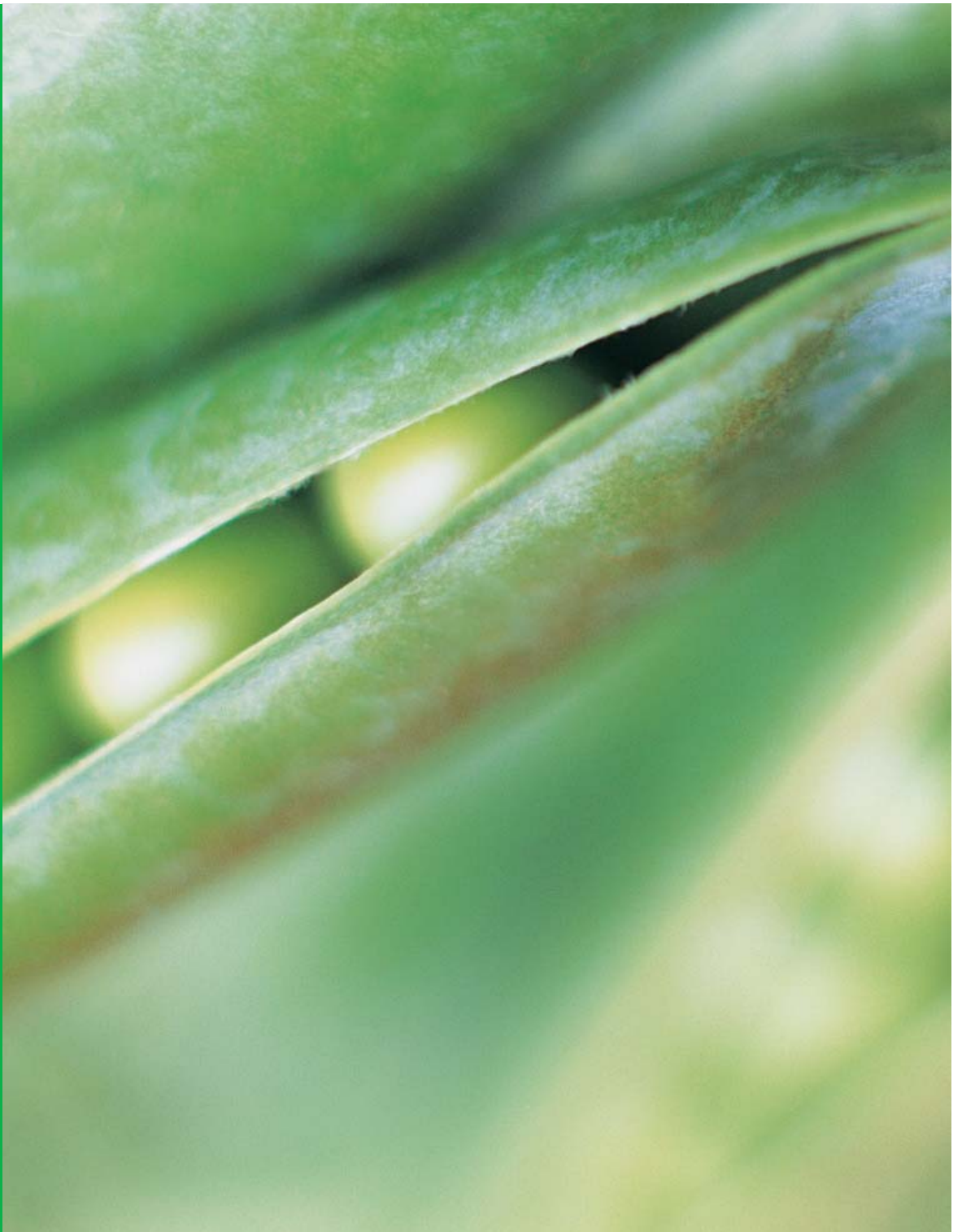# Options for National REDD+ Strategies

Report from a conference at the Norwegian University of Life Sciences, 29 - 31 May 2013

By Arild Vatn, Arild Angelsen, Desmond McNeill and Leif Tore Trædal

Options for National REDD+ Architectures

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Noragric is the Department of International Environment and Development Studies at the Norwegian University of Life Sciences (UMB). Noragric's activities include research, education and assignments, focusing particularly, but not exclusively, on developing countries and countries with economies in transition.

Noragric Reports present findings from various studies and assignments, including programme appraisals and evaluations.

The findings, interpretations and conclusions expressed in this publication are entirely those of the authors and cannot be attributed directly to the Department of International Environment and Development Studies (UMB/Noragric).

[1] Dept. of International Environment and Development Studies/Noragric, UMB.
[2] UMB School of Economics and Business.
[3] Centre for Development and the Environment, University of Oslo.
[4] Dept. of International Environment and Development Studies/Noragric, UMB.

Preface

Combating climate change is perhaps the greatest challenge humanity is facing. Reaching the so-called "2-degrees target" requires dramatic cuts in global CO_2 emissions. Land-use change, mainly through deforestation and forest degradation in developing countries, is still a major source of global CO_2 emissions. This is also a sector where costs of reducing emissions are relatively low, and where multiple benefits can be achieved by improved management of forests and their resources. More than 1 billion people depend on forests for their livelihoods, and forests deliver a series of services to humans. Protecting forests is therefore important not only for the global climate, but also for biodiversity and a wide set of ecosystem services like water services and soil conservation.

But despite the relatively low costs compared to most other climate change mitigation measures, reduced emissions from deforestation and forest degradation do not come either cheap or easy. For these reasons, Norway has been heavily engaged in REDD+ since 2007. At the 13th Conference of the Parties in Bali, Norway launched its International Climate and Forest Initiative including the allocation of up to 500 million USD annually from 2008 to 2015 for REDD+ efforts in developing countries. Since then, Norway has been active in both bilateral and multilateral engagements for REDD+. Bilateral agreements have been made with Brazil, Guyana, Indonesia and Tanzania. Norway supports the UN REDD Programme and the Forest Carbon Partnership Facility (FCPF) under the World Bank that assists REDD countries in their readiness process, specifying national goals, setting up governance structures, and defining actions to ensure reduced and verifiable emission reductions in the forest sector.

Progress in the process of establishing national governance structures or architectures for REDD+ varies considerably between countries. The Norwegian International Climate and Forest Initiative recognizes that the conference at UMB created a valuable forum where policy makers, researchers and representatives of civil society could exchange experiences. While much was learned through verbal exchanges at the conference, we are also pleased that the findings are documented in this report, allowing for the experiences to be shared more widely.

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Minister of Environment

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Arild Vatn
Norwegian University of
Life Sciences

Arild Angelsen
Norwegian University of
of Life Sciences

Desmond McNeill
University of Oslo

Leif Tore Trædal
Norwegian University of
Life Sciences

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1. INTRODUCTION

The conference 'Options for National REDD+ Architectures' was arranged at the Norwegian University of Life Sciences (UMB), May 29-31, 2013. The overall objective of the conference was to bring together high level competences within policymaking, research and civil society to engage in knowledge exchange, experience sharing and critical reflection concerning alternative national governance structures – architectures – for REDD+.

The conference facilitated dissemination, discussion and evaluation of existing research-based knowledge and practical experiences from establishing REDD+ national architectures. Issues that were discussed concern the overall legitimacy of various governance structures, their effectiveness and efficiency concerning halting deforestation, how architectures may affect participation, access to local resources, and distribution of funds. This kind of knowledge is important to inform future stages of the national design and implementation processes. Outcomes may, however, also be important inputs to the post-Kyoto negotiations on how to structure REDD+, as we now seem to be at a stage where climate negotiations will have to more consistently raise issues concerning the links between the international and national level.

A core group of participants concerned the national REDD+ Focal Points from a set of invited countries – Brazil, DRC, Indonesia, Nepal, Pakistan, Tanzania and Uganda. They delivered written inputs to the conference on the status of deforestation, forest policies and REDD+ in their respective countries (see Appendix B). They also delivered summary presentations of these reports at the conference.

A substantial number of researchers also participated at the conference. These are engaged in research on REDD+ and related issues both at national and international levels. Several of these made presentations at the conference. Also representatives from civil society organizations from a series of countries in the South and from Norway contributed. Finally, representatives from Norwegian authorities – The Ministry of Environment and the Norwegian Agency for Development Cooperation (Norad) – participated.

While there were several presentations made at the conference from REDD+ Focal Points, researchers and civil society representatives, just as important were the group work sessions where exchange of experiences and proposals for 'good practices' were discussed. The full program is found in Appendix A.

The conference was organized by the Department of International Environment and Development Studies (Noragric, UMB) in cooperation with Center for International Forestry Research (CIFOR), the International Institute for Environment and Development (IIED), and the Norwegian REDD network. All partners have been involved in research on REDD+, not least pilot initiatives in participating countries.

The structure of the report:

The report is structured as follows. First, there is a summary of the seven national REDD+ reports as mentioned above. Next, reports from the three main sessions of the conference follow, including summaries of presentations, discussions and group works. The sessions were focused around the following three themes:

- Theme 1: The potential of different national REDD+ architectures to reduce carbon emissions
- Theme 2: Making REDD+ participatory and protective of local rights
- Theme 3: What to pay for and how?

The report closes with a short conclusion chapter summarizing the main experiences and emphasizing important areas where there is lack of knowledge.

Added to this is a rather voluminous section of appendices including the program, the full country reports, reports from the group work sessions and a list of participants.

2. THE STATE OF REDD+ IN THE PARTICIPATING COUNTRIES

The expectation when REDD+ was launched in 2007 was that large and rapid reductions in emissions of CO2 could be accomplished. Building the systems for making REDD+ happen on the ground – the international and national REDD+ architectures – is, however, demanding. It is first of all a challenging process to agree internationally on the general rules and obligations for climate change action. Hence, the development of REDD+ has been hampered by the postponement of a post-Kyoto agreement. While one has come quite far in agreeing on the general and common principles for REDD+ internationally, including a comprehensive international framework for REDD+ agreed on at COP 19 in November 2013, there is quite some way to go before the necessary national frameworks are established.

Regarding the latter a number of bilateral and multilateral efforts are nevertheless made. These include multilateral programmes – the UN-REDD Programme and the World Bank Forest Carbon Partnership Facility (FCPF) – and several bilateral agreements, e.g. between the Norwegian government and the governments Brazil, Guyana, Indonesia and Tanzania. In addition, the underlying climate concerns of REDD+ is high on the domestic political agenda in many countries. These developments have facilitated the design and establishment of national systems rather independently of the UNFCCC process. One has to recognize that the process is very demanding and that it takes time both to decide on and establish national REDD+ architectures. Hence, even in the case of Brazil – the country that has advanced the furthest in REDD – the full REDD+ architecture is not yet completely in effect.

At the outset, REDD+ was seen as a payment for ecosystem services (PES). Payments were to be based on documented reductions in emissions from deforestation and forest degradation. This entails, however, a number of issues, and the complexity of these at both the conceptual and practical level were underestimated. Changes in carbon stocks (emissions or removals) have to be measured over time in a consistent way, and the issue of monitoring, reporting and verifying (MRV) became central. Further, emissions reductions are defined against a reference level or the 'counterfactual' – what would have happened to deforestation if REDD+ was not instituted. Payment should be only for additional carbon stored. Institutions are also needed in the form of establishing national REDD+ architectures. Any PES system requires institutions to manage information and incentives (payments). Another issue concerns defining property and use rights to forests and forest resources, i.e. who has the rights to sell carbon credits. If payments are to cover lost livelihoods – opportunity costs – one had to clarify the rights situation – i.e., who are really the losers of income when instituting REDD.

While REDD+ was initially focused on PES, another characteristic was the focus on national level policies (rather than local projects). REDD+ would potentially impact not only all forest land, but also land for agriculture, mining, hydropower dams etc. 'Suddenly', REDD+ moved from being 'an innocent' trade mechanism, to be at the heart of land use conflicts in REDD+ countries. Following from this, one started to understand that REDD+ demands national engagement far beyond approving projects and reporting to a dedicated international body.
The REDD+ conference aimed at exploring these issues. One element in doing so was to look into the state of REDD+ in a selected number of countries – looking at the existing deforestation rates, the present property rights and management structures for forests, and finally the state of developing REDD+ architectures including overviews of main actors and institutions, payment systems and MRV. Each country REDD+ Focal Point was asked to prepare a report on these issues to be distributed before the conference – see appendix B.

What follows here is a brief summary of these reports from Brazil, the Democratic Republic of Congo (DRC), Indonesia, Nepal, Pakistan, Tanzania and Uganda.[5] To be able to ensure coherence to the comparisons, we have also reviewed a series of national publications, including the REDD+ strategies where these exist. Note also that we do not only present 'facts', but to some extent include also our evaluation of the various issues. This is motivated by the aim of the conference – to learn from the experiences and challenges that each of the participating countries has encountered.

2.1 DEFORESTATION – TRENDS AND DRIVERS

According to Table 1, forest cover in the involved countries varies from 66 till 4 per cent of the land surface.

Table 1. The size of forests in the participating countries

Countries	Forests in km^2	Total land surface in km^2	Forest cover in %
Brazil	5.195.200	8.515.767	61
DRC	1.550.000	2.345.409	66
Indonesia	985.600	1.866.700	53
Nepal	42.600	147 181	29
Pakistan	33.200	796,095	4
Tanzania	334.900	945,203	35
Uganda	35.900	236,040	15

Measuring the extent of forest cover is difficult as data are uncertain. Note also that the data offered do not refer to the same year – i.e., the year of measurement lies in the interval between 2005 and 2010.

Measuring deforestation is even more demanding and data are very uncertain. Present deforestation rates are reported to lie in the interval of about 2 % per annum (Uganda) and 0.1 % per annum (Brazil), while world average at present is estimated to be around 0.6 % per year. The level for Tanzania lies in the order of 1 % per annum, while the levels for Indonesia and Pakistan seem to be slightly above world average (0.7 % and 0.8 % respectively). In the case of DRC the rate is in the order of 0.2-0.3 %. Present data for Nepal is not reported, but seems in the last 20 years of the 20th century to be close to the figures for Uganda. Added to the above figures of deforestation for the different countries, comes forest degradation. Here data are not systematic-ally offered by country reports.

In absolute terms, deforestation is largest in Indonesia – i.e., about 7.000 km^2 per annum. Despite its low rate, Brazil comes second with a total loss of forest land approximating 5.000

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[5] Responsible authors for the reports are:
Brazil; Natalie Unterstell. Presented by Paulo Jose Chiarelli de Azevedo
DRC: Patrick Bisimwa Kulimushi
Indonesia: Chandra Kirana
Nepal: Resham Dangi
Pakistan: Syed Mahmood Nasir
Tanzania: Julius Ningu
Uganda: Xavier Mugumya. Presented by Barbara Nakangu

km^2 in 2012. Next comes DRC (about 4.000 km^2) and Tanzania (around 3.500 km^2). In relation to this, one should note that due to variation in types of forests, the amount of carbon stored per unit of land is much larger in the forest of Indonesia, Brazil and DRC than, for example, Tanzania.

Looking at the drivers of deforestation, expansion of agriculture, fire wood/charcoal production and logging are important in all settings. The relative importance varies though, with large scale agricultural expansion (soy and livestock) historically dominating in Brazil and logging and expansion of palm oil in Indonesia. Also in Pakistan, logging dominates, while in the other countries small scale agriculture/livestock herding and fire wood production explains much of the loss of forested land.

At a deeper level, deforestation is explained very much by weak institutions – e.g., unclear or conflicting property rights, often ending in an open access situation – see also Section 2.2. How-ever, also the political drive for economic growth has resulted in pressures on forests independent of the legal situation. Forests represent substantial economic value both in the form of timber, energy and land for expansion of economic activity of different kinds.

Brazil is an illustrative case in this respect with historically substantial emphasis on expanding the agricultural, animal husbandry, hydro power and mining sectors as part of the nation's growth strategy. From early 2000 onwards, one observes a change in priorities implying both increased emphasis on protection of forests and changes in the legal framework for forests and land use. Hence, we observe a tremendous reduction in deforestation in the Brazilian Amazon from a peak in 1995 and later in 2004 at about 28.000 km^2 per year down to 4.600 km^2 in 2012 – i.e., a reduction in deforestation rates from 0.6 % till 0.1 % per annum. Reductions are observed also in other biomes. The question now is whether this trend will be maintained, as we observe new demands for resources being made available for economic growth.

2.2 PROPERTY RIGHTS

Forests in the tropics are dominantly state owned. In our case only Uganda deviates. Here private and community forests dominate. State ownership overlaps traditional systems for use and 'ownership'. Hence, we typically observe a situation of legal pluralism – i.e., forests are formally owned by states, but local communities consider customary rights to still prevail. In some countries – e.g., Tanzania – customary rights are legally protected, but the registration of such rights lags far behind.

The situation varies substantially across countries due to political and historical reasons. In Uganda about 36 % is state forests. These lands are partly under protection, partly dedicated for use. The rest is as noted under private or community ownership. The country report (Appendix B7) notes that there are substantial challenges related to the registration of private and community forests. Communal forests are under the highest pressure as they seem in reality to be under open access. Also in state reserves, local governmental officials accept settlements against what is set in the law. This illustrates that formalization is not necessarily sufficient to ensure use or protection according to defined goals.

Also in Brazil there is a distinction between private forests, community forests and public/state forests. The last category dominates – covering 81 % of the forested land. It is

moreover divided in different sub-categories, where some can be considered largely protected and some are managed by others than the state. It is notable that even in Brazil one lags behind in officially registering rural properties. Appendix B1 offers more details concerning the legal situation in Brazil.

In DRC, Indonesia and Tanzania all forests are owned de jure by the state. In Tanzania all land is 'vested in the President'. Almost half of the forest area is in so-called reserved forests managed by central or local government. The rest is divided between 'general land' and village forests. The latter category is under establishment, implying that the rights of management and use are granted to local communities given that publicly accepted bylaws defining use are passed. The establishment of village land is based on customary rights, while the delimitations of various villages may be contested at the local level. Village land is established on general land which in practice has been under open access. A substantial part of the deforestation in Tanzania takes place on these lands.

In Indonesia, 70 % of all land mass is defined as state forests, and a substantial part of that land is now deforested. The note on Indonesia (Appendix B3) emphasizes that only 12 % of this area is presently gazetted. This suggests again that the legal foundation for forest ownership and use is very weak.

In DRC we see similar pictures. The state owns the forests. The Forest Code allows, however, community forests to be established, but there are no procedures to legally ensure the allocation of such rights. It awaits a decision by the president. While the Code provides use rights for local communities living in forested areas – referring to local customs – conflicts may appear over e.g., logging concessions granted to companies that infringe on such rights.

Both Pakistan and Nepal show a mix of public and communal/private forests. In Nepal national/state forests dominate (2/3). The private forests are mainly communal. The high deforestation levels peaking in the 1990s was to a large extent due to weak enforcement where state forests predominantly became open access and very vulnerable under a situation with high population growth. The shift to community based forest management is seen as a success in the sense of reducing rates of deforestation.

The granting of rights to local communities is observed in several countries. Using Tanzania as an example, participatory forest management is under development. It concerns both village forests (community based forest management) and forest reserves (joint forest management in forest owned by central or local government). The process is, however, hampered by lack of resources to develop the necessary land use plans and bylaws. This will in the end influence the operation of REDD+ as such systems needs to be in place both to ensure action is taken on the ground and to clarify who will be compensated for loss of income/benefit sharing.

Added to the issue of competing claims on forest resources, comes the fact that even at the level of formal law one observes inconsistencies. There is typically a conflict between the formulations concerning the protection of local vs. state rights. There are also conflicts between different sector legislations – e.g., protection vs. use and different forms of use. These observations reflect both competing interests and lack of capacity. What is notable concerning REDD+, is that it enters a landscape full of conflicts and unclarified rights – both at formal and informal levels. REDD+ might offer resources necessary to 'sort these issues

out'. Nevertheless, it shows clearly that building national REDD+ architectures is not a simple task as even the 'floor' on which it is to be built is full of holes.

2.3 EXISTING SYSTEMS FOR PROTECTING FORESTS

All countries have established systems for forest protection independent of/before the rather recent focus on climate change and REDD+. These policies may be motivated from the need to protect biodiversity, water resources and/or reducing erosion. The effect is, however, also protection of the biomass and hence, carbon storage.

Brazil has 15 different types of designated forest protection areas – differentiated according to the specific purpose – e.g., environmental protection area, biological reserve, indigenous lands, sustainable development reserves. They cover altogether about 13 % of the land surface. There has been quite a substantial shift in the policy concerning use respectively protection of forests. A plan for prevention and control of deforestation in the Amazon (PPCDAM) was launched in 2004. Moreover a 80/20 rule has been established for private forests in the Brazilian Amazon implying that at minimum each land owner should leave 80 % of the forest undisturbed. This is an old rule, but is lately followed up more consistently. The steep reduction in deforestation observed recently seems to a large extent linked to these institutional changes.

In DRC the Forest Code (2002) introduced the concept of forest planning ('management'). It moreover divides forests into 'permanent production forests', 'gazetted forests' which are protected areas and 'protected forests' that encompass the rest. A main problem seems to be the capacity to follow up on the intentions in the Code. 'Informal activities' are characterized as overwhelming. There are also substantial conflicts between sector legislation. Despite this, deforestation rates in DRC are about half of the global average. The reasons seem mainly related to the weak infrastructure and large areas with fairly low population pressure. The recent violent conflicts in the country have also created a hostile environment for large-scale commercial forest activities.

Moving to Indonesia, we observe again a distinction between production and protection/ conservation forests. The former category covers 62 % of the forest areas and include also areas where only parts of the land are allocated to forest production and some areas where other uses can be allowed ('convertible production forests'). Protection forests (23 %) are focused at protecting life support systems (water regulation, erosion control etc.), while conservation forests (15 %) are dedicated to conserving biodiversity. Also in Indonesia, a challenge is to ensure that the legal regulations are followed. It should finally be noted that the President of Indonesia has recently issued a two year moratorium on the issuance of licenses on primary forests and peat lands. This was done to allow space and time to improve the forest governance regime.

Regarding Nepal, about 23 % of the total area is under some kind of conservation, while the systems established typically combine conservation and use. Despite this, we have seen that deforestation rates have been very high. Expanded protected areas and the shift to community forests in recent years have implied some progress in the sense of better protection of forest resources. In the report from Nepal (Appendix B4) capacity problems both concerning planning, management and monitoring/control are mentioned.

According to statistics, Pakistan can be considered almost fully deforested. Only 4 % of the land area is under forest cover. The Forest Act (1927, latest revision 2001) forms the main legal basis for forest protection. Of importance is also the national conservation strategy from 1993. A few protected forests exist. Notably, forest protection in Pakistan includes plantations/afforestation.

In the case of Tanzania, almost 40 % of the land surface is (formally) under some form of protection. Hence, it is among the countries with the largest section of PAs. Protection of wildlife is dominating, but also substantial forest areas are protected, either as part of national parks/wildlife reserves or as specifically designated forest based protected areas – i.e., nature forest reserves and catchment forest reserves. There are also protective measures taken in production forest reserves and on general land. Again the effectiveness of the various systems is questionable. The process of establishing village land on general land is seen to offer progress concerning protection of the resources.

Also in the case of Uganda, protection is much focused at wildlife, implicitly protecting forests when part of the ecosystems. In total about 30 % of the forests in Uganda are under various forms of protection through establishment of national parks, wildlife reserves and central forest reserves (CFRs). The protection status of CFRs is a bit unclear as described in the report. It is noted that tree felling is prohibited, while the report also states that in the larger CFRs up to 50 % of the areas are under protection, so some use must be allowed. Again the issue of ensuring effective protection is an issue.

2.4 EXISTING AND PLANNED REDD+ ARCHITECTURES

The national reports (Appendix B) show that the development of REDD+ architectures has come unequally far in the various countries. Moreover, the process of deciding and implementing these structures is in general rather slow. Until now, it takes more the form of strategies or plans than established and operating structures. This is even the case in Brazil – the country that is considered to have come the farthest in establishing REDD+.

We observe that the solutions chosen are closely linked to existing structures – e.g., existing actors, existing environmental and forest laws. This may cause some to conclude that REDD+ is 'old wine' in 'new bottles'. We think this is a mistaken understanding of the problem. Building entirely new systems could both be costly, and one is risking that REDD+ will operate outside of core policy arenas. Rather it is a change in these policies and policy arenas that is required and hence a development involving existing structures is necessary while demanding. Hence, we would see the main challenge to be to change the orientation of present policies, i.e., how to influence core priorities and management structures.

Having emphasized this, we observe some new developments following the specific needs of REDD+. Potential success for REDD+ lies in the way these are linked to and transforms the existing organizational and institutional structures.

In covering the various developments so far, we will look at the following aspects:

-        The overall REDD+ architecture
-        The system for financial transfers
-        The system for monitoring, reporting and verification (MRV)

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For more specifications regarding each country, we refer to Appendix B. At the same time the reader should note that some of the discussions below go beyond the material presented in the Appendix and build on supplementary information from e.g., existing national REDD+ strategies

2.4.1 The overall REDD+ architecture

While no country has yet fully implemented its REDD+ governance structure/architecture – in most cases important decisions are still pending – we start to see some patterns evolving. All countries adhere to what can be called a 'national approach'. Hence, REDD+ is made part of national policies with a clear link to existing national administrations. This implies an orientation away from a more globalized market solution promoted in the 'early days' of REDD+ where the role of governments would be more of a facilitator and performing control functions like we have seen in the case of the CDM (Clean Development Mechanism). What we here observe is a move towards stronger emphasis on the role of the state and national climate change policies. Nevertheless, it may seem that countries are a bit unclear or hesitant w.r.t. clarifying what this implies. Hence, as we will see, much of the action on the ground seems so far to be envisioned in the form of projects run by 'interested stakeholders' and not (necessarily) integrated in any national programs – be they sectorial or cross-sectorial.

We observe also variations as to how the integration into national policies and structures is planned to be made. Some intend to link REDD+ to the more general climate change governance structures, while others seems to establish a separate system for REDD+. All countries seem, however, to face substantial challenges concerning ensuring that REDD+ policies and governance structures are made capable of addressing fundamental drivers of deforestation. While all countries seem to develop a cross-sector based governance structure, it is for the future to tell if REDD+ initiatives will be able to reorient these policies to the extent necessary.

Looking more specifically at the individual countries, we find that both Brazil and Tanzania have the ambition to integrate the REDD+ system into the already existing climate change governance structure. In the case of Brazil, REDD+ is hence put under the responsibility of the Interministerial Committee on Climate Change which is coordinated by the Office of the President of the Republic, and consists of representatives of seventeen federal bodies (where ministries are core) and the Brazilian Forum on Climate Change (FBMC). It has an Executive Group led by the Ministry of the Environment and including 6 other federal agencies (of which some are ministries). The REDD+ strategy – while yet not approved – is drafted by this group. It should be noted, however, that at present the financial resources for REDD+ are administered by the Amazon Fund (established 2008). It operates quite independently of the more general climate change policy/forest protection initiatives by the federal and state administrations. Certainly, the more general federal policies on REDD+ and climate change forms a basis for the guidelines by which the Fund operates, but it has still the power to formulate its own guidelines. In this sense the Brazilian system is dual, with the Amazon Fund representing a strategy of an 'independent' fund to attract global financial resources and support projects at local level – see also Section 2.4.2. It should at the same time be noted that the state and federal action on forest protection – see Section 2.2 – is at present of a much larger importance for halting deforestation than the specific REDD+ governance structure – i.e., the Amazon Fund – while some state activities are supported by the Fund. The Bolsa Floresta Program in the State of Amazonas is an example of this.

In the case of Tanzania, the Division of Environment in the Vice President's Office has the mandate to coordinate all climate change action. Under its guidance an inter-ministerial National Climate Change Steering Committee (NCCSC) has been formed also being responsible for REDD+ policies. A National Climate Change Technical Committee (NCCTC) is established to oversee technical issues of the implementation of climate change policies including REDD+. According to the Tanzania REDD+ Strategy (from March 2013), a REDD+ Fund is to be established. There seems at the same time to be a plan to develop a more general climate change fund, under which also the REDD+ fund will finally be placed. General principles concerning national and regional/local responsibilities are clarified, but the clarification of the more specified systems for e.g., allocating funds to various agencies and geographical levels is still lacking.

Indonesia is deviating from Brazil and Tanzania in that it is establishing a separate REDD+ Agency. According to the newly formulated REDD+ strategy, it will report to the president and be mandated to carry out strategic functions and coordination among various ministries and related institutions at national, sub-national and local levels. It is notable that the Agency will be made up of representatives from governmental ministries/institutions, community groups, indigenous peoples' organizations, civil society organizations, industry, and relevant academic institutions. The Agency will be mandated to also direct the operations of the national REDD+ fund and the MRV system. Each provincial government may create a REDD+ organization to define and implement its Regional REDD+ Strategy and Action Plan, developed with a basis in the REDD+ National Strategy. The linking between the national and regional systems seems still to be in the making. Moreover, it seems like 'action' on the ground is open to a wide variety of organizations, both public and private. Again it should be noted that the policies concerning in this case public concessions to e.g., logging and palm oil that will be of utmost importance for the success of REDD+, lies outside of the mandate of the REDD+ Agency. At the same time it should be noted that REDD+ action in Indonesia could be quite quick and influential 'just' by changing its concession practices.

While we note that even Brazil, Tanzania and Indonesia all have a way to go before an operative REDD+ architecture is fully running, the four other countries are all at even earlier stages in the process. This means that the REDD+ architecture mainly comprises planning and consultation bodies. In DRC the REDD+ processes are led by the Ministry of Environment. Like in Indonesia, REDD+ is established as a separate policy area. Several committees are established or under establishment to manage the preparation of the REDD process. There is the national REDD committee, in charge of decisions and orientations, involving also civil society, and representatives from indigenous and local communities. There is the interministerial committee, in charge of planning and the National REDD coordination (already in operation) in charge of coordinating day-by-day activities, and particularly responsible for the implementation of UN-REDD and FCPF processes. The various available publications do not clarify any specificities concerning membership in these committees. It is notable that a National REDD+ Fund was set up late 2012.

In Nepal also the REDD+ process is formed as a separate process – in this case under the Ministry of Forests and Soil Conservation (MoFSC). A top level body – the Apex body – is set up and chaired by the Minister of Forests and Soil Conservation. This body includes members of different ministries and the National Planning Commission and its main role is to provide inter-ministerial coordination. At the level below the Apex Body, we find the REDD Working Group chaired by the Secretary of the MoFSC including members from different departments of MoFSC, members from some other ministries, CSOs and donors. The main

role of the working group is to guide REDD+ implementation (based on the R-PP (REDD+ Readiness Proposal) from 2010). Finally, there is also a REDD Cell to manage REDD+ implementation. It manages funds that at present are put under the World Bank FCPF.

In the case of Uganda and Pakistan, the REDD+ process is at very early stages. Uganda finalized its R-PP process in 2011 and it is continuing its planning activity. The REDD process was first anchored in the National Forestry Authority, while it later was shifted to the Forest Sector Support Department under the Ministry of Water and Environment. A REDD+ Working Group and Secretariat is established, but the elements of an operative REDD+ architecture is yet not clarified. Concerning Pakistan, an R-PP was required submitted before the end of July 2013. A REDD+ Focal Point is established and more specifications regarding a REDD+ architecture is expected as part of a REDD+ Roadmap potentially by the end of 2013.

As already emphasized, another core aspect of the REDD+ architecture concerns clarifying property and use rights – i.e., who is eligible to take action on the ground and who is similarly to be offered compensations for costs/lost incomes. As is clear from Section 2.2, there are a lot of unresolved issues related to clarifying rights. Sorting these out is a tremendous task in most contexts. While the process of establishing the necessary international agreements to make REDD+ function beyond experiments and pilots is slow, it may be that when the 'go' is given at that level, the problems faced nationally will relate not so much to weak national decision-making capacities at the central level, as lacking capacity and institutional clarification at the local level.

2.4.2 The systems for financial transfers

Except for Brazil – with its Amazon Fund – no operational financing systems for funding of REDD+ projects or programs yet exist. Certainly, REDD+ readiness resources are available in all countries through UN-REDD, the World Bank FPCP and bilateral agreements, but none of the other six countries has established a functioning financing systems for supporting REDD+ administrations and activities 'on the ground'.

It is, however, notable that all countries where decisions have been made concerning the system for financing of REDD+ activities – i.e., in Brazil, DRC, Indonesia, Nepal and Tanzania – a fund model is chosen. It is typically noted, though, that one does not expect all resources for REDD+ to go through such a national fund, but the general emphasis on a 'national model' for REDD+ has motivated the countries to choose the fund solution as a core instrument. There are, however, some interesting differences concerning formats.

The Amazon Fund was established, while not fully functioning, already in 2008. The idea seems to have been created within PPCDAM. In 2006 the Brazilian government introduced the idea that developing countries should seek compensation for reduced deforestation. At that time, Brazil was in favour of a solution with voluntary donations from international donors. When Norway announced its International Climate and Forest Initiative in Bali in 2007, stating that it would support REDD+ with altogether about 3 billion USD over 5 years, Brazil presented at the same meeting its ideas of the Amazon Fund. By being at the forefront here, Brazil managed to create a fund that was fully professionalized so that the management of resources from, for example, Norway could be handled nationally early on. This is notably different to the case of, for example, Tanzania where Norwegian authorities have played a much more influential role also in the allocation of resources at the national level.

The Amazon fund is formed around three actors – BNDES (a public bank), COFA and CTFA. BNDES allocates the resources, while COFA is a new body acting as a guidance committee for BNDES. It comprises of members from federal and state governments/ministries and SCOs. CFTA is a technical committee focusing on delivering data on deforestation.

Some competence contestations between BNDES and COFA are observed where the bank – at least at the start – demanded autonomy. COFA was on the other hand given the power to formulate guidelines for the use of resources. Moreover, it is notable, that while BNDES is a public bank and COFA is dominated by public representatives, the Amazon Fund seems in many ways to lie outside of the wider REDD+ related actions of the Brazilian federal and state authorities. To some extent, this was historically a desired solution to 'maximize' attractability to international/voluntary funds. It creates, however, challenges regarding how national political priorities for REDD+ can be coordinated with the funding available through the Amazon Fund.

The autonomy of REDD+ funds is an issue also in the other four countries. The process in Tanzania is an interesting case. Its newly released REDD+ strategy envisions the establishment of a REDD+ Fund. Recent information indicates that the solution may nevertheless look different as the Fund may become part of a more general Climate Change Fund implying that the board will have quite wide responsibilities for climate change funding. It seems that the Head of the board will be appointed by the President while other members by the Minister of State – Environment. How its decisions will be coordinated with those of e.g., the NCCSC and NCCTC is, however, for the future to show.

Indonesia is similarly in the process of establishing its REDD+ fund – FREDDI. It will be placed under the REDD+ Agency. While the country, hence, has chosen a solution where coordination within the REDD+ policy framework seems strong, challenges relate to the previously noted fact that important issues regarding deforestation are not in the hands of the REDD+ Agency.

DRC has also chosen a fund solution, while currently using the UNDP's Multi Partner Trust Fund Office to administer it. Priorities are made nationally, though. In Nepal it is also discussed to establish a REDD Carbon Fund – in this case led by a REDD Carbon Fund Management Board. Again coordination issues seem important, while it is not clear how they will be addressed.

It is notable that the development of national financial instruments for REDD+ is going rather slow as it also depends on international clarifications of global systems that are not yet made. If the solution is to favour global compliance markets of the CDM format, the role of national funds could become rather marginal – i.e., dependent on donations/voluntary payments. If, however, the international system is built around a global fund – which also could be compliance based – i.e., given the power to issue CERs (certified emission reductions) – the role of national REDD funds could be very much strengthened.

2.4.3   The systems for monitoring, reporting and verification (MRV)
MRV is a core element of the REDD+ architecture as payments are to be performance based – i.e., based on the changes in forest carbon stocks as measured against a set baseline. Some have seen the institutional changes needed for REDD+ to become operative to lie mainly in establishing reliable MRV systems. While the above analyses show that there are very many

other issues that needs thorough treatment, MRV is certainly a core area where also a lot of innovation is needed.

Again, we observe that Brazil is at the forefront. The first innovation came already in 1988 with the establishment of Prodes – a program that offers data on annual deforestation by clear cutting. Later three more systems have been established to complement Prodes: Deter (rapid detection system for illegal cutting); Degrad (focusing on forest degradation rather than deforestation); and TerraClass (a land classification system showing what the uses of deforestation are). As we see from this, monitoring is not only about measuring stocks, but also facilitate action (Deter) and understand and handle drivers (TerraClass).

Also in the case of MRV systems, the other countries have a way to go before they have functioning systems established. In the case of DRC, three complementary tools are under development. First, we have the National Forest Monitoring System designed to generate and share statistics on deforestation. An important element here is a satellite land monitoring system (TerraCongo). Secondly, we have the National REDD+ Registry aiming at central-izing and sharing information on the funding flows and implementation of REDD+. The third element is Moabi, an independent and complementary tool which will facilitate independent monitoring of REDD+ implementation (verification of data from the national REDD+ registry) and illegal activities; and the collection and consolidation of information on drivers of deforestation. It is not clear from the documents how these systems will interact and what the steps taken to make independent monitoring will be.

Indonesia is also in the process of establishing its system. In the case of Central Kalimantan pilot province comprehensive data has been compiled to form a baseline, while data collection is being completed in four other priority provinces. The remaining six priority provinces are in the planning stage. As already emphasized, the MRV system in Indonesia will be directed by the REDD Agency, while there will also be third part verification. Indonesia is among the countries emphasizing the establishment of a Safeguard Information System.

