activities have been completed, the Forest Department will lead efforts to re-design its existing NFI methodology through a series of consultation workshops, to ensure wide participation and transparency in the process. Concurrently to the methodological re-design, the Forest Department will design an appropriate data management, analysis and archiving system. With a new methodology in place, the Forest Department will move towards planning and implementation of the piloting of the methodology, including data processing and archiving, before refining the methodology, as necessary.

The NFMS action plan for Myanmar is intended to cover the planning and implementing of a new or revised system of national forest monitoring and inventory for Myanmar to the level of a first cycle of national level measurements and ideally the initial production of national reports on the state of the forests in the country. The plan covers seven main thematic areas as follow:

- The country situation relevant for developing a NFM system in Myanmar
- The purposes of national forest monitoring
- Guidance for the planning process in Myanmar
- Proposals for organizing the planning process and the decisions to be made
- Proposals for an operational structure of the NFMS
- A budget proposal and a time frame
- A workplan for four years

6.3 Forest Reference Level

Following the suggestion of Decision 12/CP.17, Myanmar prepared its FREL using a stepwise approach. This initial FREL submission will be a benchmark for assessing its performance in implementing REDD+ activities in contribution to climate change mitigation. The main objective of the FREL submission is to support the climate change mitigation efforts under the national context of Myanmar. Further objectives of the submission are;

- To assess and evaluate the performance of REDD+ policies and measures and sustainable forest management practices
- To provide information on emission projections to stakeholders including policy makers, government line departments, technicians and members of the public on a clear, transparent and consistent basis.
- To facilitate access to potential funding sources for results-based payments and
- to support efforts to reduce emissions from the forest and land use sector.

6.4 Safeguards Information System

‘Safeguards’ usually refer to processes or policies designed to mitigate risks. The seven safeguards associated with REDD+, as agreed under the UNFCCC, are broad aspirational principles that can help to ensure that REDD+

activities ‘do no harm’ to people or the environment, as well as ‘do good’ and enhance social and environmental benefits.

Integral to the country approach to safeguards is the development of a SIS. An SIS is one of the four core elements to have in place for REDD+ implementation (COP16, 2010) in order for a country to receive results-based payments (COP 16, COP 19). Further guidance on SIS design was provided at COP 17 in Durban and COP 19 in Warsaw, notably:

- Consistency with Cancun guidance;
- Accessibility and periodic provision of information: providing transparent and consistent information that is accessible by all relevant stakeholders and updated on a regular basis;
- Improvement over time: being transparent and flexible to allow for improvements over time;
- Comprehensiveness: providing information on how all Cancun safeguards are being addressed and respected;
- Country driven: being driven by the country and implemented at the national level; and
- Utilizing existing systems: building on them as appropriate.

An SIS should, wherever possible, build on existing information systems in order to provide information on the way the safeguards are being addressed and respected throughout the implementation of REDD+ activities. It is acknowledged, for example, in decision 11/CP.19, that REDD+ countries’ national forest monitoring systems for REDD+ may provide relevant information for the SIS. Table -1 shows the capacity needs of relevant stakeholders in relation to the implementation of “Warsaw REDD+ Framework”.

Table 1 Capacity needs of relevant stakeholders in relation to the implementation of “Warsaw REDD+ Framework”

No	Key Areas	Local Community	Local Level	Sub-national Level	National Level
1	National strategy &/or action plan (NRS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	(a) drivers of deforestation and forest degradation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	(b) Barriers to enhance “+” activities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	(c) Policies and measures to address drivers and barriers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	National forest monitoring system (NFMS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	(a) National forest inventory design and	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	intensity				
	(b) RS/GIS skill	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	(c) Inventory	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	(d) database	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	National reference level (NFL)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	(a) Objectives and methodology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	(b) Facilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	(c) Coordination for reporting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	Safeguards information system (SIS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	(a) Stakeholder mapping and engagement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	(b) Cancun safeguard	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	(c) Benefit and risk analysis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	(d) consultations, coordination, negotiation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7. Analysis of current state of competency and capacity among different stakeholders on climate change and REDD+

7.1 Capacity of local communities

Local communities could express their notion on the temperature and rain fall pattern changes. However, they were unable to relate these changes as impacts of climate change. They thought this change is normal because these changes have not been obvious due to gradual increase of temperature.

Secondly, local villagers were also not able to relate link of forests and climate change. Therefore it is not surprising that REDD is very new to them and they do not understand the concept except few referring to hearsay that carbon can be sold to the global market. The fundamental understanding of what carbon means, how carbon is accumulated and the relationship between the growth of trees and CO₂ absorption are all new topics for them.