In Tanzania the establishment of a National Carbon Monitoring Centre (NCMC) has recently been decided after several years of discussion. It should be emphasized though, that the NAFORMA program – the national forest monitoring assessment with Finish financing – has produced the data necessary for creating a national baseline. The establishment of NCMC has been slow both due to discussions about who should best host the centre, but also because of doubts about its long run financial sustainability. Norway is offering financial support until the system is established – a 3 years grant. After that period REDD+ income will have to cover the costs. If a global system for payments is not up by that time, one may envision problems.

In Nepal forest carbon accounts – periodic carbon stock monitoring – will be produced by the Department of Forest Resources and Survey (DFRS). It seems that reference emission baselines are to be submitted by project developers, while technically verified by DFRS. The information from carbon stock assessments will be shared with the REDD Cell and the REDD Carbon Fund Management Board.

In the case of Pakistan and Uganda, no decisions are yet made on the format and governance of REDD+ carbon monitoring.

2.4.4   Concluding observations

As is clear from the above, national REDD+ architectures are still in the making. While a majority of the countries have made key decisions about the overall structure, we also observe that much is not yet decided upon. This also implies that there is substantial 'fungibility' as to the chosen structures as illustrated by the Tanzanian REDD+ Fund. Hence, it is only when the systems are up and functioning that we will see what they will really look like. Moreover, mandates of the various bodies and the systems of interaction between them are far from fully clarified, even in the countries that have come the farthest in the REDD+ process. This illustrates how demanding it is to establish governance structures in a case like this.

Looking at more specific issues and future challenges, we will note the following cautions from our review of the national REDD+ strategies:

- Many of the countries seem to envision REDD+ activities in the form of projects initiated by a variety of stakeholders. The national administrations and specific REDD+ bodies are supposed to produce guidelines and facilitate, but it is unclear as to what degree they will engage themselves in actions on the ground. This stands somewhat in contrast to the ambition of making REDD+ into a 'national approach' if one by that envision a coordinated strategy using the capacities of national administrations both centrally and locally – i.e., a REDD+ program involving various sectors acting in concert. The project oriented strategy may, moreover, result in severe leakage problems even at national level.

- Following from this, it is unclear how REDD+ action will really influence the core activities of ministries such as forestry, agriculture and energy. We have noted that the REDD+ governance structure in most countries is clearly linked to the existing policy formulating system – i.e., steering committees are typically formed around representatives from ministries. How deeply REDD+ will penetrate sectorial policies is nevertheless unclear. Trying to change 'business as usual' demands strong focus on drivers and will not be possible if the main instrument is a set of scattered projects against deforestation while sectorial policies go on as before. Having said this, we see that the REDD+ agenda is taken seriously in the involved countries. The question is whether the solutions found are strong enough.

- In relation to that, we also observe that local level action is weakly described in the documents. This may indicate that its role is not yet seriously thought through. If the system is to be project-based, and hence dependent on the initiatives of whatever actors finding it interesting to engage themselves, this omission may not be a signal of inconsistencies. If one, however, thinks that REDD+ needs to take the form of a program engaging the various core national sectors and drivers, the role of and links to local sector administrations needs to be further thought through. The situation may reflect the fact that local administrations are typically weak in most of the involved countries. REDD+ could offer the resources necessary to strengthen these administrations. While we think that it is crucial to ensure a 'national approach', countries seem either ambivalent in these matters or have not yet been able to formulate consistent policies on this very crucial point.

- Given the above, it is not surprising that the role of the REDD+ funds in relation to national policies seems in general to be unclear. The question is: can the resources of the funds also be used to finance national programs run by existing administrative

structures like ministries or are they only established to finance projects run by 'external' actors? Note that REDD+ funds seem to largely follow the model of environmental trust funds (ETFs). While the role of central administrations seems stronger than in the case of a typical ETF – which are typically dominated by private actors (business and NGOs) – it seems to follow the tradition that these funds cannot finance action from central administrative bodies themselves. This seems to obstruct REDD+ funds from becoming part of more comprehensive national programs.

- There is also the issue of how payments are thought to be linked to observed reductions in carbon emissions. Two issues are key. First, there is a distinction between the basis for receiving payments and the basis for paying actors for the actions undertaken. If payments to REDD+ funds are to be made according to reductions at the national level, the question is how to next 'break' this down to payments for verified reductions at the local level. One aspect here is that the national (net) aggregate will typically be a mix of both some net gains and some net losses in stocks. Hence, those reducing emissions will typically reduce more in aggregate than what shows up in the national (net) aggregate. Second, to direct payments towards those reducing deforestation, locally based data needs to be available documenting increased storage as well as clarifying who are the ones eligible for compensation. Regarding these issues, the countries have still a long way to go to formulate the necessary functioning systems[6]. Note, to get a consistent system, the incentives created through payments to local level actors – i.e., those having forest rights – must be functionally integrated with the system that ensures payments from the international to the national level. As far as we observe, none of the available REDD+ strategies discusses this challenge.

- The treatment of local users of forests who often have 'only' use rights to resources is an important part of this. Clarifying the links between the central and the local also demands clarifying who are eligible for payments and on what basis. The clarification of local rights with the implicit demand for drawing borders between e.g., communities is also a tremendous challenge for REDD+.

- We note that the issues of stakeholder forums and safeguards are becoming increasingly emphasized in national strategies. This is a positive development responding to both national and international demands. We would, however, note that safeguards and participation are issues that should not be treated separately. They are best treated as integrated parts of the core elements of the REDD+ architecture itself. This implies that they should figure strongly both when formulating the overall type of REDD+ architecture and when creating specific bodies and strategies.

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[6] In relation to this, we note the following passage in the Indonesian REDD+ strategy: "The Funding Instrument's relationship with the MRV Institution: … The MRV Institution provides verification results for emissions reduction from any given REDD+ activity to the Funding Instrument for performance-based payment". Indonesia is here emphasizing the need for a link between verified results and payments. The challenge lies in specifying next how this is going to be done.

3. THEME 1: THE POTENTIAL OF VARIOUS REDD+ ARCHITEC-TURES TO REDUCE CARBON EMISSIONS

The conference was organized around the discussion of three themes, see the Introduction. The discussions around each theme were divided between presentations, plenary discussions and group work sessions. Presentations covered inputs from researchers, REDD+ policy makers and civil society representatives. These presentations aimed to present the frontier of knowledge and positions concerning the various themes. Plenary discussions were typically divided in two sessions per theme, but are presented together. For the group work sessions, the participants were divided into five groups that were the same throughout the conference. In the case of theme 1, the presentations of REDD+ status in participating countries was an important input – see Section 2 and Appendix B.

Theme 1 – 'the potential of various REDD+ architectures to reduce carbon emissions' – focused on the overall capacity and legitimacy of different national REDD+ architectures to reduce carbon emissions. Core issues concerning capacity were differences in the ability to raise funding, ensure cross-sector coordination and avoid leakage. Regarding legitimacy, emphasis was on power relations and the capacity of various systems to ensure participation, accountability and transparency. Motivational aspects and the costs of administering the systems/transaction costs were also discussed.

3.1 PRESENTATIONS

3.1.1 Where is REDD+ heading?
By Professor Arild Angelsen, School of Economics and Business, Norwegian University of Life Science

Angelsen gave an overview of the status of REDD+ and discussed a set of future scenarios for its development. He emphasized the importance of REDD+ for reaching the 2°C goal and its great potential – partly because it emphasizes monetary incentives for achieved results and that it is a national level approach, being more effective than projects. There are, however, concerns because REDD+ has an element of 'Pay the Polluters' Principle.

Angelsen noted that REDD+ has changed over time. When REDD+ officially became part of the climate change agenda in 2007, it was as an idea about payment to countries and projects for reduced emission, with funding primarily from carbon markets. REDD+ has since become multi objective, the policy focus has changed from payments for environmental services (PES) to broader policies, and international funding is mainly coming from development aid budgets. This change has been driven by: (i) the lack of a new international climate agreement (making market funding unavailable), (ii) the numerous challenges of establishing a PES system, and (iii) the political dynamics of REDD+, where different interest groups have inserted their agendas into the REDD+ agenda. Today REDD+ appears similar to previous efforts of conditional and result-based aid. But, the lessons learned have hardly been brought into the REDD+ debate. For example, aid cannot "buy" policy reforms, yet this remains a major idea in the current REDD+ debate.

Angelsen presented and discussed 5 scenarios for the future direction for REDD+:
- REDD+ as part of a global carbon market
- REDD+ as part of a national/regional carbon market

- REDD+ as conditional aid
- REDD+ as hybrid, local projects
- REDD+ as NAMAs (nationally appropriate mitigation actions)

Here he emphasized strengths and weaknesses of the different systems regarding funding capacity, ability to handle leakage, ensure additionality, combat leakage and ensure co-benefits. He envisioned a mix of approaches, resulting in a 'governance mosaic' reflecting differences in funding sources, donor interests, national and local circumstances, interests and ideologies. This could, however, result in 'cherry picking', but we should not expect one coherent REDD+ framework emerging either in the countries or at the global level.

3.1.2   National REDD+ architectures – the main issues
By Professor Arild Vatn, Department of International Environment and Development Studies, Norwegian University of Life Science

This presentation – drawing on Vatn and Vedeld (2013)[7] – discussed national REDD+ architectures from the perspective of governance theory and presented a set of concepts that he found to be core when evaluating such structures. Establishing REDD+ implies changes in the existing governance structure. Such a configuration may be seen as comprising: (i) The *actors* involved, characterized by their interests, their capacities and competencies, rights and responsibilities, and (ii) the *institutions* involved *facilitating the interaction* between the actors.

Hence, REDD+ architectures may function differently, dependent on what actors are involved, what interests and motivations they have and how their interactions are institutionalized.

Evaluating the various potentials of REDD+ architectures can focus on different aspects. Vatn found the concept of legitimacy to offer a good – i.e., sufficiently broad – basis for such an assessment. This concept has developed over time and at present the literature typically distinguishes between 'input' (or process) legitimacy and 'output' legitimacy. Input/process legitimacy concerns how acceptable policy processes are for actors engaged in REDD+. This concerns also involvement and real influence – i.e., issues like fairness and distribution of power are core, including also issues like transparency and accountability. Output legitimacy concerns the results that the architecture is capable of 'producing'. In a REDD+ context, this legitimacy element can be defined to encompass three elements:

- *Effectiveness*: Concerns how well the policy is at meeting overall goals. Specific aspects concern the capacity to raise funds, the ability to avoid leakage, and to ensure additionality and permanence. Implicit in the above is the capacity to coordinate across sectors and levels of government. Implicit are also motivational aspects – including risks of corruption.
- *Efficiency*: Concerns the ability to reach goals at lowest costs. This involves both the direct cost of e.g., reduced deforestation, and the transaction costs related to the

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[7] Vatn, A., and P. Vedeld, 2013. National governance structures for REDD+. *Global Environmental Change,* 23(2):422-432.

system of decision making, contracting, delivering payments, monitoring, reporting etc.

- *Capacity to deliver on co-benefits*: Concerns the effects on poverty reduction/equity and biodiversity preservation. Rights issues, transaction costs and motivational issues are core as they influence the use of REDD+ resources.

Vatn's presentation reflected briefly on these dimensions focusing on a set of 'generic' national REDD+ governance structures:

a)   a market/project based architecture;
b)   a system with national REDD+ funds outside existing national administrations;
c)   a national REDD+ fund organized under the present administration; and
d)   conditional budget support.

He emphasized that the governance structure will certainly not determine what inputs and out-puts will be in any strict sense. It will, however, give direction and influence what processes will appear and what outputs are possible. He also noted that the viability of these systems will depend on international decisions about the rules and systems for funding. All systems could be linked to a compliance based system with credits as offsets – the one expected to create the largest funding for REDD+. Structure a) could operate directly under a compliance market. This could also be the case also for b), while c) and d) would demand the establishment of an international fund that could issue certified emission reductions (CERs) for such resources to be available. This way even these systems could operate with compliance based funding and not 'just' voluntary payments.

3.1.3   National REDD+ policy processes: Old or new power constellations
By senior scientist Maria Brockhaus, Center for International Forestry Research (CIFOR) (with Monica Di Gregorio, School of Earth and Environment, University of Leeds),

This presentation investigated how three aspects of governance systems, namely the context of existing policies and regulations, the power of key agents, and their discursive practices, are affecting national-level processes of REDD+ policy design in 13 countries. The analysis was based on the 4I's framework (institutional path dependencies, interests, ideas and information). It was directed at analysing the political economy conditions under which countries move or do not move away from current business-as-usual (BAU) forest policies towards transformational change (TC) to realise emissions reductions through avoided deforestation and forest degradation (DD). Four methods were combined – i.e., policy analysis, media-based discourse analysis and policy network analysis, as well as a qualitative comparative analysis.

Brockhaus emphasized that transformation is necessary, while from a political economy perspective one must ask if there is enough power to make the change – is there really a large enough room of opportunity?

Results indicate that policies both within and outside the forestry sector that support deforestation and forest degradation create path dependencies and entrenched interests that hamper policy change. Only those countries in which institutional change was already initiated towards reduced DD have been able to establish REDD+ policies and measures in a relatively short time period. In the policy arena, the actor-related factors of national ownership

and transformational coalitions proved to be crucial, but could only be effective in an enabling institutional setting. However, most dominant policy coalitions support BAU trajectories, reinforcing existing policy and political structures.

In relation to this, Brockhaus offered several examples. Indonesia was used as an example of a country where REDD+ requires significant reform and where old power structures actually have been challenged. Here, new ad hoc organizations have emerged to avoid having to work through those that block reform. Nevertheless, she asked if presidential backing is enough to push through a reform without backing from these organizations/ministries. Sidestepping existing systems may also erode national ownership.

BAU discourses were found to typically emphasize global financial support/global solutions, while TC discourses were found to emphasize securing local rights, user payments, participation and rewarding communities. Brockhaus raised, however, the issue of how much TC really is involved here.

The role of the state vs. local engagement was also an issue. Brockhaus noted that in countries such as Brazil, Indonesia and Vietnam, there is quite strong state engagement, while Nepal is an example of a country where the process is much more local. The level of debate varies moreover substantially across countries – e.g., in Brazil it is very comprehensive, while almost no debate on REDD+ is observed in Cameroon. Typically, groups – e.g., state, business, civil society – talk to and with themselves. Communication across groups is rather limited.

With their main focus on environmental justice, no policy coalitions of minority groups are explicitly tackling the root causes of deforestation and forest degradation, that is, the politico-economic conditions driving them. In addition, only in few countries are transformational change coalitions vocal enough to be heard; to exercise their agency effectively and to support more substantial reforms, these coalitions would need the participation of more powerful policy actors, particularly state agencies that have the authority to make binding decisions about policy. Furthermore, discourses supporting transformational change would need to be reflected in institutional practices and policy decisions.

3.1.4   REDD+ in Brazil: Towards a national architecture
By REDD+ Focal Point Natalie Unterstell, DPCD - Secretaria de Mudanças Climáticas e Qualidade Ambiental, Ministério do Meio Ambiente, Brazil

Natalie Unterstell presented the status of deforestation, the history of policies concerning forest protection and the building of REDD+ architectures in Brazil. The presentation was based on the country report – see Chapter 2 and Appendix B.1. for further documentation.

Unterstell emphasized the substantial reductions in deforestation rates in the Amazon after the peak year in 2004. By 2012 the amount of deforested land in the Amazon has decreased by more than 80 % since 2004. A substantial part of this reduction is due to changes in policies. Hence, Brazil has obtained major reductions in DD independent of REDD+. At the same time, the policies and institutional changes behind these achievements have made Brazil a forerunner also in the case of REDD+.

Main historical facts of importance are the establishment of INPE starting the monitoring of forest cover in the Amazon already in 1988. The formation of a system of protected areas from 2002 is a very important element. She also noted the plan to control deforestation in the Amazon (PPCDAM) from 2004 and the Public Forest Management Act from 2006. Together these form the most important elements of the substantial shift in the Brazilian policy on forest protection. It is notable that all were developed before REDD+ became an international engagement.

The Amazon Fund was created in 2008.[8] This happened about the same time as the national climate change plan was created. In 2010 a more general Climate Change Fund was established and a plan to control deforestation in the Cerrado (PPCerrado) was formulated. Finally, Unterstell also mentioned the ongoing revision of the Forest Code.

While there is yet no complete REDD+ architecture in place in Brazil – the REDD+ strategy is awaiting final approval – several elements are in place as noted above – e.g., the Amazon Fund and the system for MRV. At the same time there are several initiatives in place focusing on various aspects of climate change policies. Hence, there is a national governance structure in place concerning climate policy more in general – e.g., the Inter-ministerial Committee on Climate Change, the Executive group on Climate Change, the Brazilian Forum on Climate Change. There are also a set of more sector engagements in place. Added to the PPCDAM and PPCerrado, there is for example the low emission plan for agriculture, the forest restoration action. These initiatives are supported by their own organizational structures and Unterstell emphasized that the picture is hence quite 'blurry'.

Concerning funding, there is the Amazon Fund, but also the National Climate Change Fund from 2010. While the former is based on 'extra-budgetary sources', while the latter is funded by the budget (proceeds from oil revenues). Unterstell emphasized that budgetary resources are quite important in that the Federal budget is of importance also through funding ministries and activities like MRV. Finally, the forest investment program (FIP) is also funding REDD+ activities.

Regarding the REDD+ architecture, a REDD+ strategy is drafted and expected to become approved in the fall of 2013. Unterstell closed her presentation by presenting a set of core elements from that strategy. She emphasized that the objective is to create a structure and a set of policies that enables Brazil to reach its 2020 goals concerning emissions. She emphasized that Brazil will build 'relevant forest policy and climate change arrangements', but that additional roles must be provided for existing organizations and institutions. Avoiding fragmentation is important. REDD+ must become a national responsibility.

3.1.5   REDD+ architecture in Brazil: from national to state levels and the experience of the Bolsa Floresta Programme

By Director General Virgilio Viana, Amazonas Sustainable Foundation (FAS)

Virgilio Viana's talk was following the presentation of Natalie Unterstell by focusing on the state and local level. He started by offering three messages concerning REDD+ in Brazil. First, one must think beyond the federal level; states have huge responsibilities in the

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[8] See Section 2.4.2 for more details on the history and functioning of the fund

Brazilian system. Second, it is important to engage communities to ensure the goals of REDD+. Finally, while deforestation rates in Brazil have fallen substantially over the last years, the 'game is not over'. Viana emphasized that we observe a 'turning around', partly as a frustration over REDD+ not delivering.

On the issue of the relationships between the federal and state level, he emphasized that very much of responsibilities for action lies with the state. They have many of the necessary measures. States have their own legislation – e.g., three states including the State of Amazon have their own climate legislation. Actually this state acted before the federal level did. A core challenge related to REDD+ is how to link the federal, state and local level – how to ensure a functioning nested approach.

Viana presented how the goals for cuts in emissions from forests by 2020 are split between the various states using a combined stock and flow approach. This way the State of Amazonas has been given a responsibility to ensure ¼ of the national cuts. This state has next allocated cut responsibilities to various groups/actors – i.e., rural settlements, indigenous people, town and state government – as well as using open calls. A core strategy of the State of Amazonas concerns the establishment of protected areas of various kinds.

He emphasized the need for a 'mixed approach' acknowledging the role of government, but also civil society and markets. He especially emphasized the role of national and international philanthropy, which plays a major role in funding the Bolsa Floresta Program (PFP), a core action in the State of Amazonas.

The second part of Viana's talk was concentrated on this program. It was established in 2008 under the organization FAS (Amazonas Sustainable Foundation). It operates in protected areas – i.e., areas where forests are already protected – and is focused on strengthening people's income and livelihoods. It consists of four components: a) BF Family – a cash payment to all households signing a contract about obeying the forest protection rules and taking children to school; b) BF Income – programs for expanding livelihoods; c) BF Social – strengthening health care and education; d) BF Association – creating a common organization for the area. While the rules for the cash payments are set by FAS, communities are involved in decision-making on all other components. Resources allocated to BF Family roughly equal those allocated to the three other components together. The total amount of resources per year equals about 700 USD per household. The Amazon Fund supports components b) and d). Viana noted that there were some problems with the functioning of the fund as BNDES did not have the right or necessary protocols from the beginning. It is now better in that respect.
Viana emphasized the importance of education as part of the 'package'. He also underlined the importance of being transparent and that the BFP has an advantage here over pure public programs. He finally challenged the research community stressing that he finds that there are too many 'problemologists' and too few 'solutionists' around. REDD+ demands action and creative thinking.

3.2 PLENARY DISCUSSIONS

There were two plenary discussion sessions organized for theme 1 – the first after the talk of Maria Brockhaus also covering questions to the country presentations made earlier in the day. The other session came after Virgilio Viana's presentation. Both will be covered here. Affiliations are only offered the first time a person is referred to – see also Appendix D.

The first plenary session under Theme 1

Q: Daniel Murdiyarso (CIFOR): He observed that there is a divide between international and national debates, where the latter is more domestically driven, focusing on NAMAs, while not so much reflecting the issues raised in the international debate.

Q. Esteve Corbera (Universitat Autònoma de Barcelona): He first asked a general question: 'Who is the top guy?' – how to ensure accountability in a credit based system? Will there be a risk of 'hot air'? Then he directed a question to the Brazilian country presentation: Brazil has reduced deforestation rates substantially. I work in Paraguay and we observe Brazilians moving in – e.g., soy production. Are reductions in DD in Brazil counteracted by increases elsewhere?

A. Paulo Jose Chiarelli de Azevedo (Ministry of the Environment, Brazil): I have no data on possible international leakage. My 'hunch' is that if there is leakage to e.g., Paraguay, it is not large. Agricultural production in Brazil is not reduced despite reduced deforestation. This is explained by productivity increase.

A. Arild Angelsen (Norwegian University of Life Sciences): Yes, there is a risk of hot air – especially related to the setting of baselines. Hence, we need watchdogs. The rules of, for example the Amazon Fund are not strict enough to be a template for international rules on setting baselines.

Q. Naya Sharma Paudel (Forest Action Nepal): Focus on drivers for deforestation is important. Actors like states and NGOs etc. have little capacity to influence developments on the ground. We are all benefitting from status quo developments. How to make change happen?

C. Mariteuw Chimère Diaw (African Model Forest Network, DRC/Cameroon): Where are we heading with REDD+? The issue is far too narrowly framed. This is about development models more widely and not just forests. We need a strategy vision. Strategies are so far defined by the west.

A. Arild Angelsen: In relation to this, one may comment on the role of Norway. Norway is important in REDD and yes, domestic purposes in Norway are very important for the REDD agenda.

Q. Desmond McNeill (University of Oslo): One observation: REDD readiness may take time, but may still be worth it. A question; How do the different architectures presented this morning fit into the structure presented by Arild Vatn?

Q. Bishal Sitaula (Norwegian University of Life Sciences): Maria talked about transformational change. What about the individual, the issue of consumers?

A. Maria Brockhaus (CIFOR): Change is needed at several levels. We, hence, talk about multiple tools and mixed strategies – cf. Arild Angelsen's presentation.

Q. Pål Vedeld (Norwegian University of Life Science): In governance terms, REDD seems to be changing. Initially it was seen as reflecting green economic thinking emphasizing markets and PES. This was the global process. At the national level, REDD is land use, and land is a

core national resource. This seems to have changed the thinking on what should be the way to govern. The ideas behind REDD were originally too simplistic.

Q. Virgilio Viana (FAS): There is too much 'readiness'. What are the costs of REDD readiness? How much is paid to consultancies? And for Arild (Vatn): Where does philanthropy fit into your alternative governance structures?

A. Maria Brockhaus: On readiness costs, UN-REDD has the data, and they should be analysed.

A. Arild Vatn (Norwegian University of Life Sciences):
To Daniel: From the outset REDD was very much perceived as PES and markets. Over time national measures have been more emphasized – also reflecting that action is largely national. As Arild A. and Pål emphasized, this has changed the discourse, while I do not think it is necessarily divided – rather gradually converging.

To Chimère: Your point is important; REDD is narrow. We need to think also about these more fundamental issues. At the same time, I think still REDD+ can deliver within its narrower frame.

To Desmond: We observe a strong tendency towards establishing national funds under the present administration. This may be seen as reflecting the national turn of REDD. The systems chosen vary though in format, where some are set up quite independently of the present administration – being closer to independent funds/the so-called environmental trust fund arrangement.

To Virgilio: Yes, philanthropy plays a role. In the presented structure, it comes in both through the market/project solution as well as the independent funds model. I note, however, that this kind of financing of public environmental goods/services (water, landscape protection, biodiversity and land related climate action) plays a very small role globally – about 1 % of overall funding according to a study by Milder et al. (2010).

The second plenary session under Theme 1

Q. Adriana Ramos (Instituto Socioambiental, Brazil): Natalie, you face a strategy problem in the sense that REDD in Brazil does not control actions of other ministries. This is what we see also in other countries – with REDD structure set up outside of other policy arenas that have strong impacts on the success of REDD. How to integrate?

A. Natalie Unterstell (Ministry of the Environment, Brazil): The challenge we face is mostly about political momentum. In 2008/09 REDD was a hot topic and Lula was willing to commit to high ambitions/targets. The issue is how to maintain momentum. Political will is renewable, though.

A. Virgilio Viana: The change is at state level. Until 2010 a couple of governors were very engaged. This has now changed.

Q. Adrian Enright (SNV Vietnam): Participation may be costly. At least it is so in the heavily state driven system in Vietnam. What can we learn from Brazil?

A. Virgilio Viana: We have data on our costs, but they are not analysed yet. What we do concerning participation differs from the way of the state operates. We engage people; hence, we make a one day workshop to decide on how to manage a public investment. This makes a big difference w.r.t. results

Q. William Sunderlin (CIFOR): The Forest Code in Brazil has been challenged by business-as-usual interests in 2012. What are the implications?

A. Virgilio Viana: There was a huge popular movement for a greening of the Forest Code. Also most of the press was against BAU. But agriculture had more votes in the parliament – e.g., explaining the amnesty to those having previously deforested beyond the law. Note also that president Dilma has countered the parliament twice. Another positive thing is that the federal government has to make an enactment for PES within 6 months.

A. Natalie Unterstell: Note also that most of the important principles stand – e.g., the precautionary principle, the system of areas of permanent protection. What areas of forests to be recovered will be much less, though.

Q. Mariteuw Chimère Diaw: How does governance work at the local level? Is there any cooperation between FAS and the Model Forest Network of Brazil?

A. Virgilio Viana: We know of the network, but do not engage with it. As to the way we do things, it is very much 'learning by doing'. This is in line with my previous point that we need more action and less readiness. Forest people in Brazil are disadvantaged. Building schools for them is costly. They represent moreover few votes. What we do is to change the game by working with the government and support school and health programs. This is done in different ways in the different areas. The local associations become more important over time. They are increasing their power.

3.3. GROUP WORK ON COMPARING VARIOUS REDD+ ARCHITECTURES

The group work under Theme 1 was organized around the four 'generic' national REDD+ governance structures presented by Arild Vatn:
  a) a market/project based architecture;
  b) a system with national REDD+ funds outside existing national administrations;
  c) a national REDD+ fund organized under the present administration; and
  d) conditional budget support.

The following descriptions of the alternatives were offered to ensure that the discussions were based on an equal basis:

  A. **The market/project based system**: This system will include buyers and sellers of carbon stored in forests. Buyers are dominantly expected to be firms with legal emission reduction targets according to a post-Kyoto agreement, while sellers are owners of forests, maybe also including actors with use rights to forest resources. Interaction between these actors will take the form of exchanges according to specific rules, either in a market place, directly between buyers and sellers, or facilitated by intermediaries.

B. **A national fund outside existing national administration**: The idea behind this fund is to establish an independent non-commercial actor being nationally responsible for REDD+ activities. Hence, the fund acts as an intermediary between forest owners/users and potential financiers of REDD+ activities. While being independent of the present state administration, we imagine that the board could typically include representatives from the private sector, civil society and public authorities – cf. environmental trust funds. The independent national funds may not only trade with local forest owners, but may also have the capacity to support/run larger programs in cooperation with local communities.

C. **A fund within the national state administration**: Allocation of available resources is made by a separate board with REDD+ responsibilities only. It acts independently of the ordinary budgetary processes with a specified responsibility to allocate funds to REDD+. It reports to the government, but may include representatives from civil society and the business sector. This structure could be institutionalized to use the capacities of state sector administrations – e.g., fund sector programs – but also establish its own programs/be involved in direct trades with forest owners/users.

D. **Conditional budget support**: The idea here is to utilize the existing state structures with its government and ministries to govern the allocation of REDD+ resources in a country. Available resources are allocated to various ministries that are relevant for REDD+ activities, e.g., forestry, agriculture, energy.

It was noted that financing REDD+ activities could come from firms with legal emission reduction targets according to a post-Kyoto agreement. This would take the form of a compliance market like the CDM offering certified emission reductions (CERs) for approved projects. In the case of architectures C and D, some kind of international fund system seems, however, necessary to generate money to states that undertake REDD+ activities. While such a global fund is typically thought to be based on public money only, it is possible to create an international fund also on the basis of a compliance system. This fund then issues CERs to actors with reduction commitments relative to their payments. The resources of the fund are subsequently used to pay actors undertaking REDD+ activities.

Groups were asked to respond to the following questions:

Group work 1.1: Potential to reduce carbon emissions
How do you evaluate the potential of the different architectures to reduce deforestation/degradation rates and thereby carbon emissions from forests? As part of that, the group should discuss if there are any differences in the capacity to raise funding, ensure cross-sector coordination and avoid leakage (within national borders). What challenges does the group consider to be the most serious in these matters?

Group work 1.2: Power and vulnerability
What power relations characterize the various architectures defined? Are any interests or groups in a vulnerable position in any of the national architectures?

Group work 1.3: Good governance
How do you characterize the various architectures concerning their capacity to ensure accountability and transparency, and avoiding corruption? What do you see as the main challenges facing the various national architectures in these respects?

Group work 1.4: Building on what is?
Should REDD+ be built on existing institutional structures or on creating new ones? The group should evaluate administrative demands and costs of establishing and running REDD+ given the different characteristics of the four architectures.

Group work 1.5: Legitimacy
What do you consider to be key strengths and weaknesses of the different architectures to ensure the legitimacy of REDD+? The group is free to consider whatever aspect it finds relevant

Reports from this group work are found in Appendix C2

4. THEME 2: MAKING REDD+ PARTICIPATORY AND PROTECTIVE OF LOCAL RIGHTS

Theme 2 focused on the role and position of local and indigenous communities in design and implementation of REDD+. Issues of land tenure, carbon rights, and benefit sharing more generally were found important as these issues are also linked to how local rights are protected in the REDD+ process. The relationship between decision making at national and local levels was a core element, including the issue of what rights local forest communities should have to set the premises or opt out. The risk of elite capture at various levels was another aspect, including the challenges regarding potential recentralization of forest management. Related to that was also the issue of how to empower vulnerable groups.

4.1. PRESENTATIONS

4.1.1 Does REDD+ favour securing rights at the local level? An overview.
By principal scientist Anne Larson, Center for International Forestry Research (CIFOR).

In this presentation Larson reviewed the historic tendency of the state to control forests and forest lands in spite of the customary rights and ongoing demands and needs of local people, and discussed current developments in both forest tenure and REDD+ in that context. She began her presentation by discussing selected historical moments of enclosure or territorialisation in relation to forests and the drivers behind the usurpation of local rights associated with each; then presented the ways in which "formalization" of land rights has been conceived and used to further that process. This was followed by a discussion of forest tenure reforms since the 1980s, which have granted rights to indigenous people and local communities to hundreds of thousands of hectares of forests. She assessed to what extent this shift in forest ownership suggests a new trend, or "formalization" with a different vision. The presentation explored the drivers, characteristics and extent of forest tenure reforms, in addition to counter-tendencies, arguing that there is only limited room for optimism. In this context, and based on current evidence, REDD+ presents both risks and opportunities. She analysed these for some of the central tenure issues being faced on the ground. What will be the driver or drivers that push away from the risks and toward opportunity? Which way are the winds blowing? She concluded by referring to specific evidence from the field explored in the next presentation.

4.1.2 Does REDD+ favour securing rights at the local level? Observations from 19 projects in five countries
By principal scientist William Sunderlin, Center for International Forestry Research (CIFOR).

Following on the previous presentation, this one addressed the question of whether REDD+ proponents successfully lay the tenure groundwork for REDD+ given the general tendency toward state control, only partial management devolution, lack of tenure clarity and contestation in developing country forests. Sunderlin summarized empirical research on this question conducted by CIFOR in Brazil, Cameroon, Tanzania, Indonesia, and Vietnam - at 19 REDD+ project sites.

The presentation postulated that in order to secure local rights successfully, proponents must: (1) identify the right holder to the future stream of benefits and (2) bearer of responsibility for keeping forests standing; (3) prevent a resource rush; (4) protect existing rights and livelihoods; (5) engage local stakeholders through Free Prior and Informed Consent; and (6) engage with wider national efforts toward tenure clarification beyond the project boundary.

He noted that there is evidence that project proponents have engaged sincerely in attempting to secure rights at the local level, but that they have been only partly successful. Among the factors favouring securing rights at the local level are that there are instrumental (means-ends) and not just ethical reasons for taking tenure seriously. Moreover there are some national conditions that support local tenure security and therefore proponent efforts. Nevertheless, there are factors undermining these efforts, among which the key ones are: national conditions undermining tenure security; the frequency of external claims on local forests and inability to exclude; the fact that the origins of tenure problems lie beyond project boundaries yet proponents tend to focus their efforts within these boundaries.

Sunderlin proposed that action be taken to clarify international and national REDD+ policy. At the national level in particular, it is important to: improve performance and scope of stakeholder consultations; resolve statutory and customary claims; incorporate participatory mapping into planning processes; enforce pro-poor tenure laws and regulations; achieve legal clarity on forest carbon ownership; and integrate efforts to secure tenure across scales from the national to the project level. It will be necessary to anticipate complications when REDD+ gets underway due to the inability to address all tenure challenges.

4.1.3   How could REDD+ serve indigenous interests?

By general coordinator Edwin Vasquez Campos, Coordinadora de las Organizaciones Indigenas de la Cuenca Amazonica (COICA).

COICA consists of nine indigenous group organizations in nine countries. Edwin Vasquez Campos explained that they share the goal of reducing emissions, but with another strategy based on:

1. First Full Life Plan long-term, and within that a specific place defined for REDD+
2. Territoriality as a condition, safeguarding early and indicator of REDD
3. Holistic Management, 24 ecosystem functions, integrating mitigation and adaptation, biodiversity and climate
4. Ecosystem measuring (carbon and more) and compensations. With public funds with social control; out of the market and without carbon pirates
5. Reducing drivers of deforestation: oil, mines, dams, colonists, agribusiness, mega-projects
6. Effective reduction of global greenhouse gases and not "exchange them" with REDD Carbon

He outlined their implementation plan for pilot projects of indigenous REDD+. The general objective is to contribute to the global strategies of mitigation and adaptation to the climate crisis, and strengthen the Amazon biome ecosystem functions through initiatives of Holistic Management of Full Life Territories of Indigenous Peoples (also called RIA: "Indigenous REDD + Amazon"). The specific objective is the implementation of RIA to promote learning,

systematize and validation of the proposal and enhance their impact in national and international REDD+ processes, through the following activities:

1. Socialization and updating of information on REDD+ and Indigenous REDD+
2. Development and implementation of Plans of Full Life of each people
3. Baseline on ecosystem functions and carbon balance
4. Diagnosis and plans to reduce the "drivers" of deforestation and degradation
5. Developing strategies and tools for MRV for Indigenous REDD+
6. Development of national REDD+ strategies to strengthen the local RIA
7. Development of agreements for RIA on results for the implementation of the Life Plans
8. Develop appropriate financing mechanisms for the implementation of the Plans of Life in RIA
9. Reduction Strategies on Greenhouse Gas (GHG) emissions
10. Community capacity building on Indigenous REDD+
11. Innovation in Standard PDD local adapted RIA, by combining Rainforest Standard, CCB, REDD+ SES
12. "Certified Emission Reductions" (CER) adequate RIA approaches
13. "Compensation Agreements Life Plans RIA-local includes emission reduction" (ERPA) adequate RIA approaches
14. Socialization and validation of standard, CER and ERPA RIA-adapted

4.1.4 The REDD+ process in Tanzania: The village as an arena for defining and defending local and national interests

By professor George Kajembe, Faculty of Forestry and Nature Conservation, Sokoine University of Agriculture, Tanzania

George Kajembe presented the results of a recent study whose overall objective was to assess the REDD+ process in Tanzania with reference to the village as an arena for defining and defending local and national interests. The study was carried out in four out of nine national REDD+ pilot projects in the country. It used mainly the social interface approach as both a methodological device for studying negotiations and power struggles between different life-worlds as well as a means of understanding the social meaning of REDD+ implementation. The study indicated that the pilot projects were necessary entities because through them it was possible to bring forward lessons for future actions. Furthermore, ambiguity in forest tenure security has been found to be a major constraint in the implementation of REDD+ in some pilot projects. Three key actors were identified in the studied pilot projects, namely state Agencies (Central/Local Governments); Non-Governmental Organisations (Non-State Agencies); and Local Communities whereby the NGOs served as power brokers between State Agencies and Local Communities. Similarly, although the need for safeguards was apparent in all the studied pilot projects, still the concept was institutionalized only in Kigoma district pilot project under the Jane Goodall Institute. The study concluded by pointing out that although the people-oriented project concept has inherent flaws, still it is a necessary evil because in that way it is possible to bring forward lessons for future actions. Similarly, clear and secure land tenure and forest user rights are critical ingredients for the success of REDD+ initiatives. In conclusion: safeguards to ensure a win-win scenario between conservation and community livelihoods should be factored into the REDD+ process in Tanzania

4.1.5   State ownership vs. customary rights to forests: The challenges of legal pluralism for REDD+ in Ghana
By chief consultant Gene Birikorang, Hamilton Resources, Ghana

Gene Birikorang began by noting that although a decentralized system of government was introduced in Ghana in 1993, it excluded forestry, and land administration is still highly centralized. The bureaucracy helps to preclude chiefs from final decision making on land administration. The result, which poses a risk to future REDD+ programmes, is the emergence of high rates of peri-urban development in forested districts at the expense of agricultural and forest lands, and eviction of small landholders; a clear case of land-grabbing and elite capture.

He outlined the main limitations of the decentralization system: inadequate legislation allows free exercise of option between "devolution" and "delegation" of authority; acknowledgement of local level property and use rights is not feasible, rather, reformists from the centralized system at one time have introduced local level initiatives, e.g. joint forestry-District Assembly timber harvest oversight team and the provision for farmers' veto over felling of timber in their farms. Another example is the modified Taungya Plantation System (a Joint-Forest Management model) with equity in benefit sharing. Ghana's REDD+ Agenda nevertheless has opportunities to facilitate a redistribution of rights to land in favour of communities, avoid the risk of elite capture and empower vulnerable groups. Here the REDD Architecture will be of crucial importance. The presentation concluded with some remarks about the role of institutions in promoting opportunities for community participation in REDD+, focusing on different groups. NGOs: could use networks across governance levels in advocacy, and engage in credible monitoring. Huge donor investments over decades in forestry have not reduced deforestation; there is a need to shift attention to local level governance, and form alliances with local reformists. The presentation concluded that international REDD+ should perhaps consider this approach: "Enter global radicalism; exit international diplomacy".

4.2. PLENARY DISCUSSIONS

There were two plenary discussions in the Theme 2 session. The first came after Sunderlin's talk, while the second was placed after the talk by Kajembe. The presentation by Birikorang had to be moved to the end of the day due to a delay in his flight. Hence, there was no space for comments to his talk.

 The first plenary session under Theme 2

Q. Syed Mahmood Nasir (Pakistan REDD+ Focal Point): All countries talk of indigenous peoples (IPs) when taking of FPIC. Is there a shared definition of IPs?

A. Ann Larson (CIFOR): By international law FPIC is required for IPs but it should be applied more widely. Who are IPs? This is a very tricky issue – there is no standard international definition.

Q. Nils Hermann Ranum (RFN, Norway):
1. Who are the proponents? How representative are they?
2. The need for REDD to be transformative. Also regarding national policies: is there a national movement in the right direction regarding people's rights?

A. Ann Larson: In Latin America tenure was an issue long before REDD. REDD has not made much difference.

A. William Sunderlin (CIFOR): I do not see transformative change in our six countries. Except in Indonesia where it is very dramatic. (This is also because Indonesia starts from so far behind).
Regarding the selection of projects: they had to be enough advanced to study, but not too far.

Q. Charles Meshak (TFCG, Tanzania): Enforcement of the existing laws is the issue. Is it not enforced because of lack of resources or lack of priority? Once the land tenure is defined so too is carbon tenure. Mot projects are on government land – probably either production or protection. If protection then degradation is low. In terms of investment, to secure land tenure is expensive.

Q. Virgilio Viana (FAS):
1. How is CIFOR involved in the social media debate?
2. South-South cooperation is important. For example, Mr Kuntoro from Indonesia visited the Amazon, where the sustainable development reserves were fascinating to him. African ministers have also visited. How to use CIFOR to document these?
3. Land grabbing: cases please.

Q. Desmond McNeill (University of Oslo): It seems clear from experience in the field that FPIC cannot really be done, since it is not possible to specify what in practice are the costs and benefits for the local people. Do you agree?

Q. John McNeish (Norwegian University of Life Sciences):
1. Need for history of ideas to understand why the steps were taken: colonialism, neoliberalism etc.
2. Seeing Latin America through a REDD-lens. But Latin America is not just REDD or even forest management
3. Need to define FPIC. Do people have the right to say no? It can lead to being bogged down in legal battles.

Q. Bishal Sitaula (Norwegian University of Life Sciences): Regarding relations with people around: who is external? It is context specific.

A. Anne Larson. Reply to McNeill and McNeish: Yes, FPIC is very problematic. In Nicaragua I am much involved in this. Reply to Viana. Regarding the definition of IPs: ref RRI work. But (despite all the problems) I do try to be a little bit optimistic about REDD. The anti-REDD movement: the same people are often negotiating REDD contracts. The Governors Council is a very interesting initiative.

A. William Sunderlin: Land and carbon tenure, not necessarily ownership. Many of our sites have seed funds of 2 – 5 years to set REDD in motion. Given the slowdown the proponents don't know what to do. (They are often building on a platform. 17 were earlier ICDP projects. They rely on ICDP in a holding pattern).
     Reply to McNeill. Good question. I would not be too optimistic. The standard answer we get from NGOs is 'FPIC never ends; it is a continuing process'. I believe the decisions

agreed will be representative, but not every single village, every single household – not least for cost reasons.

Reply to Sitaula: Internal/external. Are seasonal users internal?

Final comment: Carbon rights cannot be the same as land rights. Why does customary land tenure not disappear despite state ownership? Answer: Because of nested systems: people have tried forever to privatise land without success. Why is it resilient? Land is not fixed to person or family. The moment the physical traces of your labour disappear it is no longer yours. In Kenya it was found that privatisation did not work. Ownership became less secure/ less favourable to local people. Why things don't change so easily.

The second plenary session under Theme 2

A. George Kajembe: (in response to request for more information about the Campfire Project). By contrast with the Campfire Project, REDD+ is operating on an existing government structure, the village. Who is going to continue the process: Norad? Perhaps it is necessary to move to a landscape, long-term approach.

Q. Ivar Jørgensen (Norad). Norad has been happy to support pilot projects – sort of small scale landscape projects. They want to scale up. In new REDD+ countries they encourage a large sub-national scale. For example, one state in Ethiopia. Norad is planning a global meeting - REDD Exchange - October 2013.

Q. Pål Vedeld (*University of Life Sciences, Ås*) Participation is a means to achieve the end: empowerment. Regarding Tanzania, how robust are the institutions for delivering on these? NGOs, especially when they get funding, become part of the process – not as a mediator. This can be a challenge. In Kilosa (Tanzania) they make land use plans and participatory land use management. Are the Village Councils robust enough to handle this? There is so much pressure; on doing this and on zoning. "I am worried."

A. George Kajembe: I expect NGOs to operate as power brokers. But it seems they are also doing implementation. Activities supposed to be done by the state – such as land use planning – are not being done. So NGOs do it.

Q. Leif John Fosse (EU REDD facility). In the case of CBNRM (community-based natural resource management) projects in Zimbabwe and Namibia: to what degree did devolution take place? Did benefits accrue directly to locals? The lesson to be drawn: connect benefits very closely to those who are delivering.

A. Virgilio Viana: (in response to request for more information about COICA). What we have achieved so far does not come from the acts of politicians but from the struggles of indigenous peoples (IPs). We will not continue to do this by protest. It's a question of consultation with government. We have been seen as protesting because we have no knowledge. Now it's time for the IPs to propose. Then we will know if the government is willing to negotiate as equals. We are making public that there are new pressures in Amazon: logging, mining etc. If we don't know our rights things can't happen.

4.3. GROUP WORK

The focus of this group work was on the role and position of local and indigenous communities in design and implementation of REDD+. The relationship between decision-making at national level and local levels is a core element and includes the rights of local forest communities to opt out of REDD. The processes of decision-making and the FPIC principle is a major issue. Issues of land tenure, carbon rights, and benefit sharing more generally are linked to how local rights are protected in the REDD. The risk of elite capture at various levels is important, including the challenges regarding potential recentralization of forest management. Related to that is also the issue of whether and how to empower vulnerable groups.

For the group work under Theme 2, participants were invited to address one or more of the following five issues:

Group work 1.1: Why participation?
Participation of local and indigenous communities is emphasized in REDD+ Do you consider it a means to expand REDD+ or an aim in itself? For what issues is participation important? How can it best be ensured?

Group work 1.2: The right to say no
What possibilities do local/indigenous communities have to say no to REDD+? When should they have such a possibility? Do you evaluate this issue differently dependent on a) who owns the forest, b) how REDD+ is organized – the chosen architecture?

Group work 1.3: Rights and compensation
Forest tenure is characterized by legal pluralism – often complex combinations of formal and informal property rights and use rights. What rights holders should be eligible for compensation in REDD+? How should distribution of REDD revenues be decided?

Group work 1.4: Fighting over rights?
Forest tenure is characterized by legal pluralism – often complex combinations of formal and informal property rights and use rights. Given the uncertainties this creates, what risks do you see regarding potential loss of existing local rights, and redistribution of such rights (e.g. elite capture) following from instituting REDD+? How could such challenges be met?

Group work 1.5: REDD+: a recipe for recentralization?
It has been argued that REDD+ may create a process of recentralization in forest management. What is your experience with regards to this and what are the potential consequences? Are there intrinsic characteristics of REDD+ that drive such a process and if so how could it be counteracted/avoided?

Reports from this group work are found in Appendix C3

5. THEME 3: WHAT TO PAY FOR AND HOW?

Several dimensions of this issue were specified for presentations and debate. First of all, should payments be for establishment of policies/policy measures (outputs), actions taken (outcomes) or impacts - i.e. how far down the result chain? In the case of impacts, should the focus be on forest stocks or emissions? Secondly, what payment formats are considered most advantageous? Who should decide about such formats? Thirdly, how should carbon impacts be handled relative to other so-called co-benefits like local livelihoods and biodiversity? Are these multiple goals compatible or do we face trade-offs? Finally, REDD+ results must be measured/monitored and verified. How to link monitoring at national and local scales? What should be the role of participatory monitoring?

5.1. PRESENTATIONS

5.1.1   What should be measured?
By professor Desmond McNeill, Centre for Development and the Environment, University of Oslo

The simple answer to the question asked in the title is: 'proven reduced emissions against an agreed reference level'. In practice, for most countries and for some years to come, most payments will be for readiness (Phase 1) and policy reforms (Phase 2) rather than proven emissions reductions (Phase 3). Past efforts concerning REDD+ measurement, reporting and verification (MRV) have tended to focus on Phase 3, where the challenge is largely of a technical nature - to measure GHG emissions and removals, and to establish a reference level. But the more immediate challenge – measuring performance during phases 1 and 2 – has so far received little attention. This presentation (drawing heavily on Wertz-Kanounnikoff and McNeill, 2012[9]) examined how intermediate indicators might be used: those which measure inputs, outputs and outcomes rather than ultimate impacts. These examples suggest that REDD+ performance metrics can vary across countries, depending on national circumstances, stakeholder views and REDD+ strategy objectives.

McNeill noted that REDD+ performance measurement raises political issues. Any independent assessor brings some level of subjective bias, and it is difficult (or costly) to control for that. Even phase 3 entails a strong political dimension, as exemplified in the setting of reference levels. A solution to this is to make performance a set of conditions to be met, with the performance indicators spelled out as clearly as possible upfront, to minimise room for varying interpretations. McNeill presented examples for how performance indicators have been spelled out in the cases of Indonesia (e.g., a moratorium on new concessions for clearing new primary forest and peat lands), Guyana (e.g., continuous multi-stakeholder consultation process) and DRC (e.g., a national REDD+ strategy in the 2030 horizon is constructed in a participatory manner and ready to take off). He suggested a radical alternative to the current procedure: namely to make payments on the basis of measures which can credibly be shown to have a quantifiable impact on deforestation. He gave the example of charcoal burning– a very major driver of deforestation. In Tanzania, it is a simple matter to

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[9] Wertz-Kanounnikoff, S. & McNeill, D. (2012) 'Performance indicators and REDD+ implementation', in Angelsen, A., Brockhaus, M., Sunderlin, W. D. & Verchot, L. V. (eds.) *Analyzing REDD+: Challenges and Choices*, Center for International Forestry Research (CIFOR), Bogor, Indonesia

estimate the impact on deforestation of reducing charcoal consumption. Why not base payments on these efforts? One could even argue the same with regard to securing land rights. In other words: the answer to 'what should be measured?' might not, even in the longer term, be: 'proven reduced emissions against an agreed reference level', but rather: 'proven efforts to provide secure land tenure to those who manage forest sustainably'.

5.1.2   Distributional implications of payments for ecosystem services

By Esteve Corbera, Institute of Environmental Sciences and Technology, Universitat Autònoma de Barcelona, Spain

Distributional (equity) and legitimacy considerations should matter as much as cost-effectiveness in PES (and REDD+) implementation. Corbera argued that equity has proved to be instrumental in achieving conservation outcomes whilst a "lack of equity and legitimacy" has often undermined laudable conservation goals. He defined legitimacy (i.e. procedural justice) as the "Extent to which decisions are acceptable on the basis of who makes and implements decisions and how [PES] outcomes are distributed" (Paavola & Adger, 2003). Equity (i.e. distributive justice) was defined as the "Extent to which PES outcomes reach a wide number of 'recognised' actors, and avoid resulting in further inequalities in access to income, knowledge & capacities (e.g. re: access, use and extraction of natural resource).

The main argument of the presentation was that "PES has failed to address legitimacy and equity considerations at the providers' end". This has been due to several factors: promoters' motivations (i.e. focus on provision and additionality), institutional complexity "blindness" (i.e. limited knowledge on local institutions & socio-political, cultural dynamics), and conflict aversion (or common sense?). He reviewed PES performance, paying attention to equity in access, equity in decision-making and equity in outcomes - following the framework proposed by Brown and Corbera (2003). He systematized the challenges encountered in the realization of these equity dimensions and highlighted how such challenges could be addressed in future policy design and implementation. The solution lies in co-design and sensitivity to institutional complexities (including tenure) that is critical to ensure effective integration of economic rewards/compensations into NRM practices. In providing several examples of how legitimacy and equity concerns have been side-lined in PES schemes, Corbera underscored the need to transcend the idea that PES should *only* pursue additional ES provision disregarding legitimacy/fairness and potential "side" effects. If PES is to have a future as part of REDD+, it is critical to improve design and deployment in the context of rural institutions, dynamics and natural resource management approaches.

5.1.3   What payment systems for REDD+ do local people favour? Experiences from Vietnam and Uganda.

By environmental economist Adrian Enright, Netherlands Development Organization (SNV), Vietnam; deputy principal Gorettie N. Nabanoga and lecturer Justine Namaalwa, Faculty of Forestry and Nature Conservation, Makerere University, Uganda

As part of the NORAD financed project, *Poverty and sustainable development impacts of REDD+*, the Netherlands Development Organisation (SNV) undertook a series of field-level experiments to test participatory based approaches for choosing benefits and BDS formats. The results from Vietnam show that respondents wanted benefits beyond just cash: tree plants and fertilizers, loans for tree plantations, training, infrastructure and direct payments (PES).

There are major differences in responses based on ethnicity, but also across gender and age. The Uganda results show a similar pattern: provision of farming inputs and training rank high on in-kind compensation, while revolving funds/soft loans is ranked as the no. 1 priority among cash payments.

The aim of the choice experiments was to elicit clearer preferences for packages of potential benefits. Again, getting access to credit through a revolving fund received high priority among respondents, but with substantial differences between the villages included. The study also observed that despite legal resource rights being granted, some rights were alienated, and community members do not feel they "own" the resource. The interest to engage in forest restoration activities was very low due to this uncertainty of tenure. Overall, the results illustrate the complexities involved in determining the most appropriate benefit distribution formats at the local level, which shows great variation across nearby villages and also within villages.

5.1.4   How to monitor and pay? The Indonesian experience
By Chandra Kirana, head working group on Community and Stakeholder Engagement, Indonesia REDD+ Task Force.

Kirana started by quoting Einstein, who said there are only two things that are infinite: the universe and human stupidity; then she paused, and added: 'perhaps not the universe'. She then noted that in Asia we also think the stupidity can turn into wisdom. We have been thinking that natural resources are infinite. She also stressed that if you want REDD to succeed, you have to give more thoughts to growth. But there are many practical issues, first of all: what to monitor and how? Kirana first provided an overview of the various national level data sources related to REDD+, and how efforts to harmonize these and make a consistent map have been a major challenge for the government. These are next combined with more detailed provincial data, e.g. on the mining and agricultural plantation licenses, and forest concessions. Getting reliable and agreed-upon data and the MRV system up and running is critical for establishing a result based system of payments. She outlined the structure and various funding windows of FREDDI (the Trust Fund for REDD+ in Indonesia). Four major funding windows are planned: (1) priority programmes (e.g. ongoing major efforts such as MRV and the moratorium), (2) provincial programmes, (3) compensation proposals (rules and tools to be finalized, also including PES), and (4) small grant facility.

Indonesia is also developing a set of "measures of success" for governance (e.g., provincial One Map, on-line licensing process, strengthened law enforcement services, strong remote village forest fire brigade), for socio-economic development (e.g., increased government revenues from eco-tourism in National Parks, improved health services in remote areas, reduced illegal logging, village agro-forest and rattan industry enrichment, indigenous wisdom pharmaceutical industry, endemic fishery delicacy revivals, sustainable forest product innovation) and environmental (e.g., improved land/forest cover, improved water services, biodiversity conservation & restoration). She also presented several success stories in the furniture (rattan) industry, which has growth and income generation combined with environmental conservation.

5.2. PLENARY DISCUSSIONS

The plenary discussions were placed after the talks of Nabanoga/Namaalwa and of Kirana respectively.

The first plenary discussions under Theme 3

Q: Virgilio Viana (FAS): Regarding the presentation by Esteve Corbera, I was disturbed by the conclusion that PES has failed on equity. We should avoid general statements. Equity is important, but we have to look at different stories. We need to rephrase the question: how can PES be designed to address equity issues? Co-design is already being done, and there are many successes.

Q: William Sunderlin (CIFOR): In the GCS project, we had in depth interview with 23 proponents of REDD projects. 18 intend to conduct PES, 14 have actually done that. Then we asked them about other interventions, and only 9 out of 18 believed that PES would be the main intervention. This points to an important trend: REDD is not single-mindedly implementing PES, and most of the pilot projects pre-existed as ICDP projects.

The worries about equity consequences are well founded, but there are also proponents that are single-mindedly focusing on equity, and how to avoid negative consequences. CIFOR will investigate this further in the household interviews. Finally, we have noted that in the Brazil sites, interventions are heavily in the direction of agricultural extension services.

Q: Arild Angelsen (Norwegian University of Life Sciences): Thanks for thought provoking lectures. On McNeill, in general it's a good idea to move as far to the right as possible along the result chain, as input measures are poor proxies for the final impacts. But some input or output measures can be useful, in particular when measurement of final impacts is difficult.

On Corbera's presentation, there are many different narratives about PES: we don't know much about the distributional impacts, as there are really few good impact studies. So it is premature to conclude. Also, as a general comment: as scientists we should look for evidence that proves us wrong, and get some surprises. We should be careful to just stick to one narrative.

Q: Gilbert John Anim-Kwapong (Cocoa Research Institute of Ghana): On the moratorium in Indonesia and its usefulness, we can learn also from that experience in Africa. I also found the Uganda presentation interesting: it's a big challenge to put infrastructure and institutions in place, so farmers can take advantage of higher agricultural production.

Q: Nils Hermann Ranum (RFN, Norway): Regarding the question about rewarding the bad guys, we easily go into a trap if we have a strong project thinking on REDD. Some key questions that arise are: Will indigenous groups have to start behaving badly in order to get any benefits? How to distribute benefits in such a way to avoid perverse incentives?

A: Desmond McNeill (University of Oslo): I agree that we need to move as far to the right in the table as possible. But in the charcoal example, it is an outcome, so this is a quite direct way to reward performance and we can do it tomorrow. On the moratorium, if we can demonstrate convincingly that it has an effect, let's reward it.

Also, we should remember that pilot projects are about trial and error, to test which approaches work or don't work. We should be extremely critical to pilot projects, it's something to learn from - whatever the success is.

A: Esteve Corbera (Universitat Autònoma de Barcelona): I agree that we need to be critical, which I tried to be. We also need to look further into the PES experience. I'm also happy to hear what William (Sunderlin) says - that PES is becoming less important in pilot projects. The Mexican PES programme was only for an initial 5 year, then renegotiated when many said that they would cut down the forest if not continued. So they negotiated for an extension, which shows some of the difficulties of the approach. Another lesson was that as soon as payments started to flow, the programme had a rush to provide carbon credits to the market and some of the initial features were forgotten.

A: Justine Namaalwa (Makerere University): To benefit from REDD+ you must achieve *reduced* emission, i.e. you must have been involved in some DD (deforestation and degradation) before. That may create issues of strategic behaviour, which we need to consider, although I don't have a clear solution. On the issues of fairness and equity, it also has to be balanced what the projects can afford.

A: Adrian Enright (SNV Vietnam): In our Vietnam experience, people are quite happy to be paid fairly equally. I think the agricultural support services are important. I talked to an old farmer and explained to her about REDD payments. "This is a wonderful idea to be paid for conserving the forest, but I have never used money in my life, so I don't really need them."

Q: Chandra Kirana (Indonesia REDD? Task Force):
We should be careful in making performance linked to inputs. There is no evidence that, for example, acknowledgement of indigenous people's rights will give reduced deforestation.

Q: Elizabeth Stormoen (Norad):
A question for Esteve: do you have cases where payments have led to the destruction of local social norms?

Q: Ingrid Nyborg (Norwegian University of Life Sciences): There are many actors involved, and how they ally and interact is really important for the outcome. That is important for how different actors are pushing, and how to involve in the debate. Mapping of these interests is important

A: Desmond McNeill: What to measure? It's useful to test out the limits of the approach, and how far you can go. The shift from forest to people in REDD is also a shift to focus on what reduces deforestation.

A: Esteve Cobera: Some of the work by Gary Martin in Oaxaca in Mexico is an example of how the degradation of norms can happen; PES changed the rules; they joined the programme for a couple of years and then left. But it could also be because the programme rules were not well communicated.

The second plenary under theme 3

Q: Bishal Sitaula (Norwegian University of Life Sciences): There are many actors operating in Asia, following different approaches: integrated this and integrated that. The farmers may face 10 different approaches. We should try to establish one system based on the successes and that also integrate human welfare or well-being. What could be the middle part in this complexity?

Q: Esteve Cobera: I liked and learned from the Chandra presentation. So far few have mentioned the broader picture: who are the powerful actors, involved in the value chains, and so on. Not the small farmers operating very small areas. What is the willingness of the governments to act upon these actors? Secondly, how can we change the demand patterns and value chains? What are the possibilities to affect the value chains and ultimately the use of the forests?

Q: Signe Howell (University of Oslo): I very much appreciate how you (Chandra) structured the problem to get the Indonesian forestry thinking off the ground. The problem is how to implement this. Do you have any concrete suggestions on how to make this happen? There's no shortage of good ideas, but how is the government going to communicate with the citizens and get the policies implemented? The government is using lots of local NGOs, but they also need to be trained, to better communicate and also to spend more time in the field to listen to the people. Many university trained people are reluctant to spend time in the field, more than a couple of hours.

Q: John McNeish (Norwegian University of Life Sciences): On the positive side of our talk, the linkages between REDD and wider economic issues is well taken, and the focus on mining is also important. What is missing is the oil development, e.g. in mangrove forest. Much of the emissions are from fossil fuels, not just in Indonesia, but also in Norway, and the link to oil production is rarely made. On the negative comment, the demand for artisanal products varies from year to year, as the fads of the wealthy change. So it can be an unreliable income source.

A: Chandra Kirana: I'm glad to hear the question on oil, but the oil is not in the forest, so therefore I did not mention it. I also agree on the artisanal products, but these are very high quality products. For example, rattan is a key forest product used for furniture, and has a large global market.

Regarding the big drivers of change, like the industrial timber plantations, this is an important sector for the economic development, and we want to build the country.

To Signe (Howell)'s question, I think this is a very true observation of Indonesian policy makers and university students. Western people engage more in physical work, while if we in Asia are not of that class, we have others to do the work. How to move this huge tanker towards a more sustainable course is a difficult question. But we still need to have growth, because we need that to increase prosperity. So more of the REDD+ money is needed to help local communities to grow. I also like the study of value chains, which is a good way to link sectors together.

5.3. GROUP WORK

The focus of the group work on Theme 3 was on systems for creating financial incentives to reduce deforestation and forest degradation respectively, offering compensation for lost livelihoods (opportunity costs). This has several dimensions: should payments be for establishment of policies/policy measures (outputs), actions taken (outcomes) or impacts i.e. how far down the result chain? In the case of impacts, should the focus be on forest stocks or emissions? What payment formats are considered most advantageous? Who should decide about such formats? How should carbon impacts be handled relative to other so-called co-benefits like poverty alleviation and biodiversity? Are these multiple goals compatible, or do we face trade-offs? Finally, REDD+ results must be measured/monitored and verified. How to link monitoring at national and local scales? What should be the role of participatory monitoring? The following questions were defined for the different groups.

Group work 1.1: Paying for what?
REDD+ is described as being performance based. Nevertheless, payments can be linked to different performance indicators, e.g., policies/policy measures (outputs), actions taken (outcomes), or impacts (forest stocks or emissions). Discuss the pros and cons of the various options. Should the systems be different at national as opposed to the local level?

Group work 1.2: Co-benefits, trade-offs and payments
REDD+ aims to deliver co-benefits. What trade-offs do you observe between carbon emission reductions, biodiversity protection and poverty eradication? To the extent there are trade-offs, how can these be best handled w.r.t. payments?

Group work 1.3: Payment models and formats
Payments can be distributed in many different ways, e.g., as individual or collective payments; directly as cash payments or indirectly as part of specific programs (energy, agriculture etc.)? What models do you find interesting at national and local levels respectively? What models do you consider most effective? What models do you see as most fair?

Group work 1.4: Monitoring and verification
Monitoring and verification could be undertaken in many different ways and at different levels – e.g., remote sensing, forest inventories, participatory monitoring. What models do you find interesting? Is it necessary to have monitoring both at national and local levels, and if yes, how can they be linked? Is monitoring important both for carbon and co-benefits? Discuss the pros and cons of the models specified.

Group work 1.5: REDD+ architectures and poverty reduction
On day 1 we discussed strengths and weaknesses of a set of 'generic' REDD+ national architectures concerning their capacity to ensure reduced carbon emissions. Discuss expected potential of the different models regarding poverty reduction.

Reports from this group work are found in Appendix C4.

5.4 CLOSING ROUND TABLE

Moderator: Desmond McNeill, University of Oslo

Roundtable participants: Arild Vatn (Norwegian University of Life Sciences), Maria Brockhaus (CIFOR), Resham Dangi (Nepal Ministry of Forestry), Ivar Jørgensen (Norad), Barbara Nakangu (IUCN Uganda)

The roundtable participants presented their main take-home messages, putting emphasis on different aspects of establishing REDD+ architectures:

Arild Vatn emphasized the issue of democracy and accountability of REDD+. Depending on the scale of REDD+ this will be an important issue in the future and for the management of natural resources in the South. If REDD+ becomes substantial it could be used to increase participation and strengthen the way people manage forests at multiple levels. Then REDD+ actually could make a difference.

Maria Brockhaus' main take home message was that REDD+ is an experiment that is not yet over. There is still much to be learnt, and the seminar has demonstrated well that there are many experiences out there not yet fully explored.

Resham Dangi raised the question of how developing countries can proceed with REDD+. It is good to interact and share experiences with researchers, but in the end we are dependent on what is decided at UNFCCC. We should go for a simple and flexible mechanism that countries actually can go ahead with.

Ivar Jørgensen reflected on the immense amount of knowledge that is produced on REDD+ internationally, at the same time as the weakness of knowledge management systems makes it difficult to coordinate and navigate to find one's way in such a plethora of knowledge. "We hear about millions and zillions of reports and project. How could we more effectively share this knowledge?" This is a crucial question for decision makers and implementers. He also noted a neglect of capacity building in most REDD+ countries. A lot of research happens, but it is not so fashionable to for example initiate education programs.

Barbara Nakangu emphasized REDD+ as an opportunity for clarifying and bringing up issues that would be unthinkable in the past, such as conservation rights, equity and sustainability. Research and piloting are needed in order to describe and understand well what needs to be done.

Discussions

Q: Mary Gorrett Nantongo (Norwegian University of Life Sciences): To what extent and at what level should people participate in REDD+? In for instance Uganda, knowledge about REDD+ is very much limited to the scientific community and some officials. In ten years when REDD+ is 'rolled out', we could for instance see shortage of food, etc. because of REDD+ (government has sold out the forest). How much should people be involved when this potentially has huge negative impacts on everybody?

A1: Arild Vatn: To me this is a question that boils down to who is actually accountable to whom? And it depends very much on how we in the end organize REDD+. Here it will be important that the political systems actually become accountable to their citizens. In all the cases that we have discussed during this conference, different systems give different opportunities and limitations. We have to establish arenas where those making REDD+ are accountable to those who presently depend on forest resources.

A2: Barbara Nakangu: I think in Uganda we have used REDD+ as a driver to promote better participation. In the comments to the R-PP it was said that we had to improve participation. To include people in decision making is really what civil society should do.

A3: Resham Dangi: We have to acknowledge the huge investment gaps there are for full participation in REDD+. It is also important to acknowledge that the stakeholder landscape is very complex. We need to have multilayer processes, and managers on the ground need to have knowledge and skills.

Q: Hege Karsti Ragnhildstveit (Rainforest Foundation Norway): I agree with the comments that the business sector does not participate much in REDD+. In the CIFOR project, have you come across processes where private sector is more involved?

A: Maria Brockhaus: The question here is really what do you mean with private sector? Are we talking about the big 'drivers' or the 'green washing business'? For us (CIFOR) to engage with private sector is complex, since we do not want to compromise our credibility. Our findings show that actors with big impacts stay out of the discourse, while the advisory business is very much interested.

Q: George Kajembe (Sokoine University of Agriculture, Tanzania): Should research on REDD+ be supply or demand driven?

A1: Ivar Jørgensen: The main principle is that it should be demand-driven. The nature of university is, however, that they also should provide new knowledge that we do not necessarily know will be useful in the future.

A2: Maria Brockhaus: What we have discussed so far is knowledge production and management. But we should acknowledge that it is also about learning. I think that scientists through this process have learnt something about how to manage knowledge gaps. REDD+ is a good example of science knowledge bridging. This also requires decision makers that are willing to learn and fill knowledge gaps.

A3: Arild Vatn: Participation – this is a complex question and has a power dimension to it. Who is asking for what here? Participation could be a demand from the buyers of offsets (i.e. the developed countries)? What about the countries themselves? Moreover, the type of participation that is materializing is also a function of the type of REDD+ architecture/ payment system. Maybe the most important issue regarding participation regards the choice of system. NGOs raise the questions on accountability most strongly. Fine. But if the main actors in REDD+ in the end is the NGOs themselves, where is then the political responsebility?

Q: Syed Mahmood Nasir (Pakistan Inspector General of Forests): It is not only the job of foresters to deal with REDD+. It should be dealt with in a multidisciplinary way. When we

work within capitalism there is no room for forests. REDD+ is therefore the only hope we have at the moment.

R: Ivar Jørgensen: I will strongly support that REDD+ is too important to be left to foresters. In this conference there has been a lot of focus on the local level. Emphasis should also be put on the larger business communities, and the 'power pools' that affect deforestation. We need to understand the dynamics of big actors.

Q: Norad was challenged by several participants on the issue of financing independent research on REDD+. It was claimed that most funding goes to larger international western based 'think tanks' and NGOs. In addition, it was noted that little (or no) funding is made available to Norwegian institutions.

R: Ivar Jørgensen: I will contest that the sources of funding are limited. There are plenty of sources and programs out there. Norwegian institutions can also get access by collaboration with international institutions, such as CIFOR. Research should also be prioritized by the REDD+ countries themselves.

6. LESSONS LEARNED

There are a number of 'lessons learned' from the conference. We will close the report by singling out a few key messages for future REDD+ governance:

- *Establishing well-functioning national REDD+ architectures is key, but demanding*. The reports from all participating countries demonstrate that building REDD+ structures take time. It implies changing present governance structures not only for forests, but land use more generally. The REDD+ 'journey' started in 2007. By medio 2013 no country has managed to establish a fully operative 'REDD+ architecture'. Important issues that countries face regard deciding about the overall structure and how it should a) relate to relevant sector policies, b) distribute decision-making responsibilities between central and local decision-making bodies, and c) relate to structures set up for national climate policies more generally. Key aspects concern also the distribution of power between various agents and handling potential conflicts of interests between sectors and interest groups at the local level. There are moreover challenges regarding developing the necessary human capacity and competence, both at the policy making level and of technical expertise, e.g., on land-use planning and MRV.

- *Countries face high uncertainties.* All REDD+ countries face high uncertainty regarding future financing of REDD+. No international agreements have yet been made regarding how payments from North to South shall be generated and organized. This implies that many countries find building REDD+ architectures and staffing the organizations to be risky. While this in itself may explain some of the tardiness of the process, it may also influence the quality of the systems set up as the uncertainties affects how dedicated it is to be for the host countries. Clarifying international systems w.r.t. levels and formats of payments seem key to speeding up national processes.

- *The REDD+ agenda is broadening*. REDD+ at the outset was very much thought of as a market – payments for the service of sequestering and storing carbon. A number of factors have contributed to the broadening of the scope of REDD+, not least the process of formulating national architectures. At the national level, establishing REDD+ has brought in a wide set of issues and it seems to be somewhat transformed towards a development (aid) program. This changes the focus of REDD+, but the shift seems important for national engagement and legitimacy.

- *The national architectures evolving are complex*. This reflects both the broadening of scope and the fact that REDD+ must engage many sectors. Looking at the countries that were focused on at the conference, we observe three main types of structures. We have those that integrate REDD+ into the wider climate policy architecture – i.e., Brazil and Tanzania. We have those that are establishing a separate REDD+ structure, but independent of the forest sector – i.e., Indonesia and DRC. We have, finally, those linking REDD+ structures to the forest sector authorities – i.e., Nepal and Uganda. Certainly, relations to the forest sector are made in all cases, but the chosen systems reflect differences regarding its role.

All countries that have decided on how to handle the payments from abroad - i.e., Brazil, DRC, Indonesia, Nepal and Tanzania – have established a fund within the national administrations. This was a solution also supported by many of the participants at the conference. Looking at the established funds, we notice that the links between the funds and

the existing state administration seems yet not well clarified, hence, having rather lose ties not only to the existing sector administrations, but also the specific decision-making bodies established for REDD+.

The conference noted that there has been little systematic thinking about the strengths and weaknesses regarding different types of architectures. In that respect, the conference functioned as a useful opportunity for exchanging views and experiences. While the choice of national REDD+ architectures must reflect the domestic context, issues are also shared and cross-country learning is important.

- *Clarification of rights is key*. REDD+ demands clarification of rights and responsibilities. An essential element is clarification of land rights. In most countries delivering REDD+, we observe a situation characterized by legal pluralism – forests are formally owned by the state, while local people have customary use rights – i.e., they are often not formally acknowledged. REDD+ implies a comprehensive process of recognizing, but also formalizing rights. Presentations at the conference documented that this is a demanding process – often creating conflicts, especially at the local level – but also sometimes a way to settle existing ones. Experiences regarding these issues came mainly from a series of 'pilot' REDD+ projects. Establishing the necessary capacity to run the legalization process in a proper way and to ensure that defined rights are respected were found to be among the most prominent challenges. Similarly, respecting the interests and rights of indigenous people was noted as important, while it was also observed that indigenous groups are now forming to protect their interests and influence the direction of REDD+.

- *Payment systems are context dependent*. Setting up systems for payments to local people for their REDD+ efforts raises issues related to both efficiency – the incentive aspect and the level of transaction costs – and equity. REDD+ may bring in large sums of money, and this warrants very careful treatment of the interest conflicts, power games and potential corruption that may play out at different levels. The research presented suggests that local communities seem to favour a mix of individual payments and support to community projects regarding e.g., alternative livelihoods and training. The balance between individual payments and common projects seems very much to reflect varying trust in local decision-making bodies as well as ethnicity – minority-majority issues. Hence, when trust is low, individual payments are more favoured.

- *Paying per unit of carbon demands good MRV systems*. Regarding this, Brazil is far ahead of other countries, with systems dating back as far as to the 1980s. A key issue regards defining the baseline. Another topic concerns the distribution of payments to those delivering reduced deforestation and forest degradation (DD), demanding a link between observed reductions and action. It seems easier to pay according to performance at country or project level than at the level of each individual household involved. In any case, paying per ton of carbon is difficult, and simpler alternatives may be considered such as paying for measures taken which will demonstrably reduce deforestation, for example reducing production of forest products such as charcoal. A challenge at the local level is also the fact that the national net reduction will include both reduced and increased DD at different locations. Distribution of resources down to the local level also needs to take account of this.

While establishing REDD+ at the national and local levels represents several challenges, it seems to also motivate countries to deal with issues that anyway needs attention, e.g., clarification of property rights issues, strengthening the capacity of sector and local administrations and establishing more effective and just systems for the protection of forests. It is yet too early to say if REDD+ will make a significant difference in these respects. However, as the conference showed, mutual exchange of knowledge and experiences across different types of competences is very important to generate ideas about possible solutions and to scrutinize these.