7.2 Capacity of local government staff

Local level staffs of NGOs and FD possess limited knowledge on climate change science, and REDD+ is a relatively new concept for the field level Forest Department staff. Many of the local staff are not familiar with the REDD+ mechanism and do not understand the activities included in REDD+ mechanism. Although many of the staff are familiar with the conventional forestry activities such as forest conservation and plantation establishment, they have limited

capacities when it comes to the participatory processes involving local communities. Regarding the skills related to facilitating carbon stock measurement with local communities, the staff do not have any experience on this. Basic benefit sharing is another unclear term, as are equality, equity and fair distribution in the context of REDD+.

7.3 Regional Level Stakeholders

Knowledge and understanding on Climate change science at the regional level is poor. In the CBNA report conducted by the RECOFTC in 2013 pointed out that *“REDD could vaguely be explained in the project area at Bago region implemented by FD funding of KFS. The acronym for Reducing Emissions from Deforestation and Forest Degradation can't be correctly explained. The core activities of REDD+ are double pointed to them. Drivers of deforestation and forest degradation were discussed in the interview. However, they could not give major drivers that exist at the national level and no strategies to address to the causes of deforestation. The differentiation of Deforestation and forest degradation was very difficult for them to explain”*. Similarly, the concept of carbon trading and carbon market is also peripheral to the regional staff. The concept of FPIC, benefit sharing mechanisms and social and environmental safeguards are not fully understood.

7.4 National level stakeholders

National level stakeholders, particularly those who are actively involved in the REDD+ readiness roadmap reported having good knowledge on the climate change and REDD+ in comparison with the state-of-the-art of REDD+ in the country. However, the knowledge level of the national level stakeholders could be skewed towards the scientific part of the REDD+ and less enlightened in terms of the social part of REDD+. The 2013 RECOFT report on CBNA of REDD+ reported that *“most of national level stakeholders did not recognize on the conflict management because it is very new concept and did not seem to take into account in the REDD+ mechanism. In fact, REDD mechanism comprises two major areas – technical and social - to build the capacity of all stakeholders. Some national level stakeholders are going to strongly focus on the MRV and less on FPIC and safeguards, meaning that the core value of REDD as an integrated mechanism is undermining. Complete understanding on the requirements of REDD is still lacking to them”*.

The concept of FPIC is known to very few stakeholders at national level, the idea to integrate FPIC concept in REDD+ and REDD+ benefit sharing and other different kinds of inclusive decision making is still lacking. This is mainly because of lack of their past experience on the facilitation process with the local communities to reach at the inclusive decision making. Each and every national stakeholders are grounded on the “learning by doing” theories for any initiative of REDD related capacity building to the audience. Carbon Market information is

not too new to understand to the national level. However the current market trend assessment on the carbon market information is still missing.

The knowledge on the opportunity cost is very low to the national stakeholders. There is still missing to include all the cost estimation on the REDD+ design and implementation because the national level stakeholders are clarifying their understanding and mainly rooted to the capacity building of local level stakeholders on what climate change is, how REDD has evolved, what REDD stands for, what the core activities of REDD are and current status of forest cover, rate of deforestation and forest degradation, drivers and underlying causes of deforestation, how it can be address through five REDD+ activities.

Table 2 Capacity Needs at different levels of stakeholders

No	Key Areas	Local Community	Local Level	Sub-national Level	National Level
1	Climate Change	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2	REDD+	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3	CFM and REDD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	Benefit Sharing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Participatory process for inclusive decision making	<input type="checkbox"/>	<input type="checkbox"/>		
6	Art of facilitation and Communication	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
7	Participatory carbon stock assessment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
8	Participatory benefit Sharing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
9	FPIC and REDD+	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10	Indigenous People Right and REDD		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11	Conflict Management and Natural Resource Management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12	Forest Governance		<input type="checkbox"/>	<input type="checkbox"/>	
13	Sustainable Forest Management Principles		<input type="checkbox"/>	<input type="checkbox"/>	

8. Analysis of gaps and needs assessment with respect to training and capacity building for REDD+ in the country

The capacity gap can be defined as the difference between the existing capacity and the capacity of an individual, an institution and an organization must

have to perform a task effectively and efficiently. The capacity gap will be presented in accordance to the finding at the local community level, local level, regional level and national level. The key capacity gaps at different levels of stakeholders are identified as follow:

8.1 Local communities

- Knowledge and understanding on Climate Change Science
- Concept and core elements of REDD+
- No experience on carbon assessment except some assistance in the forest inventory, no consideration of carbon stock as a new forest commodity
- Very limited experience on financial management, weak knowledge in benefit distribution
- Some hearsay on carbon but no information regarding to carbon price and assessment of carbon market trend
- Inadequate understanding on their rights including tenure right, bundle of property right, indigenous rights.