APPENDICES

APPENDIX A

CONFERENCE PROGRAM

PROGRAM FOR CONFERENCE AT UMB MAY 2013 ON

OPTIONS FOR NATIONAL REDD+ ARCHITECTURES

May 29-31, 2013, at Sørhellinga – room SU105
Norwegian University of Life Sciences (UMB)

The conference is organized by the Department of International Environment and Development Studies (Noragric, UMB) in cooperation with Center for International Forestry Research (CIFOR), the International Institute for Environment and Development (IIED), and the Norwegian REDD network. Important funding has also come from Norad

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The aim and structure of the conference

The overall objective of the conference is **to bring together high level competences within policymaking, research and civil society to engage in knowledge exchange, experience sharing and critical reflection concerning alternative national governance structures – architectures – for REDD+.**

The conference will facilitate dissemination, discussion and evaluation of existing research-based knowledge and practical experiences from establishing REDD+ national architectures. Issues that will be discussed concern the overall legitimacy of various governance structures, their effectiveness and efficiency, how architectures may affect participation, access to local resources, and distribution of funds. This kind of knowledge is important to inform future stages of the national design and implementation processes. Outcomes would, however, also be important inputs to the post-Kyoto negotiations on how to structure REDD+, as we now seem to be at a stage where climate negotiations will have to raise these kinds of issues.

The conference around the following three main topics:

The potential of various national REDD+ architectures to reduce carbon emissions.
The focus here will be on the overall capacity and legitimacy of a set of 'generic' national REDD+ architectures to reduce carbon emissions. . These include: a) a market/project based architecture; b) a system with national REDD+ funds outside existing national administrations; c) a national REDD+ fund organized under the present administration; and d) conditional budget support. Regarding reduced emissions, differences in the capacity to raise funding, ensure cross-sectorial coordination and avoid leakage will be highlighted. Regarding legitimacy emphasis will be on power relations and the ability of the various systems to ensure participation, accountability and transparency. Motivational aspects and the costs of

administering the systems/ transaction costs will also be highlighted.

Making REDD+ participatory and protective of local rights.
This topic concerns the role and position of local and indigenous communities in design and implementation of REDD+. The relationship between decision making at national and local levels is a core element and includes the issue of what rights local forest communities should have to opt out of REDD. The processes of decision making and the role of FPIC principles are major issues. Issues of land tenure, carbon rights, and benefit sharing more generally are linked to how local rights are protected in the REDD+. The risk of elite capture at various levels is important, including the challenges regarding potential recentralization of forest management. Related to that is also the issue of how to empower vulnerable groups.

What to pay for and how?
This has several dimensions: should payments be for establishment of policies/policy measures (outputs), actions taken (outcomes) or impacts (i.e. how far down the result chain)? In the case of impacts, should the focus be on forest stocks or emissions? What payment formats are considered most advantageous? Who should decide about such formats? How should carbon impacts be handled relative to other so-called co-benefits like local livelihoods and biodiversity? Are these multiple goals compatible or do we face trade-offs? Finally, REDD+ results must be measured/monitored and verified. How to link monitoring at national and local scales? What should be the role of participatory monitoring?

The conference will combine presentation and discussion sessions of various formats. There will be presentations based on research on the respective issues and first-hand experiences gained by the countries involved in the processes of developing REDD+ architectures. Discussion sessions will be organized both in groups and in plenary. There will also be summary sessions focused at encapsulating experiences. A core output from the conference will be a report summarizing the insights from the debates and the advices it offers to the international REDD+ community.

Participants

Three representatives from the following countries: Brazil, DRC, Ghana, Indonesia, Nepal, Pakistan, Tanzania, Uganda and Vietnam have been invited. It has been important to select countries that are at different stages of the process of establishing national REDD+ architectures. From these countries policy-makers (REDD+ Focal Point), researchers and NGO representatives will participate. So will representatives of the Norwegian Ministry of the Environment (the secretariat for the Norwegian Forest Initiative), the Norwegian Ministry of Foreign Affairs and NORAD. Several internationally renowned researchers that have undertaken comparative research on topics relevant to the conference are participating. Researchers from the organizers will also be involved. Finally, with a group of PhD students – following the course 'Multidisciplinary Perspectives on REDD+', arranged by the University of Oslo - the total number of participants is close to 90.

Program

May 29

08.30-09.00:   Registration and coffee

Session 1: Introduction to the conference
Moderator: Poul Wisborg (Noragric)
09.00-09.20:   Opening: Vice chancellor UMB, Hans Fredrik Hoen
                     Political advisor, Ministry of Environment, Audun Garberg.
09.20-0925:   Practical information (by the organizers)
09.25-09.45:   Arild Angelsen (UMB): Where is REDD+ heading?
09.45-11.00:   Status in participating countries – presentation by REDD Focal Points from
                     each participating country – 8 minutes per county
                        - Brazil: Paulo José Chiarelli V. de Azevedo
                        - Democratic Republic of Congo: Patrick Bisimwa Kulimushi
                        - Indonesia: Chandra Kirana
                        - Nepal: Resham Dangi
                        - Pakistan: Syed Mahmood Nasir
                        - Tanzania: Julius Ningu
                        - Uganda: Xavier Mugumya

11.00-11.30:   Coffee break

Session 2: The potential of different national REDD+ architectures to reduce carbon
                     emissions
Moderator: Arild Angelsen (Noragric)
11.30-11.50:   Arild Vatn (UMB): National REDD+ architectures – the main issues.
11.50-12.30:   Maria Brockhaus (CIFOR): National REDD+ policy processes: Old or new
                     power constellations?

12.30-13.30:   Lunch

13.30-14.00:   Question and discussion session
14.00-14.30:   Natalie Unterstell (Brazilian REDD+ Focal point): The Brazilian REDD+
                     architecture
14.30-14.45:   Virgilio Viana (FAS): REDD+ projects on the ground: the Bolsa Floresta
                     Program experience
14.45-15.00:   Questions and discussion
15.00-15.05:   Introduction to group work on the overall capacities of national REDD+
                     architectures
15.05-17.00:   Group work 1 – incl. coffee break
17.00-17.45:   Plenary presentations and summing up

1800: Dinner

May 30

08.30-09.00: Coffee

Session 3: Making REDD+ participatory and protective of local rights
Moderator: Mariteuw Chimere Diaw (**African Model Forest Network)**
09.00-09.30: Anne Larson (CIFOR): Does REDD+ favour securing rights at the local level? An overview
09.30-10.00: William Sunderlin (CIFOR): Does REDD+ favour securing rights at the local level? Observations from 19 projects in five countries
10.00-10.30: Question and discussion session

10.30-11.00: Coffee break

11.00-11.40: Edwin Vasquez (COICA): How could REDD+ serve indigenous interests? (with translation)
11.40-12.05: George Kajembe (Sokoine University of Agriculture, Tanzania): The REDD+ process in Tanzania: The village as an arena for defining and defending local and national interests
12.05-12.20: Gene Birikorang, (Hamilton Resources, Ghana): State ownership vs. customary rights to forests: The challenges of legal pluralism for REDD+ in Ghana

12.20-13.20: Lunch

Moderator: Darley Kjosavik (**Noragric)**
13.20-13.50: Question and discussion session
13.50-13.55: Introduction to group work on REDD+ on participation and protection of local rights
14.00-16.00: Group work 2 – incl. coffee break
16.00-17.00: Plenary presentations and summing up

1800: Dinner

May 31:

08.30-09.00: Coffee

Session 4: What to pay for and how?
Moderator: Maryanne Grieg Gran (IIED)
09.00-09.25: Desmond McNeill (University of Oslo): REDD+: What should be measured?
09.25-09.50: Esteve Corbera (Universitat Autonoma de Barcelona): Distributional implications of payments for ecosystem services
09.50-10.20: Adrian Enright (SNV, Vietnam): What payment systems for REDD+ do local people favour? Experiences from Vietnam
                    Gorettie N. Nabanoga and Justine Namaalwa (Makerere University, Uganda): What payment systems for REDD+ do local people favour? Experiences from Uganda

10.20-10.50: Question and discussion session

10.50-11.20: Coffee break

11.20-11.50   Chandra Kirana (Indonesia REDD Task Force): How to monitor and pay? The Indonesian experience
11.50-12.05:   Questions and discussion
12.05-12.10:   Introduction to group work on payments and measuring outcomes

12.10-13.10:   Lunch

13.10-14.40:   Group work 3
14.40-15.25:   Plenary presentations and summing up
15.25-15.55:   Coffee break

Session 5: Final discussion – round table
Moderator: Desmond McNeill (University of Oslo)
16.00-17.00:   Closing round table

1800: Dinner

Collaborating partners:

UiO : Centre for Development and the Environment
University of Oslo

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APPENDIX B

NATIONAL REPORTS ON THE STATUS OF REDD+

APPENDIX B1

BRAZIL

By Natalie Unterstell, National REDD+/Forest focal point in Brazil

1. INTRODUCTION

Since 2004, the Brazilian government put into place a set of measures to reduce deforestation, especially in the Amazon region. In 2008, the Amazon Fund was created as the first instrument in Brazil to set the connection between forest policy and the mitigation of climate change. Good results were achieved so far, as deforestation rates in 2009-2012 have plunged to the lowest levels since the INPE has begun to monitor clear cuts in the Amazon region, in 1988. These results were an outcome of combined policies and institutional arrangements that improved monitoring, enforcement and implementation of the forest law and strengthened the commitment to forest conservation at various levels.

In order to strengthen the connection between forest and climate policy goals, the Government of Brazil is formulating a National REDD+ strategy through a participatory process that started in 2010 through multi-stakeholder working groups that discussed the elements of a national REDD strategy. It was followed by the creation of a REDD+ working group under the Executive Group of the Inter-ministerial Committee on Climate Change (CIM) in June 2011. Such group, led by the Ministry of Environment and consisting of other six federal agencies, including the Ministry of Foreign Affairs, the Ministry of Agriculture, Livestock and Supplies and the Indigenous Protection Foundation (FUNAI), has concluded its work in February 2013 and delivered a draft version of the National REDD+ Strategy for the consideration of the higher instances.

There are currently several governmental agencies engaged in the design and implementation of Brazil's REDD+ strategy that are operating at different levels and with different roles. At the subnational level, many Brazilian Amazon states are now designing or implementing programs to prevent deforestation that include the establishment of state-level targets to reduce deforestation[10]. In 2012, representatives from the federal and state governments from the Amazon region joined efforts through a specific REDD+ Task Force led by the Chief of Staff of the Presidency to discuss ways and means to harmonize policy and financial instruments.

A national REDD+ strategy is expected to be concluded by the end of 2013.
In parallel, a Legislative process has advanced through the Law Project no. 195/2011 at the Lower House and the Law Project no. 212/2011 at the Senate, which aim to create a National System for REDD+.

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[10] MMA, 2012. REDD+ na Amazônia: levantamento de iniciativas subnacionais www.mma.gov.br/redd

2. FOREST STATUS

2.1 TYPE AND SIZE OF FORESTS IN THE COUNTRY

62% of Brazil´s territory is covered by forests (519,522 million hectares) spread over six biomes: Amazon, Caatinga, Cerrado, Pantanal, Atlantic Forest, and Pampa. Main types of vegetation are primary forests (92%), naturally regenerated forests (7%) and planted forests (1%). (Source: FAO-FRA, 2010).

2.2 STATUS AND TRENDS W.R.T. DEFORESTATION AND FOREST DEGRADATION

Brazil has experienced great forest loss over the past two generations—an area almost certainly exceeding 60 million hectares. Over the last eight years, however, this trend has been reversed. Even with the increase of agricultural commodities prices at international markets, deforestation rates have dropped from around 1.9 million hectares per year in 2005 (equivalent to 0.46% per year) to 0.47 million hectares per year in 2012 (~0.10% per year). The Cerrado biome has also seen a decrease in forest loss in the recent years, whereas an increase of forest cover has been reported in the Atlantic Forest biome.

Description of the main drivers of change:
An assessment carried out by the Brazilian government showed that the main drivers of deforestation in the country were: impunity of environmental offenders, weakness of the region's environmental agencies; expansion of livestock raising activities, with conversion of forest into pasture by large- and medium-sized producers; illegal occupation of non-allocated public lands; poor procedures to verify the legitimacy of existing land titles; incipient sustainable economic activities.

3. PROPERTY RIGHTS AND MANAGEMENT SYSTEMS FOR FORESTS

Description of existing property and use rights structures for forests (types and areas)
The following forest ownership and use categories exist in Brazil: (1) *Private property; (2) Ownership by communities*: Areas of quilombola[11] communities with legal title; (3) *Holder of management rights of public forests – Public administration:* Areas of National Forests and State Forest; (4) *Holder of management rights of public forests – Individuals:* All public forests except those that are under community use; (5) *Holder of management rights of public forests – Private corporations and institutions*: forest concessions; and (6) *Holder of management rights of public forests* – Communities: Federal and State Extractivist Reserves, federal and state sustainable development reserves, Indigenous Lands and forest areas in federal agrarian reform settlements.

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[11] Remaining communities of quilombos which is a century-old community set up by former slaves in Brazil. It encompasses the prevalence of an autonomous process of production within the communities, based on specific territorialities socially established as a result of acts of resistance. (ALMEIDA, A.W., Brasília, 2006.)

With regard to private properties, the Brazilian Constitution imposes on landowners a portion of the responsibility for environmental protection, shared by all members of society and the State. This materializes through the designation minimum of forest areas within private lands, under the Brazilian Forest Law, known as *Legal Reserve (*area within a rural property of permanent preservation, necessary for the sustainable use of natural resources) and *Permanent Protection Area (*has specific the environmental functions such as conservation of water resources, the landscape, the geological stability, the biodiversity, the gene flow of plants and animals, soil and assure the well-being of the human populations), like riparian zones, sleep slopes, hill tops and high altitude regions.

Description of existing forest management systems (types and areas)
The area of forests under public management (publicly managed forests) accounts for 81% of the total forested area in Brazil whereas the area of private forests[12] corresponds to 19%. In many public areas, user rights of forest resources belong to communities, as is the case of Indigenous Lands, Extractivist Reserves, Sustainable Development Reserves, and Agrarian Reform Settlements. In 2006 the Brazilian government passed the Law n. 11.284 known as the Public Forests Management Act. This Law brought many innovations to the forest management framework. Basically, the introduction of the concept of public forest, i.e. forests that are owned by the Federal Government, the Public Forests Management Act scaled up the status of forests, once it stated that parts of the Brazilian territory registered as public forest should remain public and forested. Not only forest cover is recognized as an important public asset but also the property rights of public forests became clearly defined – essential for reducing speculation pressure. In the case of private forests, the landowner holds the right to explore the forest resources, with some exceptions to the right of communities to explore non-wood resources in private areas. However, forest management has to be authorized by the government, even in privately owned forests. (Source: Brazil´s Country Report to the FAO-FRA, 2009)

Description of existing systems for forest protection (type and areas)
There are 15 types of designated forest protection areas in Brazil. They can be grouped in categories according to their main function or the purpose for which part of the forest was designated, either by regulation or pursuant to the landowner's decision: *Legal Reserve, Environmental Protection Area (1. Multiple uses), Permanent Protection Area (2. soil and water protection), National Forest, National Park, Indigenous Lands, Sustainable Development Reserve, Extractivist Reserve (3. Social and environmental rights and services), Natural Heritage Private Reserve, Fauna Reserve, Biological Reserve, Ecological Station, Wildlife Refuge, Natural Monument, and Area of Relevant Ecological importance (4. Conservation of biodiversity).*

Protected areas and indigenous lands (totalling 175 million hectares) show a high degree of conservation efficiency. 97% of those areas are covered with natural vegetation and represent 32% of total vegetation in Brazil.

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[12] The area of private forests is considered as the sum of the areas of forests and woods of (private) agriculture and livestock establishments in Brazil, according to the Brazil-Agriculture and Livestock Census 1970/2006 carried out by the IBGE (Brazilian Institute of Geography and Statistics).

4. EXISTING/PLANNED REDD+ ARCHITECTURES

4.1 THE TYPE OF REDD+ ARCHITECTURE CHOSEN/PLANNED – AN OVERALL ASSESSMENT.

The REDD+ architecture framework under discussion in Brazil is a combination of various approaches. Both existing and new institutions will be part of this framework. For the purpose of connecting climate change & forests policy implementation, Brazil may utilize the current governance bodies of the National Climate Change Policy (such as the High Level Committee on Climate Change, its Executive Group and the multi-stakeholder Brazilian Forum on Climate Change) to oversee and to coordinate various funding arrangements like the Amazon Fund (a REDD-specific instrument managed independently of the Treasury), and the National Climate Change Fund (which lies within the state administration). A Brazilian Emissions Reduction Market is envisioned as part of the National Climate Change Policy (Law 12.187/2009); eligibility of REDD+ activities still needs to be determined.

The following principles have been broadly discussed as the basis for a national architecture:
- Build on relevant forest policy and climate change governance arrangements, such as the Plan for Prevention and Control Deforestation in the Amazon (PPCDAM) and the Climate Change Policy bodies;
- Avoid replicating a stand-alone institutional framework for REDD+, disconnected regardless of the National Climate Change Policy;
- Provide clear additional roles to existing institutions;
- Be national, not federal;
- Be transparent, flexible and allow for improvements over time, according to advancements in the international negotiations;
- Maintain the focus emission reductions and increase of forest carbon stocks;
- Prevent fragmentation of policies related to REDD+, who need greater integration of sectoral approaches and scale of implementation;
- Ensure equity and transparency throughout its design and implementation

4.2 DESCRIBE THE SPECIFICITIES OF THE REDD+ ARCHITECTURE

In order to fulfil the ultimate objective of mitigating climate change, and considering the principles mentioned above, the institutional architecture consists of:
- Decision-making and participation mechanisms: as stated in item 4.0, REDD+ is part of the National Climate Change Policy, it is therefore subject to its existing governance structure.
- A process of measurement, reporting and verification of REDD + actions; jointly performed by INPE, IBAMA, EMBRAPA and Brazilian Forest Service plus an independent technical verification committee under the Amazon Fund;
- Formulation and implementation of relevant policies: Ministry of Environment; Instituto Chico Mendes (ICMBio): protected areas (conservation and preservation); Brazilian Forest Service (BFS): sustainable use of forests, including concessions and communitarian management; forest information, including forest inventory; and registry of public forests; IBAMA: monitoring and law enforcement.
- Thematic and strategic programs: formulated and implemented according to formal decisions of the governance bodies;

- Executive body (currently the federal ministries): oversees implementation of MRV, funding and programs, and reports to the governance bodies; has the fundamental role of developing REDD+ instruments and communicating with relevant national and international actors;

- Financial instruments, like the Amazon Fund and the National Climate Change Fund (NCCF). The National Bank for Economic and Social Development (BNDES) is in charge of the Amazon Fund´s operational management and also of the stream of reimbursables of the National Climate Change Fund. The Ministry of Environment manages the non-reimbursables of the NCCF. The Amazon Fund has a steering committee composed of government agencies and civil society, responsible for defining guidelines and criteria for resource allocation, and a technical committee, comprising highly reputable experts with outstanding technical and scientific knowledge, whose task is to demonstrate the effective reduction of carbon emissions from deforestation.

This arrangement has to play some REDD-specific/new/additional functions, amongst others:

- Enable the implementation of REDD+ instruments, in accordance with provisions of UNFCCC decisions;

- Enable participation in results-based finance schemes, based on national monitoring and MRV;

- Ensure a national accounting system and avoid double counting/double selling of results;

- Optimize the carbon benefits associated with the implementation of REDD+ related policies;

- Allocate resources and provide direct incentives to protect and restore forests;

- Harmonize policy and actions at various levels (federal, state, municipality).

5. POLICY MEASURES AND PAYMENT SYSTEMS

The REDD+ policy is currently structured on three pillars, managed in an integrated manner, and described below. Other measures may be added throughout the process of determining a national strategy.

5.1 IMPLEMENTATION OF THE FOREST CODE WITH CLIMATE CHANGE MITIGATION CONCERNS

The backbone of Brazil´s REDD+ policy may be the full implementation of the forest law, and an assessment of its impact in terms of climate change mitigation. The **Brazilian Forest Code** stipulates that private landholders in the Brazilian Amazon forest region must maintain 80% of their land as forest, those in the Cerrado must maintain 20% as native vegetation, and those in the Atlantic Coastal Forest are prohibited from clearing any forest on their land. To determine the environmental regularity of a rural property or possession, the Forest Code provides for mandatory Rural Environmental Registry (CAR) of all farms. This record contains the geographical information of the total area of the property, included restricted-use areas. By joining CAR, landowners can prove their environmental compliance and, in the event of not meeting environmental legislation regarding the percentage of conservation areas permanent, they have to design and implement a reforestation plan for degraded areas. The environmental regulation is a requirement for access to rural credit in the Amazon since 2008 (National Monetary Council Resolution 3.545/2008). This requirement will be mandatory for

all rural properties in Brazil by 2017; second deadline stipulated by Law 12.651/2012. In 2012, high resolution images were acquired by the federal government to ensure full coverage of rural properties in the country. Most of the 5,175,000 existing properties do not have their permanent preservation areas (APP) preserved, nor the legal reserve (RL) with native vegetation - requirements of Law No. 12,645 /2012 and Decree No. 7.830/2012. After the full registration of rural properties, it will become possible to check the status of environmental properties in all biomes. In addition to that, the National Forest Inventory (to be completed by 2017) and also the expansion of satellite forest monitoring tools for the entire country will enable the evolution from the monitoring of clear cut areas to the management of land use on the property and landscape levels. The Forest Code also presents two opportunities: the creation of a Payment for Ecosystem Services Program and a "forest cap" system, where forest quotas could be transacted as means to ensure compliance with the legal reserve obligations. These economic instruments are highly relevant to the implementation of REDD+, since they can enhance protection of forests under private management and provide economic value for surpluses in private and public land areas. Implementation of the Forest Code will affect the conservation of forests, therefore the carbon balance, as well as the enhancement of carbon stocks, depending on the ability to restore areas that were illegally deforested. Brazil´s National REDD+ may evaluate the real impact of the implementation of the Forest Code in terms of carbon, as the means to ensure that environmental compliance can maximize mitigation benefits and avoid a zero sum result when using forest quotas.

5.2 INTEGRATED ACTION FOR DEFORESTATION AND FOREST DEGRADATION CONTROL

The Plan for Prevention and Control of Deforestation in the Amazon (PPCDAM) and the Plan for Prevention and Control of Deforestation in the Cerrado biome (PPCerrado) were developed as key measures to tackle drivers of deforestation and forest degradation in areas under intense pressure. Established in early 2004, the PPCDAM integrates forest cover monitoring, land use planning and land titling, inspection and enforcement, and promotion of sustainable use of natural resources, involving 13 ministries in the implementation of its initiatives. Recently, states and municipalities in the Amazon joined this effort, increasing the PPCDAm's potential for success. Remote sensing systems developed in the country to monitor deforestation in the Amazon are key elements to guide the Program's actions (more information on Section 7).

C - Positive incentives: The implementation of measures to curb deforestation and the support to initiatives that promote its sustainable use require high financial input. Therefore, the Brazilian strategy to control deforestation and maintain environmental services provided by the forest is complemented by the use of positive incentives, like support to projects aimed at preventing, monitoring and fighting deforestation and at conservation and sustainable use of the Amazon forest, through the Amazon Fund; support to projects alike in the other biomes through the NCCF; rural credit; and other incentives. New economic instruments have been anticipated by the Forest Code, including the use of forest quotas as a means to achieve the legal obligation of forest areas in a certain property and the creation of payments for environmental services program. Both initiatives are still under discussion on the federal government and pend additional regulation. The implementation of these instruments having climate change mitigation as an objective will be key to the National REDD+ Strategy.

6. LOCAL INVOLVEMENT

Considering that the focus are forests and therefore communities with different organizational structures and mobilization capacities and most of the times located in remote sites, to ensure a true participative governance structure demands constant efforts of those who are in charge of the policy implementation process. The REDD+ financial incentives must address the deforestation and forest degradation drivers as well as guarantee a fair distribution of benefits among the relevant stakeholders. Through an ample dialogue process with society, benefit sharing mechanisms may be created, once the governance structure is ready to decide upon the creation of instruments and programs.

7. MONITORING SYSTEM

Currently, four systems monitor forest cover status at different time and space scales in the Amazon region: Prodes, Deter, Degrad and TerraClass – which act independently, but complementary.

Since 1988, the Prodes - *Project for Deforestation Monitoring in the Legal Amazon,* shows annual rate of deforestation by clear cutting. The DETER - the *Rapid Detection System*, detects forest degradation processes and clear felling deforestation in areas over 25 hectares. DETER complements PRODES by offering a higher frequency of observation, despite its lower spatial resolution. In 2008, degradation increase indicated by Deter motivated the creation of another system, called Degrad, to identify areas that could not be identified as clear-cut but are already deforested. Degradation makes the forest more vulnerable – the low vegetation is affected by fires and large trees keep standing, but dead. More recently (2011), the TerraClass – Land Classification System, was launched and it shows how deforested areas have been used for: agriculture, clean pasture, woody pasture, pasture with exposed soil, regeneration with pasture, second-growth forest, occupations mosaic, mining and urban area.

The multiple monitoring system composed by PRODES, DETER and TERRACLASS has been essential for the progress in forest management in Brazil. First, by providing consistent and reliable data, this system allows policy-makers to take decisions based in accurate and recent information. Second, the historical series of data made possible a better understanding of the dynamics of deforestation. Still, DETER´s fortnightly monitoring offers real time deforestation alerts. These alerts have been responsible for better planned inspection and control activities.
Monitoring, carbon accounting and forest emission levels should become available for all biomes in the near future. Indeed, establishing a national forest monitoring system is underway, as investments have been made to the Cerrado biome through the Forest Investment Programme (FIP). Nevertheless, monitoring will also have to comprise other activities than deforestation and forest degradation, in order to enable results of other REDD+ actions within a national framework.

APPENDIX B2

DEMOCRATIC REPUBLIC OF CONGO

By Patrick Bisimwa Kulimushi, National REDD Coordination Unit, DRC

1. INTRODUCTION

The Ministry of Environment, Nature Conservation and Tourism, with UN-REDD programme and FCPF support, has, in a very short period, made good progress towards putting REDD on DRC's development agenda and to developing plans for readiness and early implementation.

DRC's R-PP was developed between September 2009 and June 2010 and involved a large REDD awareness drive among stakeholders at national and provincial levels, including a well-attended Summer University on REDD. Between June and August 2010, DRC's REDD National Coordination Unit was strengthened and preparations for implementation of the studies described in the R-PP were in full swing. REDD pilot projects have been developed and concepts for early REDD investment projects have been elaborated. The DRC was selected as one of eight pilot countries Adoption of the Investment Plan by the subcommittee FIP in June 2011 helped to secure $ 60M grant.

The DRC began in 2013 a new milestone of its REDD + process, the gradual transition from the phase of REDD + preparation to the investment. The DRC has made remarkable progress in its preparation process, including reaching a national consensus on the causes of deforestation, consensus has paved the way for participatory definition of national REDD + Strategy Framework, approved by the Council of Ministers in November 2012. This strategy aims to actively contribute to sustainable green growth based on human development, and defines how to implement very inclusive supervised by relevant safeguard measures being validated.

The implementation of the framework-strategy is based on a specific financial mechanism (the National REDD + Fund), a system of governance based on the principle requiring compensation "active contribution" to REDD + objectives and innovative tools to ensure a robust cross monitoring, transparent and responsive to the realities of the country. It is now necessary to implement it through reforms, development of national policies and investment in the field, entering fully into the investment phase of REDD +. For this, the Strategy framework must be turned into a specific investment program clearly defines the geographical and sectoral priorities, modalities of implementation and the sums needed for this.

All in all, REDD in DRC is in the early stages of development and very much work-in progress.

REDD will be scaled up progressively in the DRC, through three main stages:
- 2013: DRC enters the demonstration and investment phase;
- 2016: Finalisation of the REDD+ readiness phase, with a reinforced engagement in a national forest-cum-climate policy;

- 2020: Entry into a phase of full REDD+ implementation, with an acceleration of transformation towards green development.

DRC, where forests represent 67% of the territory, achieving REDD+ is seen as a major 1st step in the transition towards a green economy, it is also taking its forests seriously and would like see them make a real contribution to national development. It would like to manage them for the prosperity of the country and its people and regards REDD+ as an important opportunity to do so.

2. FOREST STATUS

2.1 TYPE AND SIZE OF FORESTS IN THE COUNTRY

The DRC has 155 million hectares (ha) of forest divided between four major ecosystems: Dense humid Forest, mountain forests, Dry forest (Miombo type) and savanna-forest mosaic. All Congolese forests currently have a stock of carbon that can be estimated at 40 gigatons (Gt), equivalent to 140 Gt CO2e potential emissions.

The DRC is the second largest tropical forested country in the world and accounts for more than half of the Congo Basin forests and around 10% of the humid tropical forest of the planet.

According to the Forest Code in DRC, forests are owned by the State. The Forest Code classifies the forests of DRC in three categories: 1) classified forests; 2) protected forests; and 3) permanent production forests.

2.2 STATUS AND TRENDS W.R.T. DEFORESTATION AND FOREST DEGRADA-TION

The historical deforestation rates ranged between 0.2% and 0.3% in the DRC over the past 20 years, which is relatively low compared to the world average (0.6%)

Two initiatives, using different but complementary and mutually compatible methodologies, while carried out by well-known international organizations, provided the DRC with data on deforestation dating back to 1990. By cross-checking their results we obtain a consolidated net annual rate of deforestation of 0.22% for the period 2000-2005, which is equivalent to a net loss of 400,000 hectares per year. The rate of forest degradation (0.12%), although comparatively lower, becomes significant as it remains over the same period. Comparative analysis with the 1990s shows that the pace of both phenomena has doubled, placing the DRC at a turning point in terms of forest transition. The preliminary data for 2005-2010, which is in the process of being put together, confirm this trend of an escalating rhythm of deforestation and forest degradation.

2.3 DESCRIPTION OF THE MAIN DRIVERS

The fact that deforestation and forest degradation are taking place in the same geographic locations is due to the key role played by local communities in these processes. At the national level, slash and burn agriculture, artisanal logging and fuel wood are the three main direct causes identified.

Unless there is an improvement in agricultural yields or alternatives are found to the consumption of fuel wood from natural forests, population needs – aggravated with population growth – will remain the main underlying cause of deforestation. Urban expansion and transport routes also have a strong impact. With infrastructure development and the improvements in the business climate, the international demand for agricultural products to meet food and energy needs is likely to become one of the main drivers of deforestation in the forthcoming future.

Figure 1: Current drivers of deforestation and forest degradation in the DRC
Source: MECNT

N°	Main direct causes	Main underlying causes
1	Slash-and-burn agriculture	Population growth
2	Artisanal logging	Institutional aspects (political decisions, mismanagement, civil wars)
3	Fuel wood: Charcoal & wood	Infrastructures & Urbanization
4	Mining	Economic aspects : Economic crisis, unemployment, poverty
5	Bushfires	

3. PROPERTY RIGHTS AND MANAGEMENT SYSTEMS FOR FORESTS

3.1 DESCRIPTION OF EXISTING PROPERTY AND USE RIGHTS STRUCTURES FOR FORESTS (TYPES AND AREAS)

In July 2012 the Government launched a major process of reform of the land law and related harmonisation of sectoral legislation; REDD+ is an opportunity to support this process by offering technical solutions to identify and secure rights over the land (customary or national law) in order to catalyse sustainable investment. In the DRC, the land is the exclusive property of the State, but the current juxtaposition of modern and customary land use regimes is a source of conflict and insecurity over land rights. Due to a lack of means the land affairs administration is barely active at the local level and legislation on land rights remains poorly known and applied in the rural environment. In practice the system of distribution of land by traditional chiefs prevails. The long and costly procedure to register concessions, the lack of a rural land register, the superimposition of land titles, the speculation over the land together with conflicts over the rights of use represent major constraints to investment and lead to a non-sustainable exploitation of natural resources, including forest resources

The Forest Code establishes the basic legal framework governing forest user rights in the DRC.

The Forest Code includes a number of significant improvements over the previous legislation inherited from the colonial period, and addressing new socio-economic objectives of the DRC regarding forest management.

3.2 DESCRIPTION OF EXISTING FOREST MANAGEMENT SYSTEMS (TYPES AND AREAS)

The 2002 Forest Code introduced the concept of forest planning ("management") as a prerequisite to any form of use or management in the forest domain. In this sense, the 2002 Forest Code divides the forest domain between (i) "Permanent Production Forests" (forêts de production permanente) for industrial logging, (ii) Gazetted forests (forêts classées), which are protected areas, and (iii) "protected" forests (forêts protégées), which are all forests not included in the two previous categories. In the REDD+ perspective the issue of forest exploitation is mainly a question of law enforcement in a sector where informal activities are overwhelming. In the "protected" forests the issue of control must be complemented by a transfer of management responsibility to local communities as either direct operators or supervisors of artisanal exploitants. The network of gazetted forests needs to be revised in the light of current issues and expanded, particularly through collaborative natural resources management models. Carbon stocks enhancement within forests and through plantations outside the forest is also a key issue for the sector.

3.3 DESCRIPTION OF EXISTING SYSTEMS FOR FOREST PROTECTION (TYPE AND AREAS)

In order to encourage the rational and coherent use of land and resources, including forest resources, the DRC is seeking to develop a national policy on national land use planning with national and provincial land use plans. The lack of such a policy to date has led to multiple conflicts over the use of land and resources. Competition between various sectoral ministries responsible for allocation of land has grown because of the lack of consistency between sectoral legislation (land tenure, mining, forest and agriculture). There is therefore an urgent need to define strategic priorities in terms of use of the land and resources and the spatial orientation of public and private investment.

The Forest Code includes a number of significant improvements over the previous legislation inherited from the colonial period, and addressing new socio-economic objectives of the DRC regarding forest management.

- ♣ It advocates the development of non-extractive forest uses and rewarding environmental services (ecotourism, conservation concessions, and bio-prospecting);
- ♣ It allows community forests are granted in protected forests, but there are no procedures to legally ensure the allocation (until the presidential decree will be adopted in accordance with Article 22);
- ♣ It requires the Minister of the Environment to consult the population before a forest is declared "classified forest" (Art. 15);
- ♣ It also provides that the use rights of local people living in or near the forest are those resulting from local customs and traditions, provided they are not contrary to the law (art. 36);
- ♣ It allows communities to obtain concessions for community management of forests for which they have customary rights pending adoption of an implementing decree (art. 22 and 111);

♣ It provides an obligation for forest management plans, and new social and fiscal responsibilities are placed on the private sector, including mandatory contracts for social responsibility (cf. art. 89);

♣ It also provides 40% of the annual area fee shall be transferred to the provinces and territories, and states that these funds should be used for community infrastructure (art. 122).

4. EXISTING/PLANNED REDD+ ARCHITECTURES

DRC advocates a national approach to REDD, which is to follow the evolution of CO2 emissions related to DD at the national level, to compare the differences with the national reference level and if necessary to receive international funding on basis of the results at the national level. A single national register of carbon will be set up to facilitate the national accounts. DRC is also open to market-based initiatives, nested into the national system.

National REDD+ Fund (with UNDP's MPTF office as interim administrative agent) will centralize REDD+ funding for phase 2 of REDD+.

A decree by the Prime Minister (N°09/41) was signed on November 26, 2009 (see annex 1a for the text of the Decree). The institutional structure presented in the decree is the product of a participative exercise conducted by all stakeholders during the UN-REDD/FCPF1 joint mission in January 2009.

The institutions managing preparation for the REDD process in the DRC established by the decree are namely the following:

A national REDD committee, in charge of decisions and orientations, involving all stake-holders, particularly civil society, and representatives from indigenous and local communities;

An interministerial committee, in charge of planning;

National REDD coordination (already in operation) in charge of coordinating day-by-day activities, and particularly responsible for the implementation of UN-REDD and FCPF;

A scientific consultancy, technical committee of national and international experts, may be created to provide scientific and technical advice on the REDD process.

5. POLICY MEASURES AND PAYMENT SYSTEMS

In order to take an active part in the sustainable development of the country, while effectively tackling the current and future drivers of deforestation and forest degradation, the DRC has defined in a participatory way a set of actions, structured into seven "pillars". In line with the second PRSP as well as with the National Action Plan of the Government, these actions are meant to being integrated into sectorial policies as well as into the cross-cutting national development strategy. The proposed actions will also serve to guide the interventions of DRC's development partners.

6. LOCAL INVOLVEMENT

In order to frame REDD+ investment linked to land use in a suitable way and thus ensure effective and sustainable emission reductions, the DRC is going to define, experiment and implement one or more methodologies designed to identify and involve on the long-term the various managers and users of a given area and its resources, whether these are managers and users have rights under customary or national law.

A preliminary five-step generic methodology is proposed which will have to be adapted to a variety of contexts (forest or non-forest environment, type of investment, type of legal claim, etc.).

- The first step consists of a preliminary identification of the stakeholders in the area of interest, whether they are part of or outside the local community.

- The second step involves the use of participatory mapping to identify customary rights for different land uses, according to the type of environment (also mapped out).

- In the third step, the maps produced will provide the basis for a participatory micro zoning process aiming at defining with the various stakeholders the location of various activities in accordance with REDD+.

- The fifth step is the formalisation of commitments through PES-type contracts, which include a component of support to the investment and a component providing an additional incentive tied to the respect of the land use plan.

DRC wishes to gradually develop a forest community management in order to involve and empower local communities to manage their forest resources 'protected forests'. This program will be implemented through a participatory process involving civil society, local authorities and communities. This program therefore aims to:

i. Identify and define potential areas within the 'zoning' territorial

ii. Support local communities in the establishment of appropriate organizations in the management of these areas

iii. Strengthen the management capacity of these organizations to enable them to manage and develop their areas, including through the creation of income-generating activities

such as sustainable timber extraction, eco-tourism and collecting forest products not - timber.

7. MONITORING SYSTEM

The DRC intends to meet to the requirements of results based payments of the REDD+ mechanism by developing robust and transparent systems allow a strict monitoring of : (i) the implementation of REDD+ activities, (project monitoring & evaluation and information on safeguards); and (ii) forest carbon through a Monitoring, Reporting and Verification (MRV) system.

The National Forest Monitoring System is an institutional tool designed to generate and share statistics and the location of deforestation as well as record forest carbon emissions and absorptions. Already partially up and running, it will gather data from the satellite land monitoring system (TerraCongo), the national forest inventory and the greenhouse gas inventory, and will be linked to the National REDD+ Registry.

The National REDD+ Registry is an institutional tool aiming at centralising and sharing information (encoded by project developers) on the funding flows and implementation of REDD+ (including the generation of carbon credits). It will encourage transparency, monitoring & evaluation and allow the supervision of REDD+ projects and initiatives. It is also be the key tool in the approval procedure for REDD+ projects, as well as other types of REDD+ investment in the future, to ensure the respect of eligibility criteria and social and environmental safeguards.

Moabi is an independent and complementary tool which will allow, through a network of international, national and local partners, whether institutional or from the civil society : (i) the independent monitoring of REDD+ implementation (verification of data from the national REDD+ registry) and illegal activities; and (ii) the collection and consolidation of information on drivers of deforestation.

National REDD+ social and environmental standards in the DRC: To guarantee proper management, monitoring, reporting and evaluation of the implementation of these standards, a Safeguards/standards information system (SIS) is being developed through a Strategic Environmental and social Assessment (SESA).

The National REDD+ Fund and the DRC: Though aware that numerous REDD+ investments will not go through a national financial mechanism, the DRC still considered necessary to establish a National REDD+ Fund. The Fund aims at ensuring a coordinated, optimal and transparent allocation of funding towards priority REDD+ activities. The DRC also intends to use this Fund to develop its capacity to mobilise funding and make performance-based payments, and thus in the long term to have direct access to climate finance (particularly the Green Climate Fund).

APPENDIX B3

INDONESIA

By Chandra Kirana, Indonesia REDD+ Task Force

1. INTRODUCTION

In 2009, the President of Indonesia, Susilo Bambang Yodhoyono, committed the nation voluntarily to reduce greenhouse-gas emissions by 26% through a business-as-usual scenario, or up to 41% with international support. This would be achieved while maintaining a healthy annual economic-growth rate of 7%. Indonesia's forests and peat-lands constitute 87% of this proposed emission reduction scenario. Then, in 2010, the governments of Norway and Indonesia formed a partnership to create a national REDD+ infrastructure and capacity. This, the first phase of the partnership, involves the establishment of a REDD+ Agency, a Funding Instrument and a MRV Institute. A REDD+ Task Force was set-up to carry-out this task under Presidential Decree 25/2011 and 3/2013.

For Indonesia, REDD+ refers to all land-based development. It includes the management of ecosystems, the sustainability of natural resources, and the eradication of poverty while ensuring that the social and economic national targets are met. Considering the country's recent history and past development priorities, to achieve the REDD+ objectives, it has been necessary for Indonesia to embark on a paradigm shift - from an extractive to a sustainable approach to forest and land management.

Indonesia's economic development has depended largely on forest and land-based extractive industries, such as logging, mining, oil and gas and vast palm oil and pulp and paper plantations. This has played a major role in the economic growth of the nation. However, it has resulted also in serious environmental externalities such as biodiversity loss, peat land and forests fires, and inordinate carbon emissions; as well as an untenable impact on the up to 48 million people who live in and around, and depend upon, forests.

In this respect, the REDD+ Task Force has been required to prepare, and often lead, the implementation of the significant move towards a more sustainable national approach to economic development. While its work is supported by growing global concern for the shared future of our planet, the required national shift in paradigm - both operational and psychological - has, unsurprisingly, been met with some resistance and confusion. Overall, however, REDD+ is seen as an opportunity for Indonesia to achieve its 7/26[13] objective and serve as a catalyst towards improved sustainable development practices and poverty reduction.

The process of preparing a nation, its people, and its caretakers for change is multi-faceted. Building a REDD+ infrastructure, its mechanisms, and an operational capacity is one part of the story behind preparing for significant change to the national approach to economic development. The intricacies of evolving a developing country into a low-carbon green

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[13]   The expression 7/26 refers to 26% reduction of emissions while maintaining 7% economic growth which has become a national saying within certain circles.

economy are far more complex. The availability of accurate data is scarce, the political landscape diverse, and the provision of public services extremely limited. These circumstances are further compounded by an overzealous regulatory system that lacks the ability of certainty and, particularly, enforcement.

Despite these challenges, the REDD+ Task Force is nearing the completion of its current mandate and the President is expected to sign the decree for the establishment of the REDD+ Agency by June 2013. The draft Presidential Decree to establish the REDD+ Agency was developed following various consultations with communities and other stakeholders at a national, provincial and local level, and based upon the principles and proposals contained within the REDD+ National Strategy. The Coordinating Ministry for Political Affairs was appointed to lead an interdepartmental panel to refine the (draft) regulation following its submission to the President in late 2012.[14] In addition to these preparations, the Task Force has accomplished the following:

- Development of a REDD+ National Strategy and action plan through extensive multi-stakeholder consultation and, at a sub-national level, nearly all of the 11 priority provinces have completed a REDD+ Provincial Strategy and Action Plan (PSAP) with a focus on mainstreaming REDD+ into the national and provincial development agenda;

- Agreement on, and legal basis for, the structure and operations of REDD+ Funding Instrument (FREDDI) through multi-stakeholder consultation; its implementation awaits the establishment of the REDD+ Agency;

- Finalisation of a methodology for the structure and standard operating procedures (SOPs) of the MRV institute including a draft regulation for its operations and, while international standards and an international/national REDD+ registry remains in development, the institute is ready for mobilisation following the establishment of the REDD+ Agency; and

- Successful implementation of a wide range of projects by the REDD+ Task Force in the pilot province Central Kalimantan and, with the assistance of ministries and organisations, nearly 50 demonstration activities in other priority provinces, all with a focus on developing an operational capacity and an enabling environment for future REDD+ projects.

These broad achievements have prepared a basic infrastructure and capacity for a future REDD+ national programme that will help address the country's immediate concerns regarding carbon-emission reduction and the national long-term goals associated with sustainable-economic development and poverty reduction.

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[14] Discussion here has focused on a number of quite technical matters such as how to ensure that the Head of the Agency, as a ministerial-level appointment, is actually able to exercise appropriate powers and authorities to undertake the expanse of tasks outlined for the Agency. Related to this has been specifying precisely what those tasks will be and how they will relate to existing agencies. This has included detailed technical discussions for example with the Finance Ministry on verifying how the proposed REDD+ Agency will connect with state budgetary processes and demonstrating how the REDD+ Funding Instrument (Trust Fund) will operate in full accord with national regulations that already exist on managing Trust Funds. While these discussions are detailed, there is a strong view that it is better to resolve any potential and unexpected stumbling blocks initially than trying to force the pace at first only to find the proposed system unworkable and having to be overhauled in practice later.

2. FOREST STATUS

2.1 TYPE AND SIZE OF FORESTS IN THE COUNTRY

While Indonesia is endowed with some of the largest remaining tracts of forests in the world which include lowland, montane and seasonal forests, determining figures concerning forests has proven complex and reconciling the data from different government agencies and ministries have proven to be a long and difficult process.

2010 MoF data estimates Indonesia's land mass at 186,670 million hectares. 98,559 ha of this is covered by forest, and 89, 559 ha is not covered by forest.

Indonesia's Basic Forestry Law designates 133, 694, 685.18 million ha which constitute approximately 70% of Indonesia's land mass as state forest area (*kawasan hutan negara)* which is under the purview of the Ministry of Forestry (MoF); this designated area must be gazetted and established as state forest areas. However, it is estimated that only 14.24 million ha or 12% of the designated state forest area has been gazetted and fully established as state forest areas (Republic of Indonesia, 2012). As of 2010, MoF data revealed that 91,098 million ha of designated state forest area is covered by forests and another 42,365 million ha of state forest land is devoid of forest cover.

54.157 million hectares of Indonesia's land mass is legally designated for other use (*Areal Penggunaan Lain*). Out of this, in 2010, MoF data shows that 7,461 million hectares was covered by forests, 46,666 million hectares was not forested, and data did not exist for 26,600 hectares.

2.2 DEFORESTATION AND FOREST DEGRADATION STATUS AND TRENDS

According to the MoF Regulation P.30/Menhut-II/2009 on Procedures for Reducing Emissions from Deforestation and Forest Degradation, deforestation is defined as permanent change from a forested to a non-forested condition due to human activity (Article 1.10); furthermore, degradation is defined as a reduction in the density of forest cover and carbon stock over a certain period of time caused by human activity (Article 1.11).

2.3 DESCRIPTION OF THE MAIN UNDERLYING DRIVERS OF CHANGE

A ravenous international demand for Indonesian timber, palm oil, mineral and metal resources on the one hand and an extractive natural-resource economic development paradigm on the other;

Decentralisation characterised with low governance capacity in the administration of land rights and licensing systems within state forests areas as well as in non-state forest areas, combined with a largely ineffective law enforcement system;

Lack of agreement pertaining to the boundaries of state-forest areas and non-state forest areas among ministries, provincial and district governments, and local or indigenous peoples, resulting in overlapping claims over land; and

Rent seeking, corruption and as a result systemic poverty.

3. PROPERTY RIGHTS AND MANAGEMENT SYSTEMS FOR FORESTS

Due to the lack of gazettement of the vast state-forest lands under its purview, the MoF continues to allocate land into different economic-development oriented land use categories and policy objectives; such as for timber production and conversion of the forests into plantation or mining areas, and in the process often alienating and impoverishing local communities. There are an estimated 48 million people living in or around forest areas in Indonesia. These communities continue to organise their lives according a distinct set of cultural norms and social systems, in association with a particular customary territory and practice specific natural resource management practices (IWGIA, 2012). In the Indonesian legal system these communities are referred to as *adat* or customary communities.

The Basic Forestry Law (41/1999), recognises customary land rights, allowing customary communities to manage and use customary forest 'as long as they are evidently in place and their presence is acknowledged' (Article 67). In other words, *adat* people are able to obtain rights to use and manage customary land or forest if the state acknowledges their existence. Furthermore, the Basic Agrarian Law (5/1960) states that existing customary land rights (*hak ulayat*) cannot be acknowledged as 'land controlled directly by the State' (Evers 1995: 5). This is further emphasised in regulation 5/1999 which provides guidelines on customary land rights. Finally, Indonesia has ratified the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP); and the national human rights law (39/1999) as well as the Spatial Planning law (26/2007) which all recognise the rights of *adat* communities living in or around forests (Steni, 2010).

3.1 DESCRIPTION OF EXISTING PROPERTY AND USE RIGHTS STRUCTURES FOR FORESTS

Indonesia, uses two parallel systems to document land rights and licenses, one for land rights and licenses inside the state-forest area (the Ministry of Forestry's Forest Resource Information System, FRIS), and another for rights and licenses outside the state forest area (administered by the National Lands Agency, BPN).

The Ministry of Forestry system records all use licenses (logging concessions, ecosystem restoration concessions, community forestry licenses etc.) issued within the *kawasan hutan* or state forest areas. There are 56 types of licenses, 14 of which are available on the Ministry of Forestry website once a final licence is granted. The data on final licenses to operate within the *kawasan hutan* is compiled centrally in the MoF planning open-access land information system and is generally consistent with data on final licenses held by District and Provincial forestry authorities. Differences in information may however exist, due to delays in updating information, for example, where a concessionaire has ceased to operate but still holds the licence, or where the licence has been cancelled by the central ministry.

The BPN system covers all other land rights licensing including management rights (*hak pengelolaan*) and business use rights (*hak pakai* and *hak guna usaha*) which includes allocation of land for plantations and agricultural development. BPN also compiles data on mining licenses issued by local authorities. The BPN system records final rights and licenses (HGU for plantations, IUP for mining). The BPN system is not centralised. Provinces or districts may issue licenses and hold data of which there is no record held at central ministries.

Conversely, some large land investments may require only political approval from the district head, and all subsequent stages of their licensing process is carried out at the national level (through the Investment Coordination Board, BKPM). There is no obligation for the central BPN to share information with the regions, and so licence holders may exist in a district about which the technical agency (plantations or agriculture, for example) has no knowledge. Sharing of data is constrained because BPN does not have an open and integrated land information system that the Ministry of Forestry has, and only issues data on land rights (HGU) in the case of a legal case or dispute. Herein lays the crux of many land tenure conflicts in forest and peat land areas.

The boundary of authority of the MoF and BPN in relation to the issuance of land-use rights and licenses is defined by the state-forest area. However, the fact that the MoF has only gazetted some 12% of Indonesia's state forest area, combined with the devolution of land use planning and issuance of licenses for smaller scale plantations and mining concessions following Indonesia's rapid decentralisation, has left 88% of more than 133 million ha of state forest area, subject to multiple interpretation between the MoF and provincial and district governments concerning the size of state forest areas within districts.

While provincial and district spatial plans are subject to approval by the National Spatial Planning Coordination Agency (BKPRN) and they Ministry of Public Works, the MoF has the authority to veto these spatial plans if they contravene the MoF's official map of the state-forest area. Resolving different interpretations concerning the boundaries and size of state forests lands with provincial and district governments has proven often to be a long drawn-out political process, where an inability to achieve clarity and agreement is often the case. When this happens provinces and districts are left with spatial plans that are not 'legal' on the one hand, and an official MoF map of state forests areas that is not recognised as 'legitimate' by local government decision makers.

Both the MoF and BPN systems do not document the land-rights registration of *adat* or customary communal land rights and management systems. This, 'invisibility' often renders *adat* communities being considered as conducting illegal logging and farming within state forest areas. Or worse, within state forests areas that have been allocated for industrial production and licensed to logging, plantation or mining concessions, inducing an increasing level of tenure conflicts in rural Indonesia (IWGA, 2012).

3.2. DESCRIPTION OF EXISTING FOREST MANAGEMENT SYSTEMS (TYPES AND AREAS)

The Indonesian Forestry law divides areas according to their functions:

Production forest - forests with the primary function of producing forest products. These forests are divided into *permanent production forests*, where the whole area is allocated to the production of forest products, *limited production forests* in which only parts of the forest area is allocated to the production of forest products, and *convertible production forests* which is reserved for other land uses;

Protection forests - forests with the primary function of protecting life support systems to regulate water, prevent flooding, control erosion, maintain soil fertility, and so forth; and

Conservation forests - forests with the primary function of conserving biodiversity and their specific ecosystems.

Table 1: Comparison of forest area by type, 2005 and 2008

Forest type	2005 (million ha)	2008 (million ha)
Conservation forest	20,080	19,908
Protection forest	31,782	31,604
Limited production forest	21,717	22,502
Permanent production forest	35,813	36,649
Convertible production forest	14,057	22,795
Designated function	0,007	0,233
Total	**123,459**	**133,694**

Source: MoF (2006, 2009a), CIFOR.

4. PLANNED REDD+ ARCHITECTURES

The underlying structure of the REDD+ infrastructure and capacity is based on the REDD+ National Strategy - a document that initially was developed by the MoF in collaboration with the National Planning Agency (Bappenas). This document, following extensive public and government consultation, was finalised by the REDD+ Task Force in 2012. Apart from outlining the basic architecture of REDD+ in Indonesia, which comprises the formation of "institutions and process", the approach to REDD+ implementation adopted in the strategy is both comprehensive and multi-faceted as illustrated in the following diagram.

Diagram 1: The five pillars of the REDD+ National Strategy in Indonesia
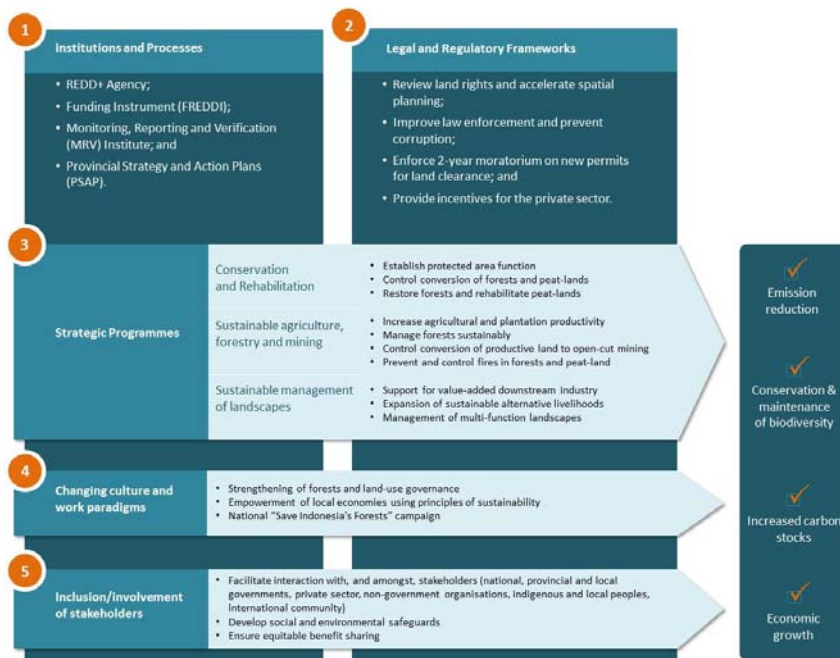
4.1 FUNDING INSTRUMENT (FREDDI)

The REDD+ Agency will set out the strategic direction for FREDDI, and define the scope and boundaries of activities to be funded and the corresponding annual budget allocations. It will establish environmental, social and financial safeguard principles, set eligibility criteria for executing agencies and accredited partner agencies. FREDDI will be a fund that is solely owned and controlled by the REDD+ Agency although it operations will be independent of the agency. After having successfully developed the FREDDI concept note in 2012, the REDD+ Task Force is now in the final phase of preparing its institutional arrangements and instruments. As well, to improve the effectiveness of REDD+ implementation, the Task Force is finalising the development of the REDD+ Registry and Safeguard Information System – on-line tools that will ensure transparency, consistency and credibility of REDD+ activities.

4.2 MEASURING, REPORTING AND VERIFICATION (MRV)

The MRV agency will be responsible for managing an independent institution to monitor, report and verify anthropogenic forest and peat related greenhouse gas emissions from various sources including from removal of sinks, forest carbon stocks and natural forest area changes. The MRV will incorporate a nested approach to Reference Emissions Level (REL) calculations. Completing baseline and geospatial data for the purpose of MRV analysis is currently in process. For the Central Kalimantan pilot province comprehensive data has been compiled, while it is being completed in four other priority provinces. The remaining six priority provinces remain in the planning stage.

4.3 PROVINCIAL STRATEGIES AND ACTION PLANS

Working closely with eleven partner provinces, the Task Force has supported the design of eleven respective Provincial Strategic Action Plans (PSAPs) which will guide the design and implementation of future REDD+ initiatives. To date, 6 PSAPs have been developed in Central Kalimantan, West Sumatera, Riau, Jambi, West Papua and East Kalimantan. In addition, to ensure the legitimacy and awareness of the REDD+ Strategy, the project has enhanced the capacity of local governments in Aceh, South Sumatera, Jambi, East Sumatera and Central Kalimantan to mainstream REDD+ into subnational planning documents.

5. POLICY MEASURES AND PAYMENT SYSTEMS

5.1 MORATORIUM

To provide the space and time to improve governance for green, a socially equitable and economically robust land and forest governance regime, a Presidential Instruction was issued for a two year moratorium on the issuance of new licenses on peat-land and all primary forests within state forest lands. The geospatial basis for this moratorium was an Indicative Moratorium Map developed by the MoF. This Moratorium Indicative Map was renewed every six months, with input from other ministries and government agencies, the private sector and the public. In the course of the two-year implementation, clear elements and actions were been identified including leading agencies to keep the movement going; architecture of the database and public interface; and range of conflicting issues on the ground.

5.2 ONE MAP

Building on the experience of producing the Moratorium Indicative Map, a One Map movement as a comprehensive approach towards better governance has been identified as a strategic step. The One Map will become a basic pre-requisite for an integrated, transparent and accountable land rights and licencing system(s), and in the future will be the basic reference in determining wall to wall forest cover within the boundaries of Indonesia's land mass. It will assist in the allocation of clear rights and responsibilities over land and forests to all relevant stakeholders, and thus enabling a coherent MRV system all the way down to the field level, by enabling the synchronisation of government spatial and development plans.

5.3 LAND AND FOREST GOVERNANCE AND LAW ENFORCEMENT

License reviews and law enforcement, to inform the development of an Information Management System, which will constitute the basis of an integrated on-line licensing system, to prevent tenure conflict, corruption, and provide the ability to ensure enforcement of sustainable land and forest management regulations on the ground. Currently the REDD+ Task Force is carrying out a review of licenses issued in peat lands and state forest areas in Central Kalimantan, East Kalimantan and Jambi. This review will include research on the policy and legal framework that needs to be improved in order for an integrated on-line licensing process.

5.4 PAYMENT SYSTEMS

The REDD+ Funding Instrument, FREDDI, has designed a strategic set of funding windows in order to optimise the long-terms development of REDD+ and other sustainable development programmes. These windows are illustrated in the following diagram.

Diagram 2: Pipeline Development - Phases and Windows
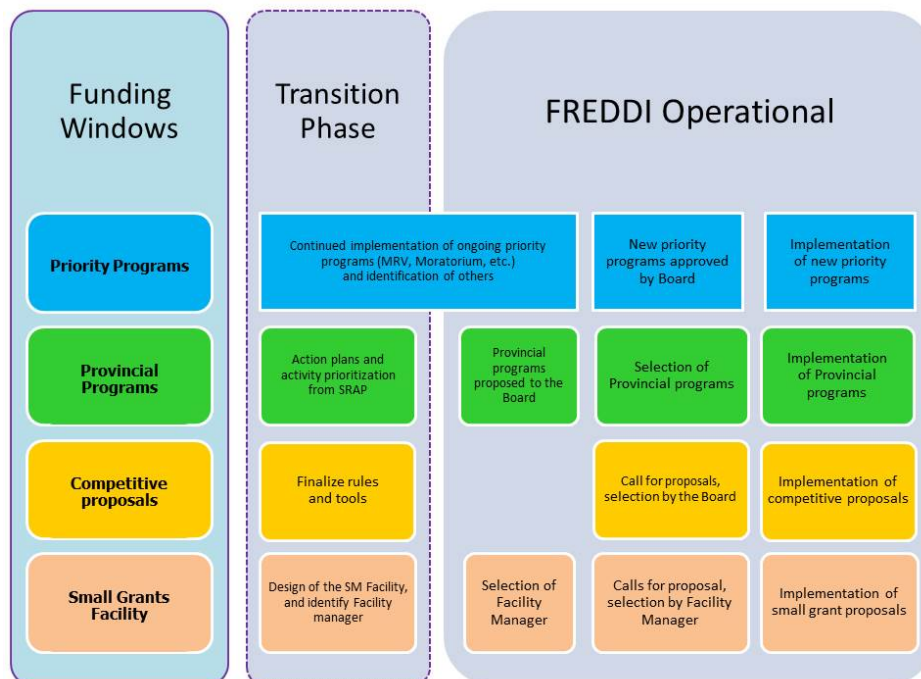
5.5 SOCIAL, ENVIRONMENTAL AND FIDUCIARY SAFEGUARDS

The REDD+ Task Force through a participatory process has developed PRISAI which stands for *Prinsip Kriteria Indikator Safeguard Indonesia* (PRISAI) or the principle, criteria and indicators for Indonesian safeguards. The first draft of safeguards was developed with consideration to international agreements, national laws and regulations, relevant existing MDB safeguards and the various voluntary standards recognised by carbon markets. This resulted in PRISAI version 1.1 which was then tried out in various REDD+ projects being implemented by different proponents.

The fiduciary safeguards included: 1) Internal and external financial risks assessments; 2) Standard Operating Procedures in line with recognized financial standards; 3) Independent financial audits by external Certified Public Accountants; 4) Mechanisms to safeguard against financial intervention contrary to the SOP; 5) Anti-corruption principle: payments are only made on the basis of real measurable outputs; and 6) Competitive, transparent and open procurement processes.

6. COMMUNITIES IN REDD+

The first REDD+ Pilot Province, Central Kalimantan has provided the government with insights into the operational capacity to implement REDD+ activities at the Provincial and District government level, to ensure communities can be involved as direct proponents of REDD+ projects, and are also empowered to participate in benefiting from REDD+ projects that belong to corporations or are being implemented in conservation areas or protected forest. Support for local governments will need to include: 1) operational capacity development; and 2) a specific trialling of REDD+ activities. The operational-capacity development stage focuses on stakeholder engagement with local, district and provincial governments and civil society organisations; to enable the implementation of alternative and sustainable livelihoods; and provided the opportunity for communities to be trained in environmental management.

From a funding perspective the Central Kalimantan experience provided insights into managing calls for proposals for community level REDD+ projects, running a multi-stakeholder selection process in a transparent manner, ensuring safeguards and FPIC principles are upheld, checking that projects are feasible in terms of operational and substantial capacity, delivering funding to projects according to the budget schedule and risk level (riskier projects may be provided with smaller and more frequent tranches), and monitoring projects for progress.

APPENDIX B4

NEPAL

By Resham Dangi, Nepal Ministry of Forestry

1. BACKGROUND

Almost nine important eco-regions, 35 Forest types and 118 ecosystems are documented in Nepal (MoFSC, 2009). Government of Nepal (GoN) has committed to extend forest cover to 40 percent land mass of the country. According to last National Forest Inventory (NFI), forest area is estimated about 5.8 Million ha, of which about 4.2 million hectare is forest and rest 1.6 million ha is scrubland (DFRS, 1999).

Almost two-thirds of the population of Nepal is in rural area where farming is basic means of living. The farming system is still dominated by low level of technical inputs- such as fertilizers, pesticides, improved variety seeds etc. Livestock resource is vital component of farming system to provide power, farm manure, food security and income. The farm productivity therefore depends upon the access to forests for wood and forage biomass. More than two-third population of Nepal still relies on forest to meet demand for household energy. The food consumption has increased along with the growth of remittance income. This has been reflected in the food price index. Low land area which is considered as food basket of the country is also recognized for very lush productive Forests. Therefore, these forests are under extreme threat of deforestation for extension of crop land.

Nepal is recognized as one of the most vulnerable nation to Climate change impacts. Ministry of Science, Technology and Environment has prepared National Adaptation Program of Action (NAPA) and Local Adaptation Plan of Action (LAPA) framework to implement adaptation activities at national and local levels respectively. Similarly, Ministry of Forests and Soil Conservation has also prepared Readiness Preparation Proposal (R-PP) to implement REDD+ activities. Nepal's R-PP envisions there is no clear demarcation between mitigation and adaptation actions in forestry rather both complement each other.

The REDD+ readiness process started with the preparation and submission of the Readiness Plan Idea Note (R-PIN) in 2008. Nepal started preparation of R-PP in 2009 with financial support from Forest Carbon Partnership Facility (FCPF) of the World Bank. The R-PP document was submitted to FCPF in April 2010 and was approved in June, 2010. Nepal signed grant agreement with the World Bank on 31st March 2011 to receive grant of $ 3.4 million for R-PP implementation. Out of total projected cost for R-PP implementation ($7.8 M), FCPF will cover about 45 %, bilateral donors will cover 50% and rest will be covered by Government of Nepal (GoN).

To facilitate R-PP implementation, a three tier institutional setup as shown in Figure-1 has been established under the MoFSC viz. Apex body, REDD Working group, and REDD Cell. The Apex body is the highest body formed under the chair of Hon Minister for Forests and Soil Conservation (MoFSC) and consists of members from the National Planning Commission (NPC), Ministry of Environment (MoE), Ministry of Agriculture and Cooperatives (MoAC), Ministry of Science Technology and Environment (MoSTE), Ministry

of Irrigation (MoI), Ministry of Finance (MoF), Ministry of Land Reform and Management (MoLRM), Ministry of Tourism and Civil Aviation (MoTCA), Ministry of Commerce and Industries (MoCI), Ministry of Federal Affairs and Local Development (MoFALD) and Ministry of Physical Planning and Works (MoPPW). The main role of this body is to provide inter-ministerial coordination and cooperation for the implementation of REDD activities.

Figure 1: Institutional arrangement for REDD readiness at National level

(⟶ = Formal linkage; ▪▪▪▪▶ = Informal linkages)
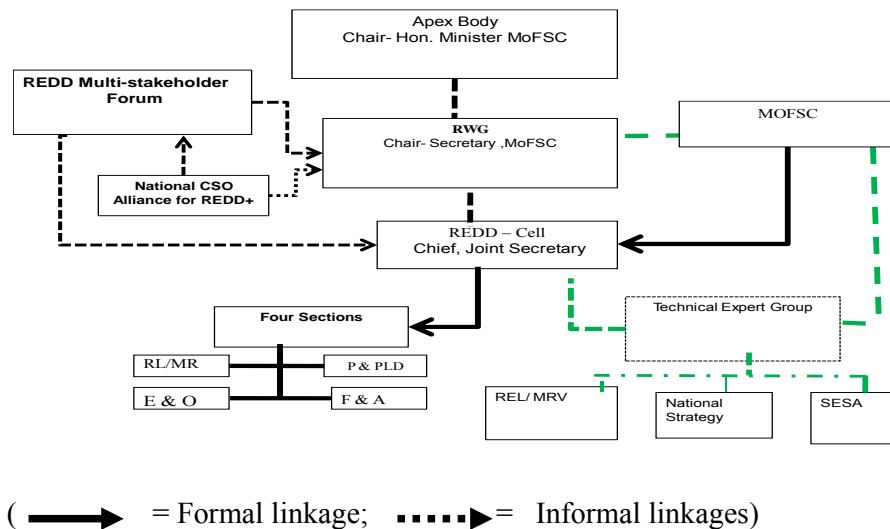
The second tier is referred as REDD Working Group (RWG). The RWG is chaired by Secretary for MoFSC and it is comprised of members representing Director General(DG) of Department of Forests (DoF), DG of Department of National Parks (DNPWC), DG of Department of Forest Resources and Survey (DFRS); and representatives from MoAC, MoFALD, MoSTE, Civil society organization (CSO), and donors. The main role of this entity is to guide over all R-PP implementation.

The REDD Cell is established to manage overall REDD+ implementation and perform as a national focal point. This cell is responsible to implement R-PP and share learning with donors as well as global community. This Cell is managing FCPF fund and coordinating various REDD+ initiatives in Nepal. Three technical committees are formed to provide technical support to REDD Cell in establishing REL, developing National REDD strategy and MRV system.

A separate multi-stakeholder forum is established as a loose forum to make process inclusive and transparent. There has been another loose forum referred as national CSO Alliance for REDD that includes wide range of stakeholders to discuss on various issues and challenges in REDD implementation in Nepal. Feedbacks from this forum are fed to RWG and REDD Cell either directly or through multi-stakeholder forum for necessary action.
REDD+ is a new but fast evolving market based mechanism that demands adequate level of capacity and confidence at national and local level. Nepal has piloted REDD+ activities at various levels in partnership with local NGOs and CBOs. Experience gained from these piloting has been very encouraging to understand the potential issues, challenges and risks in REDD implementation. It has also been very instrumental to generate knowledge and

confidence at local and national level to design and develop sub-national REDD+ project proposal. It has been acknowledged that such demonstration activities are important and needs to be scaled-up at different scale and space to enhance the capacity of managers of forests and to convince policy makers to participate in the REDD+ process.

A general picture of REDD+ piloting in Nepal is given in Table-1. This table demonstrates that the pilot activities have been focused on three important aspects of the REDD+ readiness process- local capacity building, preparation of forest carbon baseline, and benefit sharing mechanisms. However, most of the REDD+ Piloting have targeted in community forests so other forest regimes including forests and local community beyond the boundary of forest user groups have not been covered yet.

Table 1: Status of REDD+ Piloting in Nepal

SN	Involved Agency	Project area	Achievements	Role in policy process
1	WWF Nepal in collaboration with WINROCK International, Friends of Nature	Terai Arc landscape (TAL) and Sacred Himalayan Landscape (SHL)	standard methods for forest carbon measurement has been developed	- Carbon stock monitoring system; - Baseline for establishing RL/REL in TAL;
2	ICIMOD, FECOFUN, ANSAB	3 watersheds at Chitwan, Gorkha and Dolakha Districts	Forest Carbon Fund, and local forest monitoring system has been established	-Carbon Trust Fund and transparent benefit sharing mechanism; -Participatory carbon monitoring system;
3	REDD Cell, BISEP-ST, SNV	CFM, Mahottari District	REDD awareness improved in Terai community	Identification of Drivers
4	Rupantaran Nepal, FUGs' network	2 VDCs each in 3 Districts	Community based adaptation plans are prepared	Detail information not available
5	RECOFTC partner-ship with FECOFUN and HIMAWANTI Nepal	16 Districts	Training material developed for local capacity building	- Widely adopted for awareness training by GoN and NGO in REDD+
6	NEFIN partnership with international organizations (AIPP, TEBTEBBA, IWGIA)	Awareness in 68 project Districts and piloting in Lamjung	Local level capacity building networks have been established in target area	Awareness raising (?)

2. STATUS OF FORESTS AND CARBON STOCKS

According to the last National Forest Inventory (1999), area occupied by the forested land (above 10 percent crown cover) is estimated about 29 percent of the total land mass. The Forests and shrubs cover 4.2 and 1.6 million ha area respectively; and both constitute 39.6

percent of the total land mass of Nepal (DFRS, 1999). The Government of Nepal (GoN) has committed to extend forest cover to 40 percent of total land mass of the country.

According to NFI report only 52 % forests are accessible in the country. The total biomass (air dry) including stem, branches and leaves is estimated around 429 million Tons. National mean stem volume (over bark) is estimated around 178 m^3/ha, the mean stem volume up to 10 cm top is 131 cubic meter/ha and the average number of stems per hectare is 408 (DFRS, 1999).

In terms of distribution of volume, the high mountain has the highest mean stem volume (155 m^3 /ha) and mid-mountain has the lowest (59 m^3 /ha).The high mountain region comprises 30 per cent of total forest area and have about 43 per cent of total growing stock while the Tarai has simply 8 percent forested area accounting almost nine percent of the total standing timber (MPFS, 1988,). It is obvious that the average growing stock of forests is different in different physiographic regions.

Pilot study on carbon stock baseline from the western Terai of Nepal shows that the estimated average forest carbon stock is about 231 MTha^{-1}. The carbon stocked in trees above ground, below ground and Soil Organic Carbon (SOC) has been estimated about 68, 18, and 143 MTha^{-1} respectively (Gurung, 2009). It indicates that the stake of SOC is almost 60 percent of the total forest carbon stocks in Terai forests. Forest Resource Assessment with financial support from Government of Finland is in progress. The final report is expected to provide forest carbon density maps for different Physiographic Regions of Nepal by early 2014.

3. DRIVERS OF CHANGE IN FORESTS

Last NFI data released in1999 concludes that there has been net forest area loss compared to the findings of Land Resource Mapping Project in 1978. Comparison of these two reports clearly shows that there has been net gain of shrub area by almost 5.57% per year. However, the forest cover loss is not linear. It was found that forest cover loss in the Hills was 2.3 % compared to Terai where it was found around 1.3 % (Acharya et.al, 2009). However, the deforestation rate has been noticed different in different physiographic regions.

The analytical study commissioned by REDD Cell to assess land use, forest policy and governance has identified high consumption (demand) of forest products mainly Fuel-wood and timber for both subsistence and commercial use are the major drivers of deforestation and degradation in Nepal. This study has identified nine direct and underlying drivers which has been included in R-PP document (GoN, 2010). However, two regional workshop findings (held in Nepalganj and Biratnagar) indicate that the sensitivity of drivers is not same across the country. This workshop suggested that the impact of drivers alone or in association with other drivers is different in extent and speed in different physiographic regions.

It has been observed that the drivers of deforestation and degradation of forests are very context and site specific and do behave differently in different physiographic regions. There are three basic reasons behind it. First, the local demands of forest resources are influenced by farming practices, local economy, local market, local environment, socio-cultural practices and tenure rights. Second, the influence of market force is different in different Physiographic Regions based on the available road access, power grids, forest industries and risk of trans-boundary leakages. Third, the under lying drivers are different due to degree of difference in

exposure to socio- political and economic forces, monitoring capacity, informal institutions and so forth. Because of those factors different regions are facing different drivers of deforestation and degradation in different speed and extent.

Figure 2: Trend of Forest transitions in different physiographic regions of Nepal.
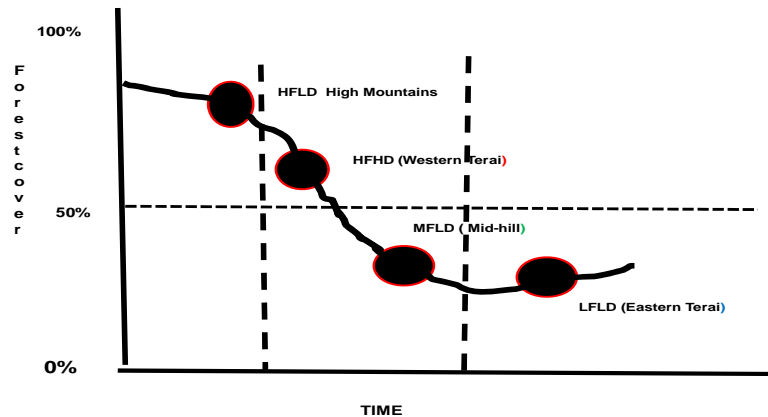
As indicated in Figure-2 forests in high mountain area are intact and less impacted by human pressure for collection of consumptive goods. Low population pressure and steep mountain slopes have limited scope for conversion of forests to other land use systems in general and in particular to farming. Many Protected Area Systems are well established in the high mountain area where forests have been maintained intact. As indicated in the figure these forest landscape are classified under High Forest Low Deforestation (HFLD) category.