8.2 Local Levels (Project and Forest Department Staffs)

- Low level of understanding on climate change, weak in observation on the traditional adaptive strategies, limited explanation on scientific knowledge of GHGs, inadequate comprehension on the linkage of GHGs emission and deforestation and forest degradation, unclear explanation of drivers of deforestation and forest degradation
- Weak understanding on REDD, can't mention five elementary activities of REDD+ clearly, low understanding on the linkage of climate change and REDD
- Carbon pools, carbon to carbon dioxide equivalent and carbon market knowledge is limited, no information on the carbon price, no knowledge where they could access carbon price information, no one has practical experience on the facilitation process of carbon stock assessment with local communities.
- Basic facilitation on the inclusive decision making on benefit distribution is rather weak, in concept and principle of FPIC
- Weak in recognizance on customary or indigenous rights

8.3 Regional Level

- Lack to very limited understanding on Climate Change especially on scientific knowledge, weak in linkage between GHGs and Deforestation and forest Degradation
- Limited knowledge on REDD+ in the context of climate change
- Poor experience/knowledge on Benefit sharing mechanism, Insufficient comprehension on FPIC and to integrate it into Benefit sharing mechanism
- Inadequate or least comprehension on the Carbon market, carbon price information access and existing carbon market trend assessment

- Opportunity Cost is new concept to them, Insufficient understanding on the cost estimation of REDD+

8.4 National Level

- Moderate to good understanding on the Climate Change particularly on the scientific knowledge, but a poor linkage between scientific and traditional knowledge to adapt current climate change and poor knowledge on traditional adaptive strategies, moderate involvement on the national climate change discussion and negotiation
- Moderate knowledge on the REDD, clear understanding on the differences of Climate change and weather change, deforestation and forest degradation, Drivers of deforestation and forest degradation, but a poor ability to link with other attributes of REDD+ such as FPIC, benefit sharing, environmental and social safeguard, conflict management strategies, indigenous rights, tenure security
- Weak in understanding in Institutional requirement for the REDD design and implementation
- Rather weak to low experience or knowledge on benefit sharing mechanism, quite vagueness in integration of MRV and benefit sharing;
- Low to moderate knowledge on Carbon market, Trade, no one is initiating in carbon credit trading, reading knowledge on and Verification standards at international level
- Rather weak to low understanding on the opportunity cost, weak in participatory process for the opportunity cost estimation of REDD+ and skill to estimate the costs of REDD+ is rather blurred.

9. Conclusion

Capacity needs assessment for REDD+ was conducted in Myanmar to support the implementation of REDD+ mechanisms and to identify the capacity gaps for REDD+ implementation in Myanmar. The report supplements the capacity building activities conducted by the ICIMOD REDD+ Himalayas project in Shan State of Myanmar. The report finds that capacity building is required for all levels of stakeholders for the implementation of REDD+ in Myanmar. Particularly, capacity building is necessary for sub-national level stakeholders in order to implement the sub-national REDD+ activities. Moreover, capacity building is also needed for the formation and operationalization of the National Forest Monitoring System in Myanmar.

10. References

- Angelsen, A., Brockhaus, M., Sunderlin, W. and Verchot, L. (2012). *Analysing REDD+: Challenges and Choices*. Bogor: Centre for International Forest Research (CIFOR).
- Aung, K. (2013). *Capacity Building Need Assessment for REDD+ in Myanmar*. Completion Report. RECOFTC- The Center for People and Forests.
- Luintel, H., Silori, C., Frick, S. and Poudyal, B. (2013). Grassroots Capacity Building for REDD+: Lessons from Nepal. *Journal of Forest and Livelihood*, 11(2).
- Ministry of Natural Resources and Environmental Conservation-MONREC (2018). *Forest Reference Emission Level (FREL) of Myanmar*. MONREC.
- Roy, R., Silori, C., and Poudyal, B.H. (2014). *Grassroots capacity development for REDD+: approaches and key lessons from Nepal*. Policy Brief No.31. [online] Nepal: Forest Action. Available at: http://www.forestaction.org/app/webroot/vendor/tinymce/editor/plugins/filemanager/files/POLICY%20Briefs/Press_Policy%20Brief%20No.%2031%20Final.pdf [Accessed 24 Jul. 2018].
- Stephen, P. and Triraganon, R. (2009). *Strengthening Voices for Better Choices: A capacity needs assessment process*. Gland, Switzerland: IUCN.
- Tint, K., Springate-Baginski, O. and Ko Ko Gyi, M. (2011). *Community Forestry in Myanmar: Progress & Potential*. Yangon: DFID.
- The Republic of the Union of Myanmar (2015). *Myanmar's Intended Nationally Determined Contributions - INDC*. GOM.
- Unfccc.int. (2018). *UNFCCC*. [online] Available at: <https://unfccc.int/> [Accessed 24 Jul. 2018].
- UNREDD (2013). *Myanmar REDD+ Readiness Roadmap*. Myanmar: UNREDD Programme.