The forest cover in Western Terai Landscape is comparatively rich compared to the eastern Terai Forests. These forests remained hinter land for long time until national high way and rural access roads exposed it to market force in recent decades. The mountain Districts (including high mountains, mid-hills and Siwalik) of this region are also known as most poverty stricken area of the country. These Districts are also most vulnerable for food security and natural disasters. Therefore, domestic as well as international migration is extensive in those mountain Districts. Consequently, forest encroachment is serious issue in productive western Terai landscape for rehabilitation of natural disaster victims as well as farm land extension for food security. Beside that free grazing, high dependence on wood fuel, illegal logging, repeated forest fire, increasing demand for construction timber, trans-boundary leakages, weak forest law enforcement and high political interference also contribute in forest loss. Therefore this landscape is categorized as High Forest and High Deforestation (HFHD) zone in the forest transition curve.

The mid-hill is known for high density of population as well as community forests. Conversion of forests to agricultural land and over exploitation of forests for wood fuel was major drivers of forest land use change in this region in early seventies. Forest destruction was so rampant that it was then echoed that if corrective measures are not adopted promptly then hills could be deserted in future. To address this concern Government of Nepal changed Forest law to handover forests to the local communities. Handing over of forests to local communities with well-defined tenure system was very instrumental in halting forest destruction by adopting self-regulating mechanism.

This became very successful model for forest conservation in the mid-hills due to local ownership and highly flexible system which was based on indigenous knowledge systems and practice. Its success story later became role model for participatory Natural Resource development model for Nepal and elsewhere. Various empirical study on temporal change in forest landscape in mid-hills indicate that rate of deforestation and degradation has been substantially decreased and forests have tended to move towards net gain in forest cover as well as in growing stocks. Therefore mid-hill forests are categorized as Medium Forests and Low Deforestation (MFLD) zone in the given transition curve.

The Eastern Terai Landscape is better developed compared to other Terai landscape due to advantage of good road network, better power supply, well established industrial corridors, and well developed market infrastructure. Due to those opportunities there has been high rate of internal migration. Remittance income Growth has increased the consumption of construction timber and furniture products. Market demand for wood product has also increased. Private sector has responded the market signal by adopting extensive farm forestry practice in private and public land. Initial report of Forest Resource Assessment (FRA) project shared recently also indicates that there has been net increase of area under the trees outside the forests (ToF) category. Therefore, Eastern Terai forest landscape has been characterized as a Low Forests Low Deforestation (LFLD) zone in the transition curve.

From above discussion it is important to understand the fact that the drivers may not behave linearly in different physical and biological environment. Consequently, the recommended actions to suppress them would not be same everywhere. If a particular driver is very dynamic and multi-dimensional in nature then such driver should be isolated first before taking action to suppress it. If it is active only if another driver is supportive then strategy should be taken to attack first to the vehicle drivers. Therefore, there is no one-size fit all solution to treat the drivers. The solution should be explored based on the local context.

4. FOREST TENURE SYSTEM

Forest Act of Nepal classifies forests in to two broad categories; viz. National Forests and Private Forests. All kind of forests that are not growing in the Private Lands are referred to as National Forests. These forests are regulated by Department of Forests (DoF). The forests declared as protected area System (PAs) fall under the jurisdiction of DNPWC. Both Departments are administered by MoFSC.

Based on the management responsibility and usufruct rights National Forests are further classified in to six forest management regimes- Community Forests, leasehold Forests, Religious Forests, Collaborative forests, State managed forests and protect forests. The Community forest represents most devolved management regime whereas protected forest is a centrally regulated forest regime. Between these two extreme governance systems other regimes do fall under. In community forests local communities have clear tenure rights on the forest products as a resource stewards but land ownership remains to state. The collaborative and religious forests have limited tenure rights.

The state managed forests are basically regulated by state agency with undefined access and use rights for the local community. The Protected Forests are those forests which have strict protection objectives for scientific and environmental interests; so there is very restrictive access and use rights for local community in these forests. The detail information about forest

regime is given in Table-2.It is obvious that almost two-third of total forest land is still under the control of State authority. The second largest forest regime is community Forests that occupies almost one third of total National Forest land. Other forest regimes are not very significant.

Table 3. Area covered by Different Forest Management Regimes (Source: DoF, April 2013)

S.No.	Management Regime	Numbers	Area (ha.)	Benefited HHs	Remarks
1	Community Forests	17810	1665419.0	2194545	29 % of total Forests
2	Collaborative Forests	19	54072.0	476732	0.9% " " "
3	Leasehold Forests	6737	39363.75	63030	0.8% " " "
4	Protected Forests	6	133324.92	124070	2.3%" " "
5	Religious Forests	......	543.14		Not significant

5. EXISTING FOREST MANAGEMENT SYSTEMS

Evolution of technical Forest Management planning in Nepal roots back to early twentieth with technical support from British foresters. In early forties working Plan Office was established for sustainable supply of timber for rail way slipper to India. This was the first initiatives in technical management of forests but it covered a small block of accessible forests along the Indian border. There was no separate state forest authority till late fifties. Due to lack of well-established formal institutions and trained manpower, technical forest management was not really in practice till late seventies.

In late eighties the World Bank funded Terai Community forestry project piloted scientific forest management operation in one of the Terai Districts, but this project was suspended in the middle and failed to complete its full life cycle. Scientific forest management initiatives have been reintroduced recently in two Western Districts but detail results are yet to be received. MoFSC is planning to scale-up the scientific forest management activities in other six Terai districts.

Since promulgation of Forest Act 1993, it is mandatory for District Forest Offices to prepare a forest management plan to harvest and implement development activities in the forests. This is the main document that authorizes DFO to implement activities at management level. This plan is valid for five years. Besides harvesting, this plan also provides information about the future development plan. Since it is a public document it has contributed in improving transparency in the process and has improved governance system. However, these plans are claimed to be technically weak in prescribing appropriate silviculture systems and yield regulation. Therefore, implementation of these plans has failed to demonstrate positive result in forest productivity enhancement over time.

The most common silviculture system adopted in state managed forests in Nepal is selection system. There has been scope for other systems as well but seldom adopted due to weak technical capacity, inadequate investment and various administrative hurdles. Thinning as a management intervention hardly ever implemented except in few scientific forest management demonstration plots. Therefore, unintended thinning and cleaning are common in state managed forests carried by local people for meeting their demand as free rider. GoN encourages natural regeneration than plantation to restore degraded forests.

Though there is no established mechanism to monitor the implementation of these plans but investigation reports prepared by Parliamentarian Committee for Natural Resource (PCNR) in 2010, High level Commission Report against deforestation, Forest Encroachment, and Community Forestry in 2010, and Petition filed against corruption in CF by Commission for Investigation against Abuse of Authority in 2012   indicate that performance of forest management activities in the field is not weak due to poor governance, weak monitoring, rampant corruption and political interference.

Most of the operation plans include 4-D (dead, dying, diseased, and deformed) trees in its harvesting schedule. Green tree felling, even over mature crop, are rarely recommended in these plans due to very conservative attitudes in the forest bureaucracy. Foresters end-up in compromise while they have to prescribe yield regulation in management units. Forest inventory is not regular so management plans are based on secondary data without field inventory as in Community forest operational plan (CFOP). This has resulted to ambiguous result, so outcome of management plan can be critically reviewed when new FRA result will be available in early 2014.

Community forestry is also managed as per the approved CFOP approved by the DFOs. CFOPs do have validity from five to ten years. These plans are prepared by local users with technical support of forestry professionals. Community Forestry User committees (elected executive body of users) is responsible to implement these plans as per the provision of Community Forestry User Group (CFUG) constitutions. Therefore, executive committee is accountable for any kind of misdeed in plan implementation and is liable to legal punishment by DFO if any misdeeds are noticed in the field.

The CF is regulated as per the CFOP prescriptions. The Annual allowable harvesting (AAH) is estimated based on the Growing stocks (GS) of forests, which is calculated by following CF inventory guideline. Therefore, Yield regulation in CF follows an established methodological framework and AAH quota is recommended on the basis of forest types and their growth rates. A certain percentage of annual growth is reserved as a minimum safety factor to improve the forest stocks for future. While estimating AAH default values are also used as suggested in inventory guideline for major forest species/types. Since this inventory guideline is prepared for local community use; it is very simple and follows very conservative estimate approach.

Clear felling is not technically permitted in community forests unless it is planted one. Forest restoration through both active and passive means is very common in community forests. Construction of new forest fire line and maintenance of old one is very common due to increasing incidence of forest fire. Thinning, Weeding and cleaning operations are planned intervention to meet demand for forage, foliage, and wood biomass. Selective felling is common practice for construction timber production in all types of forests. Since only dead

and fallen trees are allowed to collect from protected forests there is no standard silviculture systems applied in these forest.

6. EXISTING FOREST PROTECTION SYSTEMS

Forest protection systems ranges from totally self-regulated voluntary mechanisms to state regulated coercive mechanisms. The first category is very common in community based forest regimes. Forest protection plans are included in the CFOP as per the provisions of CF user's constitution and Community Forestry Development Guideline (2008). The extraction of resources is projected on the basis of estimated GS and AAH from CF forest inventory assessment. Therefore, CFOP is taken as check valve to control illegal activities in CF.

Local communities mobilize users to suppress the forest fire by using local material. Forest fire fighting equipments are not available in rural villages so local people use soil, water and forage to suppress the forest fire. Forest fire incidence has increased in recent years and local people have lost their life and property while suppressing forest fire. There are much evidence that local community members have lost their life and property while fighting against forest fire. To reduce fire hazards communities do clean the inspection path and fire line before dry month (March to June) when forest fire incidence is high. In many forest uses forest fire monitoring and forest fire fighting teams have also been formed for four dry months to control forest fire.

There are no systematic protection measures against the pest and disease in community forests. Forest users prefer indigenous plant species in their forests so introduction of pest and disease from exotic species is low. Local people have better understanding about the adaptive capacity of common tree species to extreme climatic conditions in local environment. Therefore, vulnerable areas within the CF are managed as protected forest blocks without disturbance. Mostly the water sources are well protected inside forests for supply of quality water for drinking and other uses.

Forest users themselves set the rules of game against the illegal activities and authorize executive members to take action against the offenders. Any practices that violate the local rules are subject to pay fine in cash or suspend usufruct rights for certain time period based on the extent of crime. When criminal activity is serious and it is beyond the local capacity then request can be made to DFO for additional support. The punishment is decided as per the provision and procedure of CFUG constitution and CFOP. If CFOP provisions are violated then it is considered as a breach of contract and DFO can proceed for legal action considering it as a criminal act in National Forests. If crime is serious then DFO can also suspend the CFOP and take CF back until new executive committee is elected and assure readiness to takes responsibility.

The state forests fall under the second category. Forest officials working in management units are responsible for protecting the forests. Range Post is the lowest but most responsible unit for forest protection. Forestry staff working in the Range posts has responsibility to carry out regular patrolling of forests and take action against offenders if caught on the spot or report supervisors if illegal activities noticed in the field. To facilitate forest patrolling there is a separate section of armed force under the command of District Forest Officer. The armed forces are very useful while evacuating forest encroachers and chasing the timber smugglers.

Both operations are known to be very risky due to criminal networks involved in such activities.

Beside Forestry organization, local Police and Administration offices do also play important role in forest protection. Local administration has good intelligence network in the field which reports security information including forest crimes. The media and citizen organizations are also important source of information about criminal activities. The trial is generally held at District Forest Office but it may go to the District court if cash punishment is more than $ 120 or more than one year custody or both.

There are two important institutional entities in the centre – CIAA and National Vigilance Center (NVC) - which also play very crucial role in taking punitive measures to control corruption in forestry. Based on the available information from formal or informal sources, NVC and CIAA carry investigation to prevent and suppress the criminal activities. CIAA is a constitutional body so its directive is mandatory for all. NVC is a kind of grievance handling public institution and it is concerned to preventive measures to stop corruption risk.

Other protection measures such as fire-fighting, pest and disease control are not very effective in state forests due to wide spread opportunity of free riding. State agency at centre and District level use FM radio and print media to aware people about forest fire hazard during dry months. There is no separate entity to control forest fire. There is no systematic study about forest pest and diseases in state managed forests so control measures against them has not been recognized yet. Other forest regimes such as collaborative forests, leasehold forests and religious forests do have protection measures between aforementioned two extreme examples.

7. PROPOSED MRV SYSTEM AND PAYMENT MECHANISM

REDD piloting with financial support from NORAD implemented in three watersheds of Nepal has tested to establish benefit sharing at local level based on the social and environmental indicators. Learning from this piloting demonstrate that REDD financing mechanism requires involvement of multiple stakeholder to ensure effective, efficient and equitable distribution of the funds to the local community. Based on the experience from those piloting, it has been envisioned that there may be a multi-stakeholder led REDD Carbon Fund Management Board (RCFMB) at centre that will receive all carbon revenue coming to the country. REDD Cell will facilitate in fund mobilization process.

R-PP has suggested to adopt hybrid approach that allows settling strategic issues such as policy, law and tenure arrangement at national level, while letting to operate benefit sharing, financing and monitoring activities at the sub national level. All sub-national or project level REDD+ activities will be integrated to national forest Reference Levels and national forest monitoring system. National forest carbon account will be maintained at DFRS. Reference Emission baseline submitted by project developers (Project management authority) will be technically verified and validated by DFRS. DFRS will be responsible to develop and implement periodic national forest carbon stock monitoring. DFRS will share the forest carbon stock change report with REDD Cell and RCFMB.

District Forestry Sector Coordination Committee (DFSCC), which is linked with local government bodies, could be the next fund mobilizing entity at sub-national or project level

that will disburse fund to jurisdiction based Project Management Units (PMU). How this fund will be mobilized to the field is not clear yet. But it will follow the spirit of the climate change policy (2011) and NAPA (2010). Both documents propose to allocate 80 % of all climate change funds received in the country shall go to the local community. The current discussion on benefit sharing is trying to harmonize with existing mechanism and practices.

This kind of arrangement has been envisioned as a potential mechanism for enhancing the ownership and commitment of local government in forestry sector planning and program implementation to address drivers of deforestation. This will also improve the transparency and accountability in forest carbon monitoring and carbon revenue sharing. The Village Forest Coordination Committees is envisioned as a potential lowest tier fund management entity. This entity will be in direct touch with the local community in carbon revenue disbursement process.

8. THE ROLE OF LOCAL COMMUNITIES IN REDD+

NGOs are also working in forestry sector at the local level and contributing in capacity building for REDD+ implementation. Their participation is important to enhance stakeholders' engagement in REDD+ readiness process. A multi-stakeholder REDD forum is already functional in the centre. REDD Cell is planning to establish REDD Focal point in all five regions under the Regional Forest Directorate. Under the leadership of Regional REDD focal person REDD stakeholder maps will be prepared for each Districts. The regional Focal person will be responsible to develop REDD activity plans for each districts under the respective Regional Directorate. Required hard ware and software support will be provided from REDD cell in all five Regional Focal points.

In future, seventy five District REDD focal persons will be in place, one focal person in each District Forest offices. He or She will facilitate to establish REDD multi-stakeholder coordination committee in each District under the leadership of respective DFOs. However, such mechanism will be established under the existing District Forestry Sector Coordination Committee (DFSCC) framework. District level capacity building and other REDD+ activities will be coordinated by respective District REDD focal persons.

References:

Acharya, K.P., Dangi, R.B. and Shearman, P. (2009). Ready for REDD? Taking Stock of Experience, Opportunities and Challenges in Nepal. "In Acharya, K.P. and Dangi, R.B.Tripathi, D.M, Bushley, B.R, Bhanadary,R.R and Bhattarai, B.(eds.).Understanding Forest Degradation in Nepal (pp. 49). Kathmandu: Nepal Foresters Association.

CIAA, 2012: Petition filed in special court by CIAA accusing involvement of Forestry professionals and executive committee members in Dadeldhura District

DFRS (1999). Forest Resources of Nepal, Department of Forest Research and Survey, Ministry of Forests and Soil Conservation; Publication no 74. Kathmandu, Nepal.

DoF (2013): FUG MIS Database and Forest regimes in Nepal, collected from CF Division and National Forest Division of Department of Forests; Ministry of Forests and Sol Conservation; updated till April 2013 (unpublished)

PCNR, 2010: Forest Protection challenges study Report, Parliamentarian Committee for Natural Resource (PCNR), Constitutional Assembly secretariat Press, Singhdarbar; website: www.can.gov.np; Email: natural.resource@can.gov.np;

GoN (2010): Nepal's Readiness Preparation Proposal for 2010-2013. REDD Forestry and Climate change cell; Ministry of Forests and Soil Conservation, Nepal (unpublished)

GoN (2010): High level Commission Report against deforestation, Forest Encroachment, and Community Forestry (unpublished)

Gurung, M., (2009). Assessment of Forest Carbon Potential of Riverine Forests at The Khata Corridor and Lamahi-Mahadevpuri Complex. Paper Presented in National Sharing Workshop in Everest Hotel on 25th August 2009. Organized by WWF-Nepal/WINROCK international and Terai Arc Landscape

Oli B.N. and Shrestha, K. (2009). Carbon Status in Forests of Nepal: An Overview, Journal of Forest and Livelihood, Nepal 8(1): 62-66, Kathmandu: Forest Action

MPFS, 1988. Master plan for Forestry Sector, Forest resource Information, Ministry of Forest and Soil Conservation, and Finish International Development Agency (FINIDA), Planning Division, Kathmandu (unpublished)

MoFSC, 2009. Nepal Forestry Outlook Study. Asia-Pacific Forestry Sector Outlook Study II, Working Paper Series, Working Paper No. APFSOS II/WP/2009/05. Bangkok: Food and Agriculture Organization of the United Nations, Regional Office for Asia and the Pacific

APPENDIX B5

PAKISTAN

By Syed Mahmood Nasir, Pakistan Inspector General of Forests

1. INTRODUCTION

Pakistan has been actively involved in international negotiations under UNFCCC that culminated at Cancun with the adoption of Cancun agreement on REDD+. Immediately afterwards, Government of Pakistan designated National Focal Point for REDD+ and constituted a National Steering Committee on REDD+ (NSC-REDD+). In order to ensure ownership of the provinces for effective implementation of REDD+, Provincial Focal Points also have been designated who are steering and coordinating REDD+ activities in their jurisdiction. Pakistan attained membership of UN-REDD Programme in early 2011 and provided inputs to the Policy Board on various substantive matters. At the national level, three meetings of NSC-REDD+ have been convened to date which reviewed the REDD+ progress and took very important policy decisions. Pakistan is also an active member of REDD+ Partnership and participated in the process of annual work planning and international workshops organized by REDD+ Partnership.

In pursuance of relevant decisions of COP and particularly Cancun Agreement, a capacity building programme on REDD+ was launched in early 2011. A series of national workshops on carbon stock assessment, safeguards (SEPC), and other aspects of REDD+ have been successfully conducted with the collaborative sponsorship of stakeholders including private sector. A few of the activities are :

1. One-week Training Workshop on "Forest Carbon Stock Assessment" 14-18 January 2011, with the support of ISESCO, SDPI, Terra Global Capital

2. Training Session on "REDD+ in Pakistan" 19 – 21 October 2011, with the support of One-UNProgramme

3. Workshop on "Social & Environmental Principles & Criteria for REDD+ safeguards" 12 January 2012, with the support of Sustainable Land Management Project

4. National Workshop on "Modalities and Procedures for implementing Cancun Agreement on REDD+", 24 Feb. 2012, with the support of Pakistan Wetlands Programme

5. Visit of REDD+ Demonstration sites in Nepal, January 2012, with the support of FAO and ICIMOD

In April 2012, a project entitled 'REDD+ Preparedness in Pakistan" was launched with the sponsorship of One-UN Programme on Environment (through UNDP) and implemented jointly by ICIMOD, WWF and Ministry of Climate Change. As on 1 May 2013, one national, ten district workshops and three provincial workshops have been successfully conducted. The district and provincial workshops have twofold objectives of (i) awareness raising / training on REDD+, (ii) consultation on drivers of deforestation / safeguards as inputs to National REDD+ Roadmap preparation. The same project intends to develop Pakistan's National REDD+ Roadmap by December 2013 and a RPP for FCPF by July 2013.

Under the UN-REDD Programme (Global Programme, Targeted Support), Pakistan's proposal on MRV has been accepted and that will be implemented through FAO, ICIMOD and WWF. An important output of UN-REDDTS Project is "REDD+ Readiness Proposal (R-PP)" which is required to be submitted before 31 July 2013 as eligibility for securing full-scale support from WB-Forest carbon Partnership Facility (FCPF). Parallel to these actions, Pakistan has proposed a full-scale project (PIF) under the special GEF Window on SFM/REDD+ Programme. Presently, the consultants hired by UNDP are refining the PIF for submission to the GEF Council.

Despite these entire handful achievements within the limited time and resources, there still huge gaps which require to be filled before Pakistan is fully ready to establish REDD+ in pursuance of paras 69-72 of the Cancun Agreement. Briefly the gaps (how-far) may be enumerated as under:

- Forest-Carbon monitoring system at national level (MRV requirement)
- Local / site specific REDD+ forest-carbon methodologies
- National forest-carbon accounting and national REDD+ registry
- Policy and legal reforms to re-orientate Forestry sector in line with REDD+
- Mechanism to ensure REDD+ governance and safeguards
- Resource hubs on REDD+ scientific and technical aspects
- Regular capacity building programme through ToT approach
- Demonstration sites in all forest types and deforestation hotspots of Pakistan

All these efforts appear too little in a huge country with a huge potential to sequester tremendous amounts of carbon in forests while conserving biodiversity and safeguarding local community's interests. Another bottleneck that is coming up frequently is that there is still a lot of need for capacity building of all stakeholders. Funding for participation in international processes (UNFCC, UN-REDD, FCPF etc.) of the REDD National focal point or any representative dealing with REDD issues is limited and uncertain. However, whenever opportunities arise, the need to have a core team of certified trainers on REDD is highlighted and efforts are made to build capacities of local R and D and educational institutions in this regard.

2. FOREST STATUS

2.1 TYPE AND SIZE OF FORESTS IN THE COUNTRY

Four main types of natural forests are identifiable in Pakistan. Conifers and scrub types are further classified on the basis of climatic and ecological zoning. Besides, irrigated plantations (block plantations and linear plantations) along road and canals are included in forest resources of Pakistan:

Main Forest Type	Sub-type
1. Coniferous forests	i. Sub-alpine forests ii. Dry temperate forests iii. Himalayan moist temperate forests iv. Sub-tropical pine forests
2. Scrub forests	i. Dry sub-tropical broad-leaved forests ii. Dry tropical thorn forests
3. Riverine forests	
4. Mangrove forests	
5. Irrigated Plantations (IPs, Linear Plantations)	i. Irrigated Block Plantations ii. Linear Plantations (road side, canal side)

First national forest assessment was conducted by Forestry Sector Master Plan in 1992. According to FSMP, total forest cover of Pakistan was 4.224 million ha or 4.8% of the land area of the country, that included natural forests, manmade plantations and farmland trees. In 2003-04, forest cover of Pakistan was re-assessed to have increased to 5.01%. However, the increase in total forest area was mainly due to expansion of farmland trees, while natural forests declined sharply during the same period. WWF Pakistan is about to finalize a forest cover study of selected districts having above 10 percent forests.

There are many other studies on forest cover area the findings of which remain controversial due to different methodologies and procedures used. No comprehensive analysis of trends of deforestation that is based on transparent MRV or standard methodology has been conducted.

2.2 STATUS AND TRENDS W.R.T. DEFORESTATION AND FOREST DEGRADATION

Although national definitions of forests, A/R have been adopted however definitions of degradation and deforestation remain vague and those adopted by UNFCCC COP are taken by default while dealing with REDD architecture. According to the 2004 Report, natural forests including conifer forests, riverine forest and mangroves declined at an annual average rate of 27,000 ha.

Conifer forests reduced at a rate of 40,100 hectares (2.09%) per annum.
Riverine forests decreased at a rate of 2,300 hectares per annum (1.33%).
Mangrove forests disappeared at a rate of 4,900 hectares per annum (2.37%).
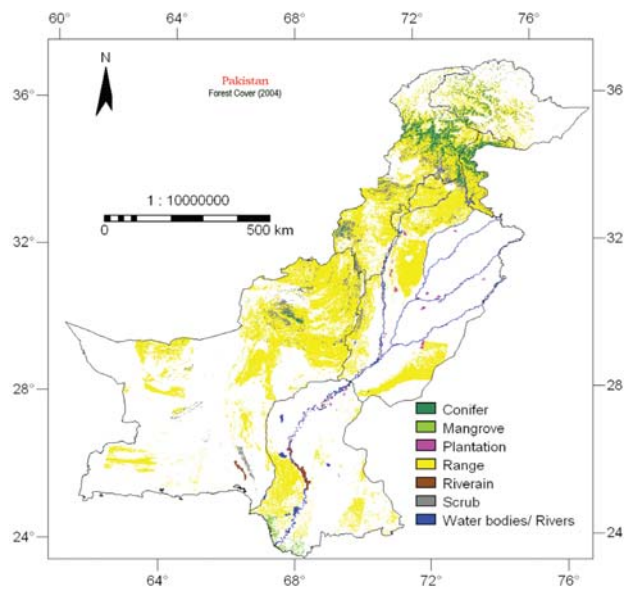
However, the deforestation and forest degradation were not uniform in all the provinces. The provinces of Gilgit-Baltistan and Khyber-Pakhtunkhwa which anchor majority of conifer forests had the highest rates of deforestation. In addition to this deforestation in Pakistan, natural forests have been degraded to large extent in

Forest Type	1992 ('000 ha)	2004 ('000 ha)
Conifer	1913	1512
Scrub	1191	1323
Riverain	173	150
Mangrove	207	158
Plantation	103	174
Total Forest	**3587**	**3317**

terms of cover density, productivity and ecological functions. Of this total forest area, one-third forests have more than 50% cover density while and the rest two-third forests have far lower cover density and rated as *'commercially non-exploitable'*.

Since 2004, national level assessment that fulfils transparency standards and monitoring has not been conducted as there is no regular setup either at federal or provincial levels.

2.3 DESCRIPTION OF THE MAIN DRIVERS OF CHANGE

In Pakistan majority of natural forests is either privately owned or heavily burdened with legal rights of local people. Historically local communities, particularly in Gilgit Baltistan and Khyber-Pakhtunkhwa provinces depends on forests for livelihood and other forest products for sustaining their life. Findings of consultations made over the last 2-3 years show that there is a direct correlation between deforestation, poverty and sources of livelihood. However, at national level detailed analyses and studies are required on drivers of deforestation are planned to be under taken in the readiness phase.

The workshops done by the REDD project as mentioned above reveal that of the main drivers of deforestation rising demand for wood and wood products and corresponding declining supplies. Against the wood consumption of 43.761 million m^{3}wood, annual increment is only 14.4 mm^3, leaving a gap of 29.361 million m^3. This additional demand of 29.361 Million m^3 is met from over-felling of forests resulting in net deforestation. Other drivers identified include non-clarity on forest tenure rights, poverty and corruption.

3. PROPERTY RIGHTS AND MANAGEMENT SYSTEMS FOR FORESTS

3.1 DESCRIPTION OF EXISTING PROPERTY AND USE RIGHTS STRUCTURES FOR FORESTS

The Forest Act of 1927 provides basis for all other later laws on rights in forests. Accordingly forests are classified on the basis of rights of the communities. Consequently, Pakistan has four categories of forests viz: Reserve Forests (RF), Protected Forests (PF), communal and private forests, in order of ascending order of public rights. The RFs are free of public rights and as such are under the least threat of deforestation and forest degradation. Whereas PF and communal forests are burdened with public rights as legally dictated. Findings of recent studies show that the legal right holders are unwilling to give-up their rights unless positive incentives are provided. The last category i.e. private forest is under severe threat of deforestation and degradation because the owners solely depend on these resources for livelihood. Forest governance issues are therefore essentially linked with the socio economics

of forest communities.

The public sector forest resources are under management of Provincial Forest Departments in provinces and territories while many rules and laws are applicable for private forests that too are mainly implemented by the provincial forest departments. These rights include for grazing, grass cutting, right of way and water etc. However under the prevailing laws forest carbon is not an acceptable forest produce. There are different types of communal and private forests including "Shamlats" (Village Common Lands) and "Chiragahs" (Grazing Lands) local district revenue department and Guzara(Subsistence) Forests under the control of Provincial Forests Departments (with various levels of participation of communities).

3.2 DESCRIPTION OF EXISTING FOREST MANAGEMENT SYSTEMS (TYPES AND AREAS)

Management of all forests is made by the respective Provincial Forest Departments. Forest Working Plan is the management tool that is prepared strictly in accordance with the Working Plan Code that provides details of preparatory and approval mechanisms under legal cover. Specific silvicultural systems are applicable in different forest types and locations. In natural forests mainly selection / group selection system of harvesting had been practiced till, the imposition of bans on all green tree felling in natural forests by the federal or provincial governments since mid-1980's whence there is a hiatus in all management practices. Various options were tried to empower local communities to manage the communal forests but stopped due to accelerated deforestation the Guzara Forest Management Committees that were established in the 1980's were abolished and later replaced by JFMCs Joint Forest Management Committees in the province of Khyber-PakhtunkhwaKPK. The later was provided in the revised Forest Act 2001 KPK.

3.3 DESCRIPTION OF EXISTING SYSTEMS FOR FOREST PROTECTION (TYPE AND AREAS)

Forest Act of 1927 *mutatis mutandis* with the Forest Manuals (3 volumes) are the main legal instrument in all provinces and territories that defines procedure, roles and responsibilities for forest protection. In nutshell it is the main responsibility of the respective provincial forest departments to protect forests not only from offenders but also from forest fires and diseases. Accordingly all provinces and territories in the federation of Pakistan have a hierarchical system for protection of all types of forest.

4. EXISTING/PLANNED REDD+ ARCHITECTURES

REDD is a new concept to the forestry professionals in the country that has a tradition of a century since forestry education was started by the British in the Indian sub-continent. According to a cautious estimate, Pakistan has 400 mt of carbon potential that can however be increased manifold with better understanding of REDD+ and LULUCF activities.

4.1 TYPE OF REDD+ ARCHITECTURE CHOSEN/PLANNED

Ministry of Climate Change with Cancun Agreement in 2010 initiated a series of readiness activities including a consultation process with the stakeholders. Resultantly all stakeholders realized the importance of forest-carbon for sustainable development. Efforts are underway to adopt a systematic approach to assimilate REDD+ as tool to protect existing natural forests. For this purpose, In order to meet the REDD+ Readiness requirements, a lot of efforts are underway to obtain funding for a bigger project that provides a solid foundation of REDD+ architecture.

The REDD+ National Focal Point i.e. the Inspector General of Forests, assisted by two Deputy Inspector General of forests and Director Biodiversity is steering the REDD+ process. The REDD NSC oversees the process and provides guidance to the NFP though there is a need to build capacity of the NFP. A small project that aimed at consultations and capacity building has just concluded and a 109.000 $ TS by FAO is approved. The TS will inter alia produce the RPP for the FCPF, a roadmap and initials for a MRV in Pakistan. Other than these activities the province of GB (Gilgit- Baltistan) has approved a REDD project from provincial resources. An out of the mainframe initiative has been the advent of UK based private sector company M/S Merlins Wood that has entered into agreements with 3 provincial governments on sale of carbon rights in forests. However the fate of the private entrepreneur appears uncertain.

4.2 SPECIFICITIES OF THE REDD+ ARCHITECTURE

The specificities of the most feasible REDD+ architecture in Pakistan are still under consultation, as the availability of local expertise is limited. The engagement of foreign consultants, on the other hand, requires extreme care as many lack knowledge of local issues and technical aspects of REDD+ and often wrong message jeopardizes the very basis of REDD+. A clearer picture and specificities REDD+ architecture will be available in the REDD+ Roadmap which is likely to be finalized in December 2013. It is however clear that in the future architecture the roles of the provinces and that of the federal government should be clear and understood by all stakeholders.

However there is no doubt that field interventions will be undertaken by provincial forest departments in close association with the right holders of state-owned forests. In case of communal and private forests, REDD+ actions will be largely undertaken by forest-based associations under the advice of provincial forest departments. The role of Federal Government / Ministry of Climate Change will be restricted to international negotiations, donor negotiations, facilitation in MRV, establishment of national accounting system, REDD+ project cycle, overall monitoring and reporting at national level as required in the Cancun Agreement. National GHG accounting for forests and host country approvals will remain the domain for the Federal Government.

5. POLICY MEASURES AND PAYMENT SYSTEMS

REDD+ (and CDM) are fully addressed in National Climate Change Policy, as the priorities of Government of Pakistan. However, other national and provincial policies of economic sectors including forest, agriculture, energy etc. have sector-specific measures and alignment

of REDD+ with relevant policies may take time to complete. During the last three years consultation process on REDD+, key Ministries and departments were fully involved including Planning & Development Division. In the future REDD+ processes and actions, concerned offices of Agriculture and Energy sectors will be essentially involved, both at Federal level and Provincial levels.

Description of policy and legislative gaps and reforms for REDD+ payments will be provided in the REDD+ Roadmap that is under preparation. At present there is no acceptance of forest carbon as a commodity or PES by forests. The National REDD Strategy that we wish to formulate through a process approach shall include a section of policy measures and payment systems. The Roadmap that is under preparation shall provide step by step guidance on what to do in which policy or law to assimilate REDD+ payment systems.

6. LOCAL INVOLVEMENT

Grass-root level and district level consultation with all stakeholders has been already started with regular guidance of the REDD+ NFP. The discussions mainly focus on the issues of land tenure, ownership & rights, drivers of deforestation, governance and gender. As a policy matter Pakistan supports women empowerment and integrates gender in the programs of all economic sectors including Forestry. However in REDD+ distribution of credits and benefits on the basis of gender has emerged as a critical issue that needs to be addressed adequately. Pakistan organized a national workshop on REDD+ safeguards which unanimously recommended implementation of all safeguards narrated in Appendix-I in Cancun Agreement, in particular those regarding restricting conversion of natural forests, promotion of native species, involvement of local and indigenous communities in planning, implementing and monitoring of REDD+ activities.

In the past, some private companies like Merlins Wood entered into agreements with Forest Departments without undertaking adequate FPIC, which raised suspicions among local communities. In future, provincial governments will ensure formal FPIC before implementing REDD+ activities. The rights of local people for use of forests are fully protected in the law and these rights cannot be suspended. However, where essentially required in the context of REDD+ activities narrated in Para 70 of Cancun Agreement, the rights of local people may be purchased or suspended after undertaking FPIC. Detailed studies are required on participatory approaches in specific forest areas in conjunction with REDD+ project development cycle.

7. MONITORING SYSTEM

Presently, Pakistan has no centralized forest monitoring, reporting & verification system. However, provincial and local authorities have adopted monitoring systems of diverse specifications including field based surveying and remote sensing based assessments. There is an urgent need for a harmonized and standardized forest monitoring system for the sake of transparency in REDD+ activities. The national forest monitoring system requires approved methodologies backed with technical resources and capacity building of stakeholders, with the support of bilateral and multilateral financing agencies. As a policy matter Pakistan supports women empowerment and integrates gender in the programs of all economic sectors, however in REDD+ distribution of credits and benefits on the basis of gender is a complicated issue. Detailed studies are required in specific forest areas in conjunction with REDD+ project

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APPENDIX B6

TANZANIA

By Julius Ningu, Tanzania Vice President's Office

1. INTRODUCTION

Adverse impacts of climate change are already noticeable in many countries. There are a number of global and national efforts to address the problem, including Reduced Emission From Deforestation and Forest Degradation (REDD). The role of forests in sequestering carbon and helping to mitigate climate change was recognized in the Kyoto Protocol. However, only afforestation and reforestation activities were accepted for inclusion in CDM. Reducing emissions from avoided deforestation was reintroduced into UNFCCC negotiations at CoP 11. This was based on the fact that forests perform better as carbon sinks when their area or productivity increases; they also act as a source of carbon when burned or as they go into decaying process. The IPCC estimates that 18-20% of current global annual carbon emissions are the result of loss of tropical forests.

At the thirteenth (13) CoP, reducing emissions from avoided deforestation was formally proposed to be included in the official negotiation agenda for a post-2012 regime. Under BAP countries needed to take Nationally Appropriate Mitigation Actions (NAMAs) to reduce their greenhouse gas emissions. The Parties were also to specify policy reforms and positive performance-based incentives on issues relating to REDD to be included in the NAMAs that countries can undertake.

At the fifteenth (15) CoP, a consensus was reached among some of the Parties under the Copenhagen Accord that agreed on the need to provide positive incentives to such actions through the immediate establishment of a mechanism to enable the mobilization of financial resources from developed countries. During CoP sixteen (16), the Cancun Agreement adopted REDD+[15].

2. THE FOREST RESOURCE BASE

By 2010 Tanzania Mainland had a total of 33.428 million hectares (ha) of forests. Woodlands occupying about 90% of the total forest area. The rest are mangrove forests, montane forests, small patches of coastal forests and plantations of softwood and hardwood. Of the total forest area, 16 million ha are reserved forests, 2 million ha are forests in national parks and the rest (15.4 million ha) are unprotected forests in Village and General Land subjected to 'open access' and heavy pressure and consequently converted into other competing land uses.

The most important use of wood in Tanzania is for fuel; hence about 95% of the country's energy supply is met from wood. For this reason, there are high rates of deforestation and degradation in both reserved and unreserved forests. Between 2005 and 2010, high rates of

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[15] REDD+ includes five major activities; reduction of emissions from deforestation; reduction of emissions from forest degradation; conservation of forest carbon stocks; pursuance of sustainable management of forests, and enhancement of forest carbon stocks.

deforestation led to a loss of 403,000 ha of forest per year which was equivalent to 1.16% of forest area. Apart from deforestation and degradation, there is growing evidence that climate change is impacting on forests and forest ecosystems of Mainland Tanzania, and therefore livelihoods of forest dependent communities as well as national economic activities that depend on forest products and services are heavily stressed. Under a warmer climate forest ecosystems may also shift their ranges and lose some of their biodiversity.

Forest vegetation in Zanzibar covers about 63,908 ha equivalent to 23.7% of the total land area. This involves bush and tall trees in coral rag areas (6,964 ha), mangroves (19,748 ha), high forest and forest plantations (9,505 ha), coconut plantations (6,958 ha) and mixed wood vegetation (19,733 ha). Forest Protected Areas (FPAs) under government administration are 11,960 ha. A total of 65 Community Forest Management Agreements (CoFMAs) are finalised in Zanzibar to support the *Shehia* (village/s) communities in managing community forest resources.

Zanzibar's forests form part of the East Africa Coastal Forests Eco-region, one of the world's 200 biodiversity hotspots. Despite their global significance and importance, deforestation rates are estimated to be at least 1% per annum. Despite a favourable policy environment for the implementation of pro-poor CoFM, deforestation and forest degradation in the community forests is on the increase. CoFM practice in Zanzibar remains a challenge due to several reasons such as insecure forest land tenure and rights**,** inadequate economic incentives for forest conservation, inadequate incentives for men and women in local communities to engage in CoFM. Other factors include; limited capacity of community-based institutions and local governments to deliver quality forestry support services and influence forest policies, weak communication and limited access to information on best practices and heavy dependence by the Zanzibar population on forest goods and services.

3. THE TANZANIAN SCENE

Tanzania has the potential to participate in climate change mitigation by enhancing the role of forests. Currently, the country has put more effort in addressing drivers of deforestation and forest degradation through adoption of legal frameworks that promote Participatory Forest Management (PFM) approaches. Limited financial resources compel the government to identify innovative financing mechanisms to attract new sources of investment in forest management outside the traditional channels. The adoption of REDD+ provides an opportunity for Tanzania to benefit from a financial mechanism that takes cognizance of the increasing importance of sustainable forest management in reducing emissions and increasing forest Carbon sequestration to mitigate climate change and its impacts.

4. REDD+: THE GLOBAL ARCHITECTURE

Since the beginning of global discussions on the policy to reduce emissions from deforestation and forest degradation (REDD+), much of the debate has focused on the global architecture-how REDD will be designed and implemented to realize outputs. For years Parties to the UNFCCC have been striving to decide on a global REDD system which further expanded the scope of REDD into REDD+. Despite this progress, final decisions on the global REDD+ system are yet to be reached on several key issues, especially on financing (the amount, timing and conditions) and methodological issues. The global design for REDD+

has gradually advanced to provide open-ended options for national and local level. Key architectural issues have been focusing on;

i. Implementing REDD+ through a phased approach (readiness, more advanced readiness, and full UNFCCC compliance phase). The 'readiness' phase includes activities to prepare a national REDD+ strategy, capacity building on monitoring, reporting and verification (MRV), and begin demonstration activities. The 'more advanced readiness' phase focuses at implementing policies and measures outlined in the national REDD+ strategy. During full UNFCCC 'compliance' participating countries receive compensations solely for reduced emissions and enhanced carbon stocks relative to agreed reference levels.

ii. Expanding the scale of activities: the initial policy design during 2005 focused only on reducing emissions from *deforestation* (RED). It was further noticed that in some countries there is ongoing forest *degradation* which is far greater than deforestation. Therefore, in 2007; reducing emissions from *deforestation and forest degradation* (REDD) was officially endorsed in Bali during COP13. The role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries further considered for inclusion in REDD, and hence decided during COP16 as per Cancun Agreement to form REDD+.

iii. Management of REDD+ activities (sub-national, national and nested approaches): the level of management of REDD+ activities has been discussed frequently among the Parties as it determines the level at which accounting and providing incentives will take place. Key questions have been on whether to provide direct support to projects (sub-national level), direct support to countries (national level), or combining both the sub-national and national levels (nested approach). The three approaches have both merits and demerits but a nested approach is considered to be the most flexible of the three approaches by allowing countries to begin with sub-national activities and to move gradually to a national approach while providing rooms for the two to coexist.

iv. Conditions for payments: The main argument has been on making payments for *outcomes (performance-based payment)* or for *inputs* of REDD+ activities.

v. Sources of funding: Since COP11 in 2005, it has been stressed that developed countries should financially support developing countries in implementing REDD+ activities. A variety of financing sources have been considered for REDD+ activities; funds from voluntary contributions, market-based and fund-based finance.

vi. Common methodology for Monitoring, reporting and verification and reference levels

Global decisions on REDD+ influence the design and implementation of national and local level REDD+ schemes. Global architecture for REDD+ leaves open-ended options and flexible mechanisms for local design and implementation of REDD+ schemes. This is a sovereign right of the nations to take on board national circumstances.

5. THE PROCESS OF ESTABLISHING REDD+ IN TANZANIA

The process to establish REDD+ initiative in Tanzania builds on strong grounds related to conservation and protection of forest resources that has been on going through participatory forest Management (PFM). PFM has been implemented in its two forms, Joint forest management (JFM) and Community based forest management (CBFM); to improve rural livelihoods, conserve and regenerate forest resources and promoting good governance. The

adoption of REDD+ provides an opportunity for Tanzania to benefit from a financial mechanism that will strengthen activities to address drivers of deforestation and forest degradation.

- *Letter of intent:* In the making of REDD+ initiative in Tanzania, the Vice President's Office which oversee all climate change matters in the country, coordinates all REDD+ related activities. The Governments of Tanzania and the Kingdom of Norway, in April 2008, signed a letter of intent for establishment of a partnership to address climate change challenges in Tanzania. Among other issues, the partnership focused on developing pilot programmes to address deforestation and related matters; developing methodologies for carbon accounting; and promoting research and capacity building programmes related to climate change, and to promote Public Private Partnerships (PPP) to enhance investments in sustainable management of forest resources.

- *Coordination Mechanism:* At the inception phase, the government established coordination mechanisms (the National REDD+ Task Force, and a secretariat). At later stage, five Technical Working Groups (TWGs) dealing with; legal, governance and safeguards, Measurement, Reporting and Verification (MRV), financial mechanisms, agriculture and energy drivers were formed. An important step was to develop a national REDD Framework to guide the process of developing REDD+ in Tanzania. Major efforts were geared to raise awareness and ensure broad stakeholders participation in the development of the National REDD+ Strategy.

- *The Strategy development process:* In conjunction with awareness raising activities, the strategy development process involved; *Strategic analysis and piloting*, and *consolidation* phases. Strategic analysis and piloting phase involved undertaking in-depth studies on REDD+ related issues including scoping studies to identify potentials for REDD+ in Tanzania and assess capacities for REDD+ implementation. This phase involved piloting of different REDD+ related activities through Civil Society Organizations (CSOs).

Nine CSO were engaged to pilot issues such as; governance, tenure, incentive schemes, methodologies for the estimating deforestation, carbon sequestration and emissions, participatory methods for monitoring, assessing, reporting and verifying carbon sequestration, and approaches to address drivers of deforestation and forest degradation. Pilot projects provided lessons as input to the national REDD+ strategy development. Further lessons were obtained from consultation with various stakeholders at different levels. The consolidation phase involved sharing drafts of the National REDD+ Strategy with various stakeholders, expert review, gender mainstreaming, and national level validation. The strategy and its action plan were endorsed by the government in March, 2013.

6. THE STATUS OF CORE ELEMENTS OF REDD+ READINESS

Hand in hand with the development of the National REDD+ strategy and its action plan, other activities related to REDD+ readiness were on going in different parts of the country through involvement of CSO, public institutions, and research and academic institutions. Such activities include; the capacity building programme on climate change impacts, adaptation and mitigation, development of MRV system, establishment of REDD+ safeguards, and establishment of baseline. To date, the status of the core elements of REDD+ readiness can be summarized as follows:

i. *National REDD+ strategy:* The strategy and its action plan has been endorsed by the government (URT, 2013),

ii. *MRV system:* processes are underway to establish an effective MRV system. The national forest resources assessment has been completed in Mainland Tanzania while the Zanzibar Wood Biomass Survey is being finalized. The forest and safeguard monitoring system has been designed. Establishment of National Carbon Monitoring Centre is underway,

iii. *Baseline (Reference Emission Level and or Reference Level):* Land Use, Land Cover maps have been produced. Historical Deforestation is being verified. Stocking, Degradation/Growth rates for different forest types have been estimated,

iv. *REDD+ Safeguards:* Capacity building and detailed analysis of national and international safeguards has been completed. Safeguard framework and draft safeguards are in place.

7. KEY DESIGN OPTIONS OF THE NATIONAL REDD+ STRATEGY

Building on the global REDD+ architecture, the design of REDD+ implementation in Tanzania has been customized to suite national circumstances, and the strategy form part of the Nationally Appropriate Mitigation Actions (URT, 2013). Basing on the key design issues at the global level, the national REDD+ strategy in Tanzania outlines several options related to institutional structure, governance, financing options and benefit sharing, MRV system, and safeguards. The following extract provides the necessary details.

i. *Institutional structure and governance:* the strategy outlines a robust institutional framework for coordination and governance of REDD+ schemes which builds on existing government institutional structures. The Division of Environment in the Vice President's Office (VPO) is designed to coordinate all climate change issues, including their adaptation and mitigation.

The government has put in place a National Climate Change Steering Committee (NCCSC) and National Climate Change Technical committee (NCCTC) to oversee and guide the implementation of climate change activities in the country. In addition, the strategy envisaged to establish a national REDD+ Fund that will solicit and distribute funds to stakeholders, and National Carbon Monitoring Centre (NCMC) that, among others, will provide technical services on measuring, reporting and verification of REDD+ activities across the country.

The coordination of REDD+ activities at regional and district levels adheres to the existing local government institutional structure. The Regional Administrative Secretariat serves as the link between the Ministries and the District Councils. At the district and municipal levels, this will serve as coordinators for REDD+ activities in their respective areas.

In Zanzibar, REDD+ activities are coordinated by Department of Forestry and Non-Renewable Natural Resources (DFNR) under the Ministry of Agriculture and Natural Resources. The DFNR serves as a link between Government and all REDD+ practitioners at National, District and *Shehia* levels. The Zanzibar First Vice President Office (FVPO) which is coordinating all climate change matters through Department of Environment is also part of REDD+ development process.

ii. *MRV system:* The government has made considerable steps in setting up a Monitoring and Measurement, Reporting and Verification (MRV) system for the determination of baseline (Reference emission level-REL and or reference level-RL). Continuous assessment will be done in permanent sample plots as part of monitoring, determination of REL/RL will be done at sub-national and project level. In line with the methodological guidance for activities related to REDD+ under UNFCCC, the strategy provides flexibility in determining REL/RL to enable the country to progressively include more REDD+ activities as data becomes available. The strategy requires reporting to be done at various stages and levels.

Individual projects need to report on the carbon data to the national REDD+ scheme for official monitoring. The government and project developers will then account for carbon to the international community, which also requires regular reporting to the UNFCCC. The verification of the national REL/RL will be done by an independent verifier. Within the country the independent party would have to be a licensed and registered agent, in the same sense as a chartered accountant, but would not necessarily have to be external to the country.

The National Carbon Monitoring Centre (NCMC), an independent semi-autonomous institution will verify carbon data using approved guidelines. In setting up Tanzania's MRV system, considerations are also taken to include Safeguard Information System (SIS) that will provide information on how REDD+ safeguards are being addressed and respected throughout the implementation of REDD+ activities according to the Cancun Agreement.

iii. *Financing options and benefit sharing:* the national REDD+ strategy recognizes the existence of global options to finance REDD+ activities through voluntary contributions, market-based and fund-based finance. The strategy favours the fund-based approach and insists the need to explore additional financing opportunities according to the global architecture.

iv. *REDD+ safeguards:* the national REDD+ strategy recognizes the importance of national (policy and legal frameworks) and international safeguards (e.g. World Bank's FCPF SESA, REDD+ SES, UN-REDD safeguards) in shaping REDD+ implementation. The strategy opts to analyse these safeguard and national policy and legal framework in order to develop REDD+ safeguards for Tanzania that maximizes complementarities, and avoids duplication.

v. *REDD+ Fund and cost-benefit sharing mechanisms:* the strategy intends to establish a clear, equitable and transparent mechanism for receiving and handling REDD+ funds through the National REDD+ fund. Specific actions are set to establish cost-effective benefit sharing mechanism.

8. LESSONS LEARNT FROM PILOT PROJECTS

Lessons learnt from implementation of REDD+ pilot projects set trajectory for future REDD+ implementation in Tanzania. Important lessons have been documented on governance, benefit sharing mechanisms, gender, land tenure and ownership, capacity building, MRV development and from activities to address drivers of deforestation and forest degradation (URT, 2012). Such lessons include;

- Through education, communities are becoming aware on the need for a nested REDD accounting system that awards emissions reduction based on performance to individual rural communities.

- The majority of forests under threat of deforestation are on communally owned village land that is treated as open access areas by members of the community. Thus, promoting community based forest management (CBFM) is an important part of Tanzania's REDD+ strategy. Communities will only agree to sustainably manage more of their forests if they receive a strong incentive to do so.

- Developing deforestation reference scenarios and carbon maps used to calculate avoided emissions is highly technical, expensive and time consuming and poses a significant barrier to community based carbon accounting.

- A massive effort to clarify village boundaries and facilitate land-use planning is needed to avoid conflict related to land tenure. REDD readiness funding efforts should be expanded from focusing on national MRV issues to considering sub-national MRV issues such as clarifying and mapping forest tenure, without which REDD will not succeed.

- Land Use Plans has helped in resolving conflicts within many villages. However this has not been the case with all the villages as in some other villages it has been a catalyst for boundary conflicts among villagers which are under the REDD+ project: A lot of resources are being used in resolving boundary disputes slowing project activities.

- Long term awareness campaign on REDD+ is needed in order to for communities to engage and support REDD projects.

- Village bylaws proved to be efficient and important instrument to protect forest especially where they are developed by local communities as they safeguard their interest.

- Co-benefits especially from agriculture and energy interventions are adding more value to REDD+. Integration of productive activities with REDD+ is motivating local communities to participate in REDD+; for example, agriculture intensification, beekeeping, productive use of energy for income generation, etc.

- Communities have high expectations for carbon income. Many communities still believe that REDD will deliver a bonanza in terms of carbon income for their forests. This has partly been influenced by test-payments done in various projects.

- Many of the gender approaches needed in REDD intervention are already part of good development practices that was not given required consideration in past. REDD gives an opportunity to look again at issues that may have been neglected in forest management.

- Compliance with REDD standards and safeguards are an added incentive to make community forest conservation and gender important to stakeholders who might otherwise not make this a priority.

- As REDD is a long term undertaking, working with the younger generation of girls and boys on changing attitudes to both conservation and gender could enhance great impact in community forest management.

- The engagement of communities in income generating activities that are environmentally friendly has indication of sustainability of the project activities, improved food security and nutrition while conserving, enhancing forest carbon stocks and generate new financial stream for sustainable forest management.

- It has been learnt that it works better if all related sectors are involved in REDD so that they can be aware with how REDD works; it's positive and negative aspects to place them in a better position to assist during implementation.

9. CHALLENGES OF IMPLEMENTING REDD+ IN TANZANIA

- *Global REDD+ architecture:* the global REDD+ design and implementation sets trajectory for national and local levels REDD+ architecture. Evolving issues pertaining to REDD, and especial on financing mechanisms, may pull down Tanzania's commitment to execute REDD+ implementation

- *Global conditions related to Monitoring, Reporting and Verifications:* apart from necessary criteria for red implementation (*effectiveness* in preventing additional carbon dioxide emissions, *efficiency* in securing these emissions abatements in a cost effective manner, and *equitability* in distributing the costs and benefits associated with project implementation among stakeholders) global conditions related to verification of measurements may complicated REDD+ implementation if tight measures are put in place.

- *International acceptance to REDD+ safeguard:* despite the UNFCCC decision to allow countries participating in REDD+ to craft their specific safeguards in accordance to national circumstance, it remain unclear to whether when and how REDD+ safeguards will internationally be approved.

- *Achieving strong coordination:* Achieving strong coordination within governments and between sub-national and project REDD+ activities may sometimes be complicated. A strong coordination will be required to ensure operationalization of MRV system in Tanzania. In a working nested approach to REDD+, a strong coordination of all involved players is critical.

- *Incentives generated from REDD+:* REDD+ is designed to create adequate incentives to increase the value of standing forests and enable forest users to capture that value. However, it remains uncertain to whether REDD+ will be able to meet all costs related to its implementations, and especially when opportunity costs are full calculated.

- *Mainstreaming of REDD+ activities in government ministries:* REDD+ related activities goes beyond the forest sector it is therefore envisaged to mainstream REDD+ activities in government machinery. Mainstreaming brings additional challenge on how achievement can be monitored, and further on how to meet additional budgets.

- *Addressing leakage, ensuring permanence and additionality:* Given the diversity in geographical, ecological and social conditions in Tanzania, it remain unpredictable to what extent the REDD+ project will be able to full address leakage, ensure permanence and prove additionality as important conditions to qualify for payments.

- *Political situation:* apart from global politics related to REDD+ architecture, local politics shapes the way REDD+ will be implemented.

10. THE FUTURE PROSPECT OF REDD+ IN TANZANIA

The government of Tanzania has put in place the National REDD+ strategy. The future prospect for REDD largely depends on international agreement. The government's position for a fund-based financing mechanism is important to enhance implementation of activities that address drivers of deforestation and forest degradation. The only new thing about REDD+ is a financial incentive through sales of carbon credits.

The government has a strong experience in forest conservation through promotion of participatory approaches. Politics related to REDD+ at the international level delays the execution of Tanzania's commitment to implement REDD+ activities. Effective implementation of REDD+ activities in Tanzania will complement ongoing initiatives to improve livelihood of it communities through intensification of alternative income generating activities.
While international negotiations on global REDD+ architecture are yet to be finalized, Tanzania is committed to search for available financing options to implement the national REDD+ strategy not only because REDD+ generates additional financial stream but because the role of forest in improving livelihood of the people and enhancing ecosystem services cannot be overemphasized.

REFERENCES

Ahrends, A., Burgess, N.D. Milledge, S.A.H., Bulling, M.T., Fisher, B., Smart, J.C.R., Clarke, G.P., Mhoro, B.E., and Lewis, S.L., 2010. Predictable Waves of Sequential Forest Degradation and Biodiversity Loss Spreading from an African City. *PNAS* 107(33): 14556–14561 (August)),

FAO, 2010. Global Forest Resources Assessment 2010. Country Report United Republic of Tanzania FRA2010/222, Rome, Italy.

Food and Agriculture Organization of the United Nations (FAO), 2010. Global Forest Resources Assessment 2010: Main Report. Rome, Italy.

Kielland Lund, 1990: *Phytosociology and productivity of four forest and woodland communities near Morogoro*. In: Mgeni, A.S.M., Abel, W.S., Chamshama, S.A.O., Kowero, G.S. (Eds.), Proceedings of the Joint Seminar/Workshop on Management of Natural Forests of Tanzania under SUA/AUN Cooperation, Arusha, Tanzania. Faculty of Forestry Record No. 53, Morogoro, pp. 2–15.

Malimbwi, E. R., and Zahabu, E. (2010). Tanzania, In: Springate-baginsk, O., and Wollenberg, E., (eds). REDD, Forest governance and rural livelihoods: The emerging agenda, CIFOR, Bogor, Indonesia

Malimbwi, R.E., Zahabu, E., Katani, J. and Mwembe, U. 2010. Woodlot Management Guidelines for Smallholder Farmers. Dept of Forest Mensuration and Management. Sokoine University of Agriculture, Morogoro, Tanzania. 18pp.

Milledge, S., Gelvas, I. and Ahrends, A. 2007. Forestry, Governance and National Development: Lessons Learned from a Logging Boom in Southern Tanzania. TRAFFIC East/Southern Africa.

National Forest Management Plan (2009 -2020) of Zanzibar.

Mujumba, J.K.T. and Lyaruu, HV.M. (2011). Effects of Fire on Carbon Accounting in the Masito-Ugalla Ecosystem. Final Report the REDD Programme, The Jane Goodall Institute, Tanzania, January.

National REDD Task Force, 2009. Brief Report of a Study Tour to Brazil on REDD Experience. National REDD Task Force, Dar es Salaam.

URT, 1995. Land Policy. Ministry of Lands, Housing and Urban Development. Dar es Salaam, Tanzania.

URT, 1998. Tanzania Forest Policy. FBD, MNRT, Dar es Salaam, Tanzania. 59pp.

URT, 1999. The Village Land Act No. 5. Ministry of Lands and Human Settlements Development, Dar-es-Salaam Tanzania

URT, 2003. National Energy Policy

URT, 1997. National Agriculture and Livestock Policy

URT, 1997. National Environment Policy (NEP)

URT, 1995. National Land Policy

URT, 2001. Tanzania National Forest Programme. FBD, MNRT, Dar es Salaam, Tanzania. 109 pp

URT, 2002. Forest Act. FBD,

URT, 2003. National Energy Policy

URT, 2004: Environment Management Act Cap 191,

URT, 2002: Beekeeping Act.

UNFCCC, 2009a: UNFCCC. "Guidance on systems for providing information on how safeguards are addressed and respected and modalities relating to forest reference emission levels and forest reference levels as referred to in decision 1/CP.16."

URT, 2009: National Framework for REDD+

LIST OF STUDIES AND DOCUMENTS CONSULTED

1. National REDD Framework
2. In-depth Study for Development of National REDD Trust Fund
3. In-depth Study on Legal and Institutional Set Up for REDD
4. In-depth Study on Business Case for REDD
5. In-depth Study on REDD for Rural development: Land Use & Land Tenure
6. In-depth Study on REDD Knowledge Management & Information Communication
7. National Forest Programme
8. Proposals for Pilot REDD Demonstration Projects
9. Proceedings of REDD Consultations Workshops
10. National Environmental Policy
11. Environment Management Act 2004
12. National Forest Policy
13. National Forest Act
14. National Land Policy
15. National Land Act
16. Village Land Act
17. National Energy Policy
18. National Human Settlements Development Policy
19. Eastern Arc Mountains Conservation Strategy
20. National Environment Education Communication Strategy
21. Readiness Preparation Proposal (RPP)
22. Copenhagen Accord
23. National Action Plan for Adaptation (NAPA)
24. National Strategy for Growth and Reduction of Poverty (NSGRP)/MKUKUTA
25. National Forest Resources Monitoring and Assessments (NAFORMA)Project Document

APPENDIX B7

UGANDA

By Xavier Mugumya, Uganda National Forestry Authority

1. INTRODUCTION

The REDD+ Process in Uganda started in 2008, when Uganda became a Participant of the world Bank's FCPF after approval of the REDD+ Preparation Identification Note (R-PIN). The R-PIN provided initial overview of land use patterns and causes of deforestation, the stakeholder consultation process, and potential institutional arrangements for REDD+. The REDD+ Working Group was created in March 2010 – it was actively involved in the REDD+ formulation process (The National Technical Committee is a successor of the REDD+ Working Group). With financial support from the FCPF (US$200,000) and Norwegian Government (US$183,500), the country prepared a Readiness Preparation Proposal (R-PP) that was endorsed by the Participants Committee (PC) of the FCPF in June 2011. The R-PP lays out a roadmap for achieving "Readiness" to engage in an international REED+ mechanism and puts forward a request for a US$3.4 million grant from the FCPF to implement this roadmap. The total budget for all R-PP activities is estimated at $US 10,617,000.

The R-PP Preparation Process included extensive consultations on the national and sub-national levels with various stakeholders, including government agencies (the executive and the legislative), NGOs / CSOs, private sector, academia, development partners, cultural groups, special groups, forest dependent people, local communities, etc. These consultations were carried out by the REDD+ Secretariat and a number of regional and national NGOs. The following studies were conducted and fed into the R-PP: (i) an assessment of land use, forest policy and governance; REDD Strategy Options; and REDD Implementation Framework; (ii) assessment of the likely social and environmental impacts of REDD Strategy options and implementation framework; (iii) developing a reference scenario and designing an MRV system; and (iv) assessment of trends of evictions from protected areas during the period 2005-2010 and their implications for REDD+. The R-PP process was financially supported by the FCPF Formulation Grant and by Norway. IUCN, through its Pro-Poor REDD+ Project (with DANIDA funding), supported the Government of Uganda in preparing the (i) REDD+ Consultation and Participation Plan; (ii) REDD+ Communication Strategy; and (iii) REDD+ Conflicts and Grievances Management Strategy.

REDD+ National Focal Point. The National Forestry Authority served as a REDD+ National Focal Point during the R-PP Preparation stage. The REDD+ Secretariat was also hosted by the NFA. The REDD+ Working Group, created in March 2010, was instrumental in the formulation process. The REDD+ National Steering Committee, created in November 2011, endorsed the R-PP and approved relocation of the REDD+ NFP to the FSSD of the Ministry of Water and Environment (MoWE), as the institution with the overall coordination and supervision role in the forestry sector. This transfer of the REDD+ Secretariat has been done.

2. FOREST STATUS

2.1 TYPE AND SIZE OF FORESTS IN THE COUNTRY

The geographic extent of Uganda's forest ecosystems is shown in Table 1. The total forest area is often limited to land cover/use categories 1-6 (broad leaved, conifer, tropical high forest well stocked, tropical high forest low stocked, woodland and bush). This is because there has not been any deliberate and systematic estimation of the other forms forests, trees and shrubs cover in their landscapes located under categories 7-12 (grassland, wetland, small scale farmland, large scale farmland, built up areas and open water). Within that range identified by land cover/use categories 1-6, Uganda's forests cover is shown in the table below.

Table 1: Geographic extent of Uganda's forest ecosystems (Source: Modified from the National Biomass Study Report 2010 (Unpublished))

Class	Class description	AREA 2005 (HA)	AREA 1990 (HA)
1	Broad leaved	14,840.72	18,682.01
2	Conifer	18,766.63	16,384.13
3	THF well stocked	542,787.27	651,110.41
4	THF low stocked	201,644.44	273,061.51
5	Woodland	2,816,423.13	3,974,508.13
6	Bush	2,970,317.94	1,422,193.00
Total		6,564,780.13	6,355,939.19

2.2 STATUS AND TRENDS W.R.T. DEFORESTATION AND FOREST DEGRADATION

The status of these forests is better appreciated after understanding their use attributes. The use attributes of Uganda's forest resources which are often inter-linked include but are not limited to: ownership, utilization, and management. In this respect, management of forests in Uganda falls under two broad owner-management types called "responsible bodies" under The Forests and Tree Planting Act 2003. First, forests are managed under Government stewardship (by mandated institutions: the National Forestry Authority (NFA), Uganda Wildlife Authority (UWA), and District Forest Services (DFS) of the Local Governments (LGs)). Secondly, forests are managed by private and or community forest owners (Table 2).

It is evident that (Table 2) that majority of the total forest resources in the country is owned and managed by private and or community forest owners. Only a minority of the total forest resources in the country are managed under Government stewardship. Moreover forest managed under government stewardship is managed by three responsible bodies. However, when we compare the geographic distribution of forest areas with the total land area of the country, we find that 64% of the forested area is located under the ownership and management of private and or community owners. Only 36% of the forested area is located on land under government stewardship (i.e. central forest reserves and wildlife conservation areas).

Table 2: Distribution of Ownership and Management of forests among the Responsible Bodies (Source: Modified from the National Biomass Study Report 2010 and (Unpublished) and Forest Sector Support Department. 2010. The National Forestry Plan for Uganda (Under Revision: July 2010 Draft (Unpublished Government Report))

Land Cover	Local Governments (LFRs)	NFA (CFRs)	UWA (NPs & WRs)	Joint NFA & UWA	Private Land	Total
Plantations Hardwoods	335	4,863	52	0	9,536	14,786
Plantations softwoods	19	14,091	2,430	0	2,201	18,741
THF- Normal	123	246,860	249,192	23,468	81,312	600,957
THF-Low Stocked	120	36,715	1,810	0	153,049	191,694
Woodlands	614	325,422	389,664	7,279	2,055,019	2,777,998
Bush lands	413	188,332	316,994	11,417	2,451,519	2,968,675
Total Area of category	4,995	1,172,433	1,839,278	89,657	21,048,895	24,155,259
% in that category	0.03	17	18	0.85	64	100

The implication of this geographic distribution of forests and forest resources will become more evident when we consider the condition and trend of these forest resources. Over the last 15 years (i.e. from 1990 to 2005) land cover/use categories 1-6 (broad leaved, conifer, tropical high forest well stocked, tropical high forest low stocked, woodland and bush) changed from 6,355,939.19 Ha to 6,564,780.13 Ha. This is a positive change of nearly 208,840.94 Ha. However, when we consider (Table 3) the distribution and quality of this trend by each cover class, the increase in forest cover takes on a different meaning.

Table 3: Distribution and trends in Land cover by class including increase different forest cover Classes

Class	Class description	AREA 2005 (HA)	AREA 1990 (ha)	Change in Area
0	Unmapped	87.64	699.58	611.94
1	Broad leaved	14,840.72	18,682.01	3,841.29
2	Conifer	18,766.63	16,384.13	2,382.50
3	THF well stocked	542,787.27	651,110.41	108,323.14
4	THF low stocked	201,644.44	273,061.51	71,417.07
5	Woodland	2,816,423.13	3,974,508.13	1,158,085.00
6	Bush	2,970,317.94	1,422,193.00	1,548,124.94
Total		6,564,867.77	6,356,638.77	(208,229.00)
Class	Class description	AREA 2005 (HA)	AREA 1990 (ha)	Change in Area

Land Cover/Land use class 01: Broad Leaved Plantations: The acreage of this cover class reduced by 3800 Ha from 18,700 Ha in 1990 to 14,800 Ha in 2005. This could be due to harvesting and not replanting. Possible causes for the decline could be due to: harvesting

without re-planting, little survival even after replanting and harvesting, replanting but with conifers and other gymnosperms which are then reflected in other cover classes.

Land Cover/Land use class 02: Conifer Plantations: The acreage of this cover class increased by 2400 Ha from 16,400 Ha in 1990 to 18,800 Ha in 2005. This could be due to new planting over and above any harvesting over the same period. The evidence available indicates that Conifer plantations under the jurisdiction of the NFA are in excess of 12,000 Ha while the acreage under private farmers is just above 33,400 Ha giving a total acreage of plantations at 45,400 Ha (Tugumisirize Unpublished).

Land Cover/Land use class 03: THF well stocked: The acreage of this Cover Class decreased by 108,000 Ha from 651,000 Ha in 1990 to 543,000 Ha in 2005. The change is most likely due to deforestation. The location of this deforestation in well stocked THF was (a) encroachment in protected areas especially central forest reserves (CFRs) and the unique case of Mt. Elgon National Park. (2) mostly in non-protected areas. There is evidence that the land most likely went to Agriculture. Evidence of that over the last 15 years is includes a case on the islands inside lake Victoria called Ssese Islands. Here a palm oil company opened nearly 10,000 Ha derived from closed natural forest. Over the same period, many of the sugar cane and tea companies have allowed out growers to supply them with cane. Many of these out growers opened closed forest for the establishment of the plantations. This case is also applicable to the increase in the acreage for the area under tobacco. Migration of Ugandans and in some cases non-Ugandans to areas that once held THF such as mid-western district of Kibale, Hoima, Masindi and Kyenjojo have also contributed to the reduction in the THF area. Some of the areas of THF that was not deforested were actually degraded leading to THF low stocked cover class.

Land Cover/Land use class 04: THF low stocked: Low stocking is due to natural succession such as a stage in the succession stage of the forest after a natural phenomenon e.g. fire; recovery from an injury such as high level of degradation such as harvesting (call it creaming); recovery from encroachment in periods previous of the data in question. In spite of the reasons above, low stocked forests were also observed to have decreased in acreage The acreage of this Cover Class decreased by 71,000 Ha from 273,000 Ha in 1990 to 201,644.44 Ha in 2005. The change is generally thought to be due to deforestation.

Land Cover/Land use class 05: Woodland: The acreage of this Cover Class decreased by 1,158,085.00 Ha from 3,974,508.13 Ha in 1990 to 2,816,423.13 Ha in 2005. The change is due to deforestation. We have not completely ascertained where the 1.150.000 Ha decrease actually went but the immediate thinking is that (a) some woodland were deforested completely by and reasons listed under deforestation (as a driver); (b) some woodland was degraded to bush land (we should expect to see some of this in the bush land data); (c) some woodland actually became "low stock" or ever high stocked THF (evidence of this is extremely difficult to get now but could be systematically mapped).

Land Cover/Land use class 06: Bush: The acreage of this Cover Class increased by 1,548,124.94 Ha from 1,422,193.00 Ha in 1990 to 2,970,317.94 Ha in 2005. The change is due to recruitment likely from two sources: (a) Some of the woodland, THF could have been degraded to bush and or (b) Some of the grassland; former farmland could have been abandoned as fallows or by access difficulties (possibly during the insurgency period in northern Uganda). There will be need for in-depth study to find the true explanation of this trend. What can be said as of now is that it is a fact that bush cover class increased by

1.548,000 Ha. This means that bush cover class received more cover from many sources such as woodland, maybe even THF. It is also possible that it received cover from grassland or even from farmland. It is also possible that bush lost land went to encroachment – in protected areas (PA), plantation establishment, farmland, woodland, urbanization and transport infrastructure. Therefore, we need to do an 'attribution', so that we can better be able to identify and address the drivers. The implication for emissions is only possible after comparing the carbon stocks but as a <u>class</u>, bush increased in its carbon stocks banking.

2.3 DESCRIPTION OF THE MAIN DRIVERS OF CHANGE

The major underlying causes of deforestation and forest degradation in Uganda relate to largely agrarian human population with increasing numbers and active socio-economic dynamics, increased demand for variety of forestry resources with limited options for alternatives or substitutes and human capacities to ensure sustainable forest management. The major drivers of deforestation and forest degradation in Uganda consist of agricultural expansion in forested lands, Charcoal production, Firewood harvesting, livestock grazing, timber production and Human settlement and urbanization.

A Study carried out under auspices of R-PP Process for Uganda on "Evictions Trends and extent of evictions from Protected Areas in Uganda and implications on the REDD+ Process for Uganda" (NFA 2011) reveals that majority of encroachers in protected forest areas are people who have come from other locations and have been "facilitated" by or are "protected" by local leaders or protected areas personnel. These scenarios project a disturbing trend to the effect that forest or protected areas governance is undermined by the authorities meant to protect them. With regards to evictions, efforts have been less effective, partly due to the protection given by authorities, political interests that compromise law enforcement, weak institutional performances when handling evictions. The Study has also concluded that encroachers in forested protected areas do not qualify to be considered "forest dependent people" because, in fact, their interests is land for agriculture or commercial interests in charcoal, timber and forest produce.

Table 4: Summary of the analysis of drivers, their underlying causes, potential options for intervention

Driver	Issues	Potential Strategy	Potential Areas of Intervention
Agricultural Encroachment	✓ Largely subsistence and practicing bush clearing for expansion of agricultural land ✓ Agricultural encroachment into protected areas ✓ Competition between trees and other crops for available land	Strategic Option #1: Strategies for addressing deforestation and forest degradation caused by agricultural encroachment on forested lands.	✓ Strengthening partnerships with Communities as neighbours to protected forest areas. ✓ Clarification of property rights to forests and trees. ✓ Agricultural intensification to minimize size of land under agricultural use. ✓ Increasing land productivity per land unit, including promotion of irrigation. ✓ Carry out cost-benefit analysis for maintaining land under forest management in reference to conversion of such land to agricultural use.
Charcoal Production	✓ Mostly responding to internal and out of country markets in Sudan, Rwanda and Kenya ✓ Difficult to regulate because of tenure of land and tree resources ✓ Poor charcoal production technologies that are wasteful ✓ Market prices influenced by unaffordable or lack of alternatives to charcoal energy	Strategic Option #2: Addressing unsustainable impact of charcoal production and utilization.	✓ Regulating Charcoal Production and Trade. ✓ Clarification on land and tree tenure rights on privately owned land. ✓ Improving charcoal use efficiency ✓ Strengthening enforcement and compliance. ✓ Undertake policy reforms in Energy Sector to facilitate growth (through incentives) and development of affordable alternative renewable energy sources that reduce pressure on biomass energy.
Firewood harvesting	✓ Mostly responding to large scale consumers – schools, hospitals, military and prisons installations, urban centres, building industry/brick making, tobacco curing, etc. ✓ Difficult to regulate because of tenure of land and tree resources ✓ Utilization technologies that are wasteful ✓ Market prices influenced by unaffordable or lack of alternatives to fuel wood energy	Strategic Option #3: Addressing impact of firewood harvesting and utilization on forestry resources in Uganda	✓ Increasing biomass/trees on farmland ✓ Promote fuel wood use efficiency ✓ Promotion of alternative and affordable clean energy sources for large fuel wood consumers
Timber harvesting	✓ Mostly responding to internal and out of country markets in Sudan, Rwanda and Kenya and beyond ✓ Difficult to regulate because of tenure of tree resources on privately owned ✓ Weak enforcement of policies and laws in protected areas ✓ Poor timber production technologies that are	Strategic Option #4: Strategies for addressing impacts of unsustainable timber harvesting	✓ Forest management planning that would zone and project for timber production to meet demand whilst restocking for future needs. ✓ Strengthen tracking timber movements and improve on regulating trade in timber ✓ Improvement in forest timber harvesting and utilization technologies ✓ Increasing timber stocks countrywide to reduce pressure to

Driver	Issues	Potential Strategy	Potential Areas of Intervention
	wasteful ✓ Market prices influenced by booming construction industry and general scarcity, especially of hard wood		current stock, especially in natural forests ✓ Increase forestry resources competitiveness so as to attract investments in forestry development.
Livestock Grazing	✓ Clearing of woodlands and grassland forests for pasture improvement	Strategic Option #5: Strategies for addressing impact of livestock development and grazing on forestry resources	✓ Study to assess and analyse the impact of livestock grazing on deforestation/forest degradation in the cattle corridor. ✓ Developing strategies for managing woodlands to avoid/minimize degradation from livestock use.
Plight of Forest Dependent People	✓ Uncertainty over access and use of forest resources ✓ Uncertainty over tenure of trees and carbon in protected areas occupied or recognized to provide for livelihoods to forest dependent people ✓ Unconfirmed impacts of deforestation and forest degradation on forest dependent people	Strategic Option #6: Strategies for securing the plight of forest dependent people during REDD+ + implementation in Uganda.	✓ Assess the likely impact of deforestation and forest degradation on forest dependent people in Uganda ✓ Assess forest and carbon tenure and right of forest dependent people to carbon. ✓ Review forest policies and regulations to provide for access and use of forest by forest dependent people during REDD+ implementation.
	✓ Benefits to Forest dependent people	Strategic Option #7: Strategies for reducing risks of mitigation measures against deforestation and forest degradation on to forest dependent people	✓ Integrate forest dependent people benefits within SESA.
Poorly defined modalities for stakeholder engagement	✓ Ensuring effective Stakeholder participation in REDD+ and Forestry resources management ✓ Cost effective approaches to community participation in forestry management ✓ Cost effective approaches to private sector participation in forestry resources development and utilization and carbon market	Strategic Option #8: Develop and pilot test processes for stakeholder engagement in implementing REDD + Strategies	✓ Assessment of the CFM/CRM initiatives and policy guidelines with the view to strengthen benefit sharing issues, mapping out of potential CFM/CRM areas and identifying ways of ensuring a cost-effective negotiation process. ✓ Assessment of options for widening the private sector engagement e.g., in forest management, aggregating REDD+ carbon and brokering. ✓ Developing procedures and capacities for ensuring equitable and transparent implementation of REDD+ in partnership with CSOs. ✓ Developing methodological and pricing approach that is transparent and fair. ✓ Developing procedures for socio-economic monitoring of REDD – Plus activities in partnership with universities and UBOS. ✓ Generating lessons and sharing experiences from NGO Carbon initiatives and projects in order to identify success stories to inform REDD+.

Driver	Issues	Potential Strategy	Potential Areas of Intervention
Tools and methodologies for assessing and monitoring REDD+ contribution towards forestry management in Uganda	✓ Inadequate Capacity to assess REDD+ contribution to Sustainable forest management in Uganda ✓ Weak coordination among various actors in forestry management	Strategic Option #9: Design and apply MRV for Uganda	✓ Design MRV System ✓ Undertake capacity needs assessment for developing and applying the MRV and design and implement capacity building strategy/programme ✓ Generate and disseminate knowledge about REDD+
	Compatibility of REDD+ MRV and existing M&E Systems	Strategic Option #10: Integrate MRV into existing M&E systems and practices	✓ Developing and testing-pilot community based REDD+ monitoring tools and capacities with relevant institutions and selected communities. ✓ Developing and testing-pilot procedures for monitoring of co-benefits of REDD+ implementation. ✓ Integrate MRV into M&E systems as appropriate
	Understating the concept of Carbon leakages and how to prevent it in Uganda context	Strategic Option #11: Develop and apply measures for minimizing Carbon leakages	✓ Assess the risks and likely occurrence of leakages ✓ Design and pilot test measures for addressing leakages
	Need for establishing a Carbon registry	Strategic Option 12: Design and institutionalize a carbon Registry for Uganda	✓ Develop tools for measuring Carbon ✓ Design carbon registry ✓ Establish carbon registry ✓ Designing a methodological and Carbon pricing approach that takes into account the whole forest ecosystem. ✓
Policy, legal, institutional framework	✓ Inadequacies in provisions for stakeholder participation, tenure and ownership of carbon and carbon trade ✓ Institutional capacities for implementing REDD+ ✓ Institutional capacities for enforcing forestry policies and legislation	Strategic Option #12: Strengthen Legal, Policy and Institutional frameworks for REDD+ and regulating Carbon market in Uganda in place.	✓ Strengthen Law enforcement capacities and measures ✓ Undertake reviews to identify reforms for strengthening policy, legal and institutional framework for REDD+ implementation
		Strategic Option #13: Build capacity for REDD+ Strategy implementation	✓ Carry out Capacity needs assessments of lead agencies and design Capacity building programme ✓ Implement capacity building for REDD+.

3. PROPERTY RIGHTS AND MANAGEMENT SYSTEMS FOR FORESTS

3.1 DESCRIPTION OF EXISTING PROPERTY AND USE RIGHTS STRUCTURES FOR FORESTS (TYPES AND AREAS)

The question of property and use rights structures for forests is seen as part of the general land tenure in the Uganda. According to Article 43 of the 1998 Land Act, a person who owns or occupies land is required to manage and utilize it in accordance with the existing laws such as those regulating forestry, minerals, environment, water, wetlands and wildlife among others. Therefore, a landowner is the tree owner except in situations where additional arrangements such as leases and licenses have been made. The 2003 National Forestry and Tree Planting Act, classifies forests according to tenure as (a) Central Forest Reserves under National Forest Authority (NFA), b) Forested National Parks under Uganda Wildlife Authority (UWA); c) Local Forest Reserves under local governments; d) Community Forests under community ownership once declared by the minister; e) Private Forests under private individuals, cultural and traditional institutions; f) Joint Managed Forests usually forming part of a wildlife conservation area under both the UWA and NFA. According to current legal provisions, the following arrangements for forest management have direct implications on REDD+.

Table 5: Implications of Forest Tenure and management arrangements on REDD+

Tenure	Institution	Management arrangement	Main Characteristics	Implications
Central Forest Reserves	National Forestry Authority (NFA)	Strict Nature Reserves (SNRs) and Sites of Special Scientific Interest	↗ Large forest blocks ↗ Normally located inside forest reserves. ↗ Tree felling is prohibited.	↗ Creates and sustains carbon Stock/sink in form of PFE ↗ Minimized chances of carbon leakage
	NFA with other stakeholders	Buffer zones	↗ Large forest blocks ↗ At least 500-1000 m belts around SNRs ↗ Low-impact use	↗ Serve as carbon sink ↗ Potential carbon leakage due to tree utilization
	NFA with private sector/ communities	Afforestation/ reforestation of CFR production areas	↗ Mostly large forest blocks for supply of timber & firewood ↗ Some is ear-marked for afforestation/ reforestation ↗ Large patches are licensed to the private sector; ↗ Small patches (< 500 ha) are licensed to individuals or local communities. ↗ Licensees have tenure rights for trees they have planted.	↗ Provides opportunity for: ➢ Forest restoration ➢ Establishment of forests ➢ People/Stakeholder partnerships ➢ Biodiversity conservation
	NFA with communities	Collaborative Forest Management in CFR Production Areas	↗ Small patches in degraded central forest reserve sections adjacent to local communities. ↗ Local communities have user rights negotiated via a Collaborative Forest Management	↗ Provides opportunities for: ➢ Sustainable forest management ➢ Community rights to Carbon not assured

				Agreement.		
Local Forest Reserves	District or sub-county local governments	Local Forest Reserves	↗ ↗	4,997 ha[16] Small < 500 ha highly degraded forests	↗	Provides opportunity for: ➢ Forest restoration ➢ Establishment of forests ➢ People/Stakeholder partnerships ➢ Biodiversity conservation
Wildlife Conservation areas	Uganda Wildlife Authority	Wildlife Protected Areas - National Parks (NP) and Wildlife Reserves (WRs)	↗	Adjacent local communities may have user rights negotiated via a MoU for Collaborative Resource Management (CRM) in zones not exceeding 20% of the PA.	↗	Provides opportunity for: ➢ Forest restoration ➢ Establishment of forests ➢ People/Stakeholder partnerships ➢ Biodiversity conservation
	Local community committees under local governments with technical assistance from UWA	Community Wildlife Areas (CWAs)		Can be large forest blocks e.g., Amudat (202,500 ha)	↗	Provides opportunities for: ➢ Sustainable forest management ➢ Community rights to Carbon not assured
Joint management	UWA and NFA	Joint Management Forest Reserves		Large forest blocks e.g., Bwindi National Park (119,200 ha).		➢ Exhibits Institutional Collaboration
Private Forests	Individuals or institutions outside government	Variable		Mostly small fragmented forest patches. None has been registered yet.		➢ Vulnerable to deforestation and forest degradation ➢ Opportunity for afforestation ➢ Opportunity for participating in REDD+/carbon market
Community Forests	Potentially CBO, NGO, co-operative society, communal land association (CLA), company, farmers' group, or traditional/ cultural institution	Forests on formerly public or government land that are completely under community control		None has been declared by the minister yet.		➢ Vulnerable to deforestation and forest degradation ➢ Opportunity for afforestation ➢ Opportunity for participating in REDD+/carbon market

Source: Modified from Uganda R-PP

Forests and carbon tenure in Protected Areas: According to the Forest and Tree Planting Act (2004), Central Forest Reserves are managed on behalf of the Ugandan citizens by NFA as semi-autonomous central government statutory body. Local Forest Reserves (4,995 ha) are also managed on behalf of the Ugandan citizens by the Local Governments. Likewise, Forests under management as National parks are held in trust by UWA. This management arrangement introduces the aspect of Trust ship whereby government and these prescribed institutions act as Trustees on behalf of Ugandans. This implies that Carbon stocks within these estates are held in trust by government on behalf of the peoples of Uganda.

Concessions awarded by Government under Section 14 and 41 of the 2004 National Forestry and Tree Planting Act, entitle concession-holders to rights over forest resources within the forest reserves as specified in their licenses or permits. Forest concessions have been awarded to: harvest mature trees in both natural and plantation forests, plant trees develop portions of

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[16] Second Schedule of the National Tree Planting and Forest Act 2003

the forest reserve for forestry functions such as saw-milling and wood processing industries, manage eco-tourism sites, undertake Collaborative Forest Management and extract non-timber forest products for commercial purposes (Kiyingi 2006). This implies that the lessee has right to the trees.

Local communities under formal Collaborative Management arrangements or other biding arrangements also have access and user rights in forest reserves. The 2001 National Forestry Policy, the 2004 National Forestry and Tree Planting Act, and the 2002 Guidelines for Collaborative Forest Management (CFM) provide for development of ten-year co-management agreements between a Responsible Body (a government entity like NFA or other forest owner) and an organized community group. Under CFM with NFA, the policy and the law are clear that the land and tree tenure of the central forest reserves rests with NFA. In such cases, carbon tenure belongs to the responsible body. NFA also gives the opportunity for CFM communities to acquire a license for 10% of the plantable area within forest reserves. Under the license arrangement, communities own the trees and therefore (presume-ably) the carbon rights during the licensing period (25 years).

Under the UWA Community Resource Management agreements e.g., between Kamwenge community groups and Queen Elizabeth National Park communities have only access and user rights to the specified forest reserve sections and have no claim on land or tree tenure.

Forests and carbon tenure in privately owned forests: Private Forests (PFs) are all forests outside government-protected areas and not including Community forests. Private forests in Uganda exist on land under freehold, leasehold, *mailo* and customary tenure systems. In all these cases a certificate of title constitutes a *prima-facie* evidence of ownership.[17] Where land is titled, the land tenure is relatively clear except in cases where squatters or *bona fide* occupants are settled on land or in case of land fraud raising conflicts over such land.[18]

Section 21, 22 and 25 of the 2004 National Forestry and Tree Planting (NFTP) Act provide for a forest owner (individual or community group) to register with the district land board their forest on land owned in accordance with the Land Act, or under a license granted by the Act. This provision also includes forests on customary (untitled land). Provided that a forest is registered, the Act states that all produce in that forest belongs to the forest owner and may be used in any manner the owner may determine provided it falls within the management plan and regulations provided under the NFTP Act. Currently however, no Private Forest has been registered in Uganda (Ebeling and Namirembe 2010).

Communal forests are a type of private forests existing on land under customary tenure that is not claimed by an individual, commonly on formerly public land that existed by law before the 1995 Constitution (amended 2005). Forests on these 'unclaimed lands' are experiencing the highest threats of deforestation especially in northern and western Uganda.

Communal forests can also be owned by Communal Land Associations (CLAs), constituting local community members that have registered a claim to the land and to manage it as "common property". Under this category of ownership, registered community groups can legally claim all land, tree and carbon tenure rights. However, although community groups such as Ongo and Alimugonza have completed the process of CLA application, none been

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[17] Under the Registration of Titles Act, a certificate of title is a prima-facie evidence of ownership.
[18] The 1998 Land Act creates overlapping rights over land by recognizing *bona fide* occupants. Forests on such land are subject of conflicts between the landlords and *bona fide* occupants.

endorsed by the minister. Until Private Forests and Community Forests are formalised, clear ownership of rights over trees and carbon is not legally defensible.

Local communities can designate a forest area as a Community Wildlife Area (CWA) under local governments. Land and tree tenure under CWAs belongs to the members of the community group.

3.2 DESCRIPTION OF EXISTING FOREST MANAGEMENT SYSTEMS (TYPES AND AREAS)

Tropical Moist Forests**:** the National forestry Authority (NFA, 2006) has developed the forest improvement management system (FIMS) for natural forests which includes practices like felling cycle of 30 years, control of harvesting through an annual allowable cut (aac) and low impact logging systems in which the largest machinery permitted in the forest are agricultural tractors or light skidders. Other sustainable management practices include management inventory, stock survey and diagnostic sampling.

Forest Plantations: Very little planting was done since the mid-1970s until 2004 when serious establishment of commercial timber plantations was resumed under the NFA. The country has a plantations planting incentive scheme paid for by GoU, the EU and the Norwegian government. It is called SPGS and has so far gone beyond 50,000 Ha in supported plantations establishment.

Third party forest certification and product labelling: Forest certification based on inter-nationally accepted standards was first introduced to the FD in 2003, when this consultant returned from a training course in Sweden. At that time, there was resistance to the idea of forest certification because Uganda does not export any forestry products. The SPGS is now encouraging its clients to go for forest certification, with the understanding that a forest that is certified has got very little else to do in order to start earning carbon money on the international market.

Further, NFA identified a set of 63 technical guidelines for various aspects of forest certification and started to develop them internally fully knowing that the tide of forest certification was not going to ebb soon. The guidelines were prepared in tandem with practice (do and modify approach) so that there could be no doubt that final guidelines could be implemented by existing staff in the NFA. The private sector has initiated two certification schemes; one is based on the FSC and the other is a new initiative by support from GIZ as a pan African certification initiative.

3.3 TIMBER YIELD REGULATION IN THE TMFS

Exploratory inventory (EI) is done at the beginning when the forest is being brought under planned management for the first time.

Integrated stock survey and management inventory (ISSMI) is carried out using the compartment as the basic unit of operations.

Permanent sample plots (PSPs) provide the empirical basis for estimating growth rates, AAC, assessment of forest response to different management treatments, felling cycles, and

silvicultural treatments. Therefore PSPs are a crucial requirement for SFM. In Uganda PSPs had been established in mabira and budongo CFRs dating back to the 1950s. The first batch of PSPs in natural forests was established in 1999 and by 2004, a network of 100 PSPs had been established. This number was considered adequate to track forest changes in the major **TMFS** with substantial production zones. The first batch of PSPs was ready to be assessed for the second time in 2004, and indeed some were assessed but the data was never fully analysed.

Management of harvesting operations: NFA has adopted low impact logging as an overall management approach for the timber production zones in TMFs. Logging is done through private logging contractors, employed by NFA itself. after felling, the trees are crosscut using the modular approach and graded before selling them by public auction at the stump site. The purpose of crosscutting and log-grading is to maximize the volume and grade or value of logs processed from a felled tree and to optimize pricing of logs to benefit both NFA and the buyers. the NFA will get the right value for the trees and the buyer will get value for money.

Forest Management Planning: FMPs are prescribed by law for all forest reserves and registered private and community forests. FMPs for forest reserves and community forests must be prepared in consultation with the local communities in which the forest reserves are located.

Timber tracking: the FD, and later NFA, has been developing a system for verifying the legal sources of timber from the forest to the destination since 1999. The system is building on the timber tracking mechanism, which was initiated in 1995 and culminated in the kalinzu/bugoma initiative in 2004. The initiative is part of the firms outlined above. Under this initiative, the system was used to forge a partnership of private sector sawmillers and bapwa, a local community pitsawyer association, to supply timber for the construction of the British high commission offices in Kampala. The essential features of the system include:

- legal compliance with national legislation;
- stock mapping in order to harvest according to the annual allowable cut (aac);sale of graded logs by public auction
- harvesting using low impact logging systems;
- monitoring harvesting using stock-maps which show harvest, seed and reserve trees;
- a chain-of-custody (coc) system involving timber marking and documentation from the tree stump to the destination timber sheds in the market; and

Impromptu checking of vehicles during transit to exclude illegal timber being mixed with legally sourced timber.

3.4 DESCRIPTION OF EXISTING SYSTEMS FOR FOREST PROTECTION (TYPE AND AREAS)

The Uganda system of protection forests is dually managed between the Uganda Wildlife Authority (UWA) and the National Forestry Authority (UWA). The Uganda Wildlife Authority (UWA) is a semi-autonomous government agency that was created in 1996 after the merger of the Uganda National Parks and the Game Department. Its creation followed the enactment by Parliament of the Uganda Wildlife Statute in 1996, which became an Act in 2000 under cap 200. The law mandates UWA to manage all the country's wildlife and wildlife-protected areas, which include 10 national parks and 12 wildlife reserves. UWA is essentially responsible for ensuring the sustainable management of wildlife in Uganda,

through coordinating, monitoring and supervising activities related to wildlife management. All national parks and wildlife reserves are protection areas. Most of the CFRs (especially those with 5000 Ha and above have both protection functions up to 50% of their areas: these called nature reserve, buffer reserves and protection zones of management).

The Forest Nature Conservation Master Plan was developed through the 1990s and published in June 2002. The Plan describes how to integrate the conservation of biodiversity and other environmental protection measures into forestry sector programmes. It makes recommendations for forest management and provides for its own revision as new information becomes available and experience is gained. Specifically, the Plan aims to:

- Outline a broad strategy for integrating nature conservation and other forest management objectives that the relevant forestry agency and its partners can refer to as a guide.
- Describe the specific actions which need to be taken to protect biodiversity and other environmental values within the forest estate, including those related to the establishment, demarcation and management of Nature Reserves; protection activities in other management zones; institutional and financial arrangements; local community involvement; and legislation & policy requirements;

4. EXISTING/PLANNED REDD+ ARCHITECTURES

4.1 TYPE OF REDD+ ARCHITECTURE CHOSEN/PLANNED

Uganda has not completed the REDD+ architecture. Uganda plans to discuss this architecture during the consideration of the REDD+ Strategy. During our preparation of the REDD+ Readiness proposal (R-PP) to the World Bank's FCPF, Uganda did not define the institutional and policy framework for implementing Uganda's REDD+ Strategy. The primary reason for not finalizing the implementation framework is the need to tailor the implementation framework to the approved REDD+ strategies so that most suitable arrangements can be defined at that point. Therefore, it is envisaged that the Uganda REDD+ Implementation Framework will be finalized and approved alongside the REDD+ Strategy itself.

The process of defining Uganda's National REDD+ implementation framework will be spearheaded by the national REDD+ Steering Committee or its equivalent. The process will be consultative in nature and involve stakeholders with relevant mandates on the strategies that will be developed. It will define among others, institutional mandates, coordination and monitoring systems, reporting and accountability, financing mechanisms and funds channel-ling, Conflicts resolution and grievances management procedures among others issues.

4.2 THE SPECIFICITIES OF THE REDD+ ARCHITECTURE

As mentioned in 4.1 (above), Uganda has not completed the REDD+ architecture. Uganda plans to discuss this architecture during the consideration of the REDD+ Strategy. Details of the issues that the Task force will address are described in Annex 2c. (TORs for developing Implementation Framework under Uganda's R-PP)

5. POLICY MEASURES AND PAYMENT SYSTEMS

Uganda has not yet agreed on the policy measures that will constitute the country's final options for the REDD+ Strategy. Under sub-section 2.3, (Table 4), there is a summary of the analysis of drivers, their underlying causes, potential options for intervention. These candidate policy measures will be considered further during the strategy formulation in a view to:

- Undertaking of a comprehensive and complete assessment of the potential strategic options proposed in the R-PP (including, as necessary, collection and analysis of relevant additional information required) as a basis for prioritizing the Strategy Options for addressing the Drivers of REDD+;
- Comprehensive assessment of environmental and social (E&S) considerations (risks and opportunities) associated with the prioritized REDD+ Strategy options; including assessment of the necessary policy, legal, institutional arrangements for integration of environmental and social considerations into the national REDD+ Readiness processes; and
- Preparation of REDD+ Strategy consolidating findings of SESA and analysis of REDD+ Strategy Options

It is during the consideration of the above three points that many of the issues raised in this section will be elaborated.

6. LOCAL INVOLVEMENT

As mentioned in section 4.1, Uganda has not completed the REDD+ architecture. However, Uganda has prepared a comprehensive consultation and participation plan. What is summarized below is an extract from the R-PP for Uganda.

6.1 STAKEHOLDER CONSULTATION AND PARTICIPATION DURING R-PP IMPLEMENTATION (2012-2104)

Uganda R-PP implementation envisages continuous consultations and outreach with stakeholders. The overall objective of the Consultation and Participation plan, therefore, is to provide a framework that ensures ownership, transparency, and dissemination of the R-PP by the government and relevant stakeholders, and inclusiveness of effective and informed consultation and participation by relevant stakeholders in the process of preparing a National REDD+ Strategy. The outcome of this undertaking is the ownership of the R-PP, increased understanding of REDD+ and the commitment to participate in the implementation of R-PP. In addition, there is provision for consultations under components 2 (d), 3 and 4.

The Consultations and Participation Plan will aim at contributing towards achieving the following objectives:

a. Ensuring that REDD+ activities and implementation frameworks are informed by stakeholder's views and contributions by providing avenues where the voices and experiences of key stakeholders are captured and incorporated in decision making at all levels

b. Guiding actions to enhance awareness about REDD+ implementation and its monitoring by stakeholders by setting up platforms through which beneficiaries can access information and also participate in the design and implementation of REDD+ activities;

c. Building mechanisms to enhance equitable outcomes and access to REDD+ benefits by all stakeholders and sectors at all levels

d. Repositioning REDD+ contribution towards national development priorities by directing development of regulatory frameworks that are socially inclusive, transparent and support improvements in forest governance

6.2 THE CONSULTATION AND PARTICIPATION PROCESS ARRANGEMENTS

This plan proposes the creation of a C&P Taskforce as one of the themes to support the REDD+ Secretariat in coordinating the implementation of the plan within the institutional structure provided in the R-PP to coordinate the development of the REDD+ Strategy which already provides the framework within which the C & P will be implemented.

The Consultation and Participation Framework: Consultation on and participation in Uganda's REDD+ Strategy development shall cover the whole country. The C&P Taskforce will work one national and 15 sub-regional consultative fora; as means of consulting the stakeholders. It will also use the same forums as a means to encourage stakeholder participation. To achieve this, the country has been divided into 4 regions (Central, Eastern, Northern and Western). Each region has further been sub-dived into sub-regions based on a combination of administrative and linguistic nearness for ease of communication. Thus, REDD+ Strategy development issues identified at the sub-regional level will be communicated to, and discussed in each of the 15 sub-regional consultative forums. The conclusions and recommendations of the issues identified and discussed in the 15 sub-regional consultative forums will be considered by the national consultative forum iteratively until a reasonable national consensus has been reached to allow them to be part of the options in the national REDD+ Strategy.

Table 6: Stakeholder categories

Category	Stakeholders	Role/influence on REDD+
Government institutions	Relevant ministries and their departments , Agencies and Parastatals of Government, Local Governments	Harmonization and supporting integration and implementation relevant policies
Local communities	Indigenous Peoples, women, vulnerable/ marginalized groups, Forest dependent communities, pastoralists, farmer groups	The need to understand the costs, benefits and their roles since they interact closely with resources, addressing drivers
Civil Society	Local NGOs, CBOs, international agencies, Faith Based organizations and cultural institutions.	Mobilization and Advocacy for sustainable REDD+ practices, piloting best practices
Private sector	loggers, energy producers, industries, timber growers, timber dealers, financial institutions	Their actions may cause deforestation, or support implementation of REDD+.
The academia	Universities, research institutions, training colleges, schools	Generating and dissemination new knowledge,
The media	Print, electronic, telecoms, social media	Advocacy to promote REDD+ and dissemination of emerging issues at all levels

Development partners	Donor agencies, Embassies, Diplomatic missions	Supporting REDD+ activities and processes

Setting up the Consultation and Participation structure and enhancing awareness of various stakeholders on REDD+: In order to enhance effective participation of stakeholders at all levels, the C&P structures will be formalized, representatives identified, roles and responsibilities clarified and publicized through appropriate channels for the relevant stakeholders to be clear on who, where and how to engage on REDD+ issues including how have conflicts and grievance regarding the process addressed.

Facilitating consultations to discuss the key issues emerging from detailed expert assessments on drivers, tenure, REDD+ institutional structure, MRVs, benefit sharing and SESA: As provided for in the R-PP, more detailed information will be collected by the expert thematic groups on the following: drivers of deforestation and degradation, land and tree tenure, sustainable forest management, Social and Environmental Assessments, benefit sharing, MRVs and governance structure. To ensure that the various stakeholder issues are taken into account, the tools and approaches will be reviewed by the Consultation and Participation Taskforce and the various consultation and participation forums. In addition, the findings from the expert assessments will be presented to stakeholders for discussion and validation.

Table 7: Issues for Consultation and Participation

Theme	Key issues for Information and consultation
Deforestation and degradation	✓ Confirming and validating the main causes of deforestation and degradation that could impact on the implementation of REDD+ ✓ What strategies need to be put in place to reduce the rate of deforestation and degradation? ✓ What are the benefits and limitations of the strategies ✓ What areas and approaches should be applied to avoid deforestation?
REDD+ Governance	✓ Discussing how REDD+ fits within the existing forest governance frameworks vis-a-vis creating new ones
Monitoring systems	✓ Understanding roles and responsibilities in RL/RELs, MRVs, Forest Monitoring Systems and participating in the design.
Sustainable forest management	✓ Discuss areas and modalities for implementing SFM in relation to REDD+
Conservation of forest Carbon Stocks	✓ Discuss areas and modalities of implementation
Enhancement of forest Carbon Stocks	✓ Discuss areas and modalities of implementation
Benefit sharing	What benefit sharing systems exist at the moment How could REDD+ interact with existing benefit sharing agreements ✓ What systems of benefit sharing could be appropriate and provide maximum benefits
Land Use Rights / Land tenure	What would be potential implications of REDD+ payments within the existing context Would a mechanism on REDD+ work within the current Ugandan context What revisions could be required and what impacts would they have
Social and Environmental Safeguards	✓ What are the Socio-economic impacts of REDD+ ✓ How can the risks and negative impacts be mitigated? ✓ How can the social and environmental impacts be monitored?
Other drivers of deforestation	✓ As will be determined

<u>Facilitating stakeholder input in the design and consolidation of the National REDD+ Strategy:</u> Once assessments on the key elements of REDD+ for the country are undertaken, discussed and approved, the REDD+ Secretariat will coordinate the consolidation of the information into a draft National REDD+ Strategy. This draft will then be discussed and validated by the various stakeholders using the various platforms. The final REDD+ strategy will then be adopted by National REDD+ Steering Committee and recommended for submission for funding. Since various stakeholders will contribute to achievement of different objectives, they will be targeted differently as indicated below:

a) Regional level meetings will be convened to discuss the national REDD+ Strategy and ensure that it integrates the agreed positions from the consultations and assessments;

b) Convene meetings targeting sector specific government agencies and ministries to discuss the national draft strategy and ensure that it is aligned to their priorities and their roles and responsibilities clearly elaborated for better coordination and implementation;

c) Convene private sector consultations to discuss the draft strategy with the aim of ensuring that the National REDD+ Strategy is clear on opportunities for investment and that their activities don't undermine the REDD+ objectives;

d) Convene Civil Society consultations to discuss the national draft strategy with the aim of ensuring that provisions for Social and Environmental safeguards are addressed, monitored and feedback provided across the various levels;

e) National level discussions involving high level policy makers, government officials, private sector and development partners will aim at ensuring that the Strategy contributes towards the national and international development priorities;

f) The REDD+ Secretariat, in collaboration with the Consultation and Participation Taskforce and National REDD+ Technical committee will coordinate the consolidation of the final strategy and submit to the Steering Committee for adoption and recommendation for submission;

g) Dissemination and Communication of the draft and final National REDD+ Strategies will be supported by the Communication plan

Uganda shall seek to engage services of national experts to facilitate judicious implementation of the Consultation and Participation Plan. Uganda's Consultation and Participation Plan will seek to address the diversity of stakeholders and their uniqueness in terms of relevance to REDD+ issues and languages.

7. MONITORING SYSTEM

Once again, Uganda has not prepared a detailed monitoring system. This will be prepared alongside the development of the national REDD+ strategy. What we have in mind are the steps of what will be involved. This component aims at designing a robust forest monitoring system for three major objectives:

a) a national forest monitoring system for emissions and removals of greenhouse gases due to avoided deforestation and forest degradation, enhancement of forest carbon stocks, conservation and sustainable management of forests; and

b) a system capable of monitoring how safeguards are being addressed and respected during the implementation of REDD+ activities. The system will include non-carbon aspects that

the country shall define as its priorities in its monitoring system. These priority aspects will include key quantitative or qualitative variables representing rural livelihoods enhancement, conservation of biodiversity, key governance factors directly pertinent to REDD+ implementation in the country, and the impacts of the REDD+ strategy on the forest sector

The system will measure and monitor emissions and removals of GHGs caused by key drivers of deforestation, forest degradation, and enhancement of carbon stocks as identified in the during the strategy formulation. Uganda will not be able to finalize the design of the MRV system for the emission reductions and removals in the absence of definitive guidelines from the UNFCCC policy process. Thus, the MRV system may have to be developed gradually, starting with data collection and analytic work, and with further refinements being made later on to match the guidelines emerging from the UNFCCC policy process.

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APPENDIX C

REPORTS FROM THE GROUP WORK SESSIONS

This appendix includes an overview of the groups and reports from the various group work sessions. There was a session for each conference theme. The presentations include the title of each group work, names of chairs and rapporteurs, the topic as defined by the organizers, plus the group report itself.

APPENDIX C1

OVERVIEW OF THE GROUPS

Group 1:

Adriana Ramos	Instituto Socioambiental, Brazil
Anne Larson	Center for International Forestry Research (CIFOR)
Bahadar Nawab	Comsats University, Pakistan
Darley Kjosavik	Norwegian University of Life Sciences
Gene Birikorang	Hamilton Resources Ghana
Ivar Jørgensen	Norwegian Agency for Development Cooperation
John Andrew McNeish	Norwegian University of Life Science
Julius Ningu	Tanzania Vice President's Office
Kaisa Korhonen-Kurki	Center for International Forestry Research (CIFOR)
Mariel Støen	Centre for Development and the Environment, Univ. of Oslo
Morten Nordskag	Norwegian Ministry of the Environment
Nils Herman Ranum	Rainforest Foundation Norway

Group 2:

Bishal Sitaula	Norwegian University of Life Sciences
Christopher Martius	Center for International Forestry Research (CIFOR)
Chandra Kirana	Indonesia REDD+ Task Force
Daniel Murdiyarso	Center for International Forestry Research (CIFOR)
George Kajembe	Sokoine University of Agriculture, Tanzania
Giske Lillehammer	Norwegian Agency for Development Cooperation
Ingrid Nyborg	Norwegian University of Life Science
Mads Halfdan Lie	WWF Norway
Mariteuw Chimere Diaw	African Model Forest Network, DRC/Cameroon
Marte Nordseth	Norwegian Ministry of the Environment
Thu Ba Huynh	University of Melbourne
Virgilio Viana	Amazonas Sustainable Foundation (FAS)

Group 3:

Barbara Nakangu	IUCN Uganda Office
Desmond McNeill	Centre for Development and the Environment, Univ. of Oslo
Edwin Vasquez Campos	COICA
Esteve Corbera	Universitat Autònoma de Barcelona
Hege Karsti Ragnhildstveit	Rainforest Foundation Norway
Ida Hellmark	Norwegian Agency for Development Cooperation
Jawad Ali	Education Development Centre, Pakistan
Levania Santoso	Center for International Forestry Research (CIFOR)
Kamaluddin Prawiranegara	Center for International Forestry Research (CIFOR)
Pål Vedeld	Norwegian University of Life Sciences
Resham Dangi	Nepal Ministry of Forestry
Solveig Verheyleweghen	Norwegian Ministry of the Environment

Group 4:

Adrian Enright	SNV Vietnam
Charles Meshack	Tanzania Forest Conservation Group
Elizabeth Stormoen	Norwegian Agency for Development Cooperation
Gorettie N. Nabanoga	Makerere University, Uganda
Grace Wong	Center for International Forestry Research (CIFOR)
Grete Benjaminsen	Norwegian University of Life Sciences
Leif John Fosse	EU REDD Facility, European Forest Institute
Maria Brockhaus	Center for International Forestry Research (CIFOR)
Patrick Bisimwa Kulimushi	National REDD Coordination Unit, DRC
Roshan M. Bajracharya	Kathmandu University, Nepal

Group 5:

Arild Angelsen	Norwegian University of Life Sciences
Gilbert John Anim-Kwapong	Cocoa Research Institute of Ghana
Josi Khatarina	Indonesian Centre of Environmental Law (ICEL)
Julie Mollins	Center for International Forestry Research (CIFOR)
Justine Namaalwa Jjumba	Makerere University, Uganda
Kassim Kulindwa	Norwegian University of Life Science
Larissa Falkenberg Kosanovic	Norwegian Embassy in Vietnam
Maryanne Grieg-Gran	International Inst. for Environment and Development (IIED)
Naya Sharma Paudel	Forest Action Nepal
Paulo J. Chiarelli de Azevedo	Ministry of the Environment, Brazil
Syed Nasir Mahmood	Pakistan Inspector General of Forests
William Sunderlin	Center for International Forestry Research (CIFOR)

APPENDIX C2

THEME 1: THE POTENTIAL OF VARIOUS REDD+ ARCHITECTURES TO REDUCE CARBON EMISSIONS

GW1.1 Potential to reduce carbon emissions

Group 1

Chair: Bahadar Nawab
Rapporteur: Ivar Jørgensen

Topic: How do you evaluate the potential of the different architectures to reduce deforestation/degradation rates and thereby carbon emissions from forests? As part of that, the group should discuss if there are any differences in the capacity to raise funding, ensure crosssectorial coordination and avoid leakage (within national borders). What challenges does the group consider to be the most serious in these matters?

The group rated the four basic categories for REDD architecture for their potential to reduce deforestation and forest degradation, capacity to raise funding, risk for leakage, ability to ensure cross sectorial coordination and participation. In addition specific challenges were identified. See table below.

In addition the group listed key strengths and weaknesses of each of the four systems. The overall assessment of the group was that architecture C (Fund within state administration) came out ahead of the others mainly due to its stronger links with national priorities and potential for good national ownership. At the same time, the group cautioned that this option is also prone to corruption and that it will not work well unless there is a good system for representation of the key stakeholders. In a situation where there is no global agreement on one mechanism for rewarding reduced deforestation, the pragmatic solution for most countries will be a hybrid between different solutions.

Architecture type	A (market)	B (fund outside state)	C (fund within state)	D (Conditional budget support)
Potential to reduce D&D	High	Medium	High	Medium - low
Capacity to raise funding	High	Medium	Medium/High	Low
Risk for leakage	High	Low	Low	Medium
Cross sectorial coordination	Limited	Low	High	Low
Challenges	-Leakage may be a killing factor -Carbon cowboys - Market non-existent	- Now power base - Access to global resources	- Corruption - Politisation	- ownership to process - Corruption
Participation	- Unclear ownership	- Potentially high	- Needs strong representation	- potentially low

GW1.2 Power and vulnerability

Group 2

Chair: Chandra Kirana
Rapporteur: Maritieuw Chimere Diaw

Topic: *What power relations characterize the various architectures defined? Are any interests or groups in a vulnerable position in any of the national architectures?*

The report from this group took the form of a diagram with notes – see following page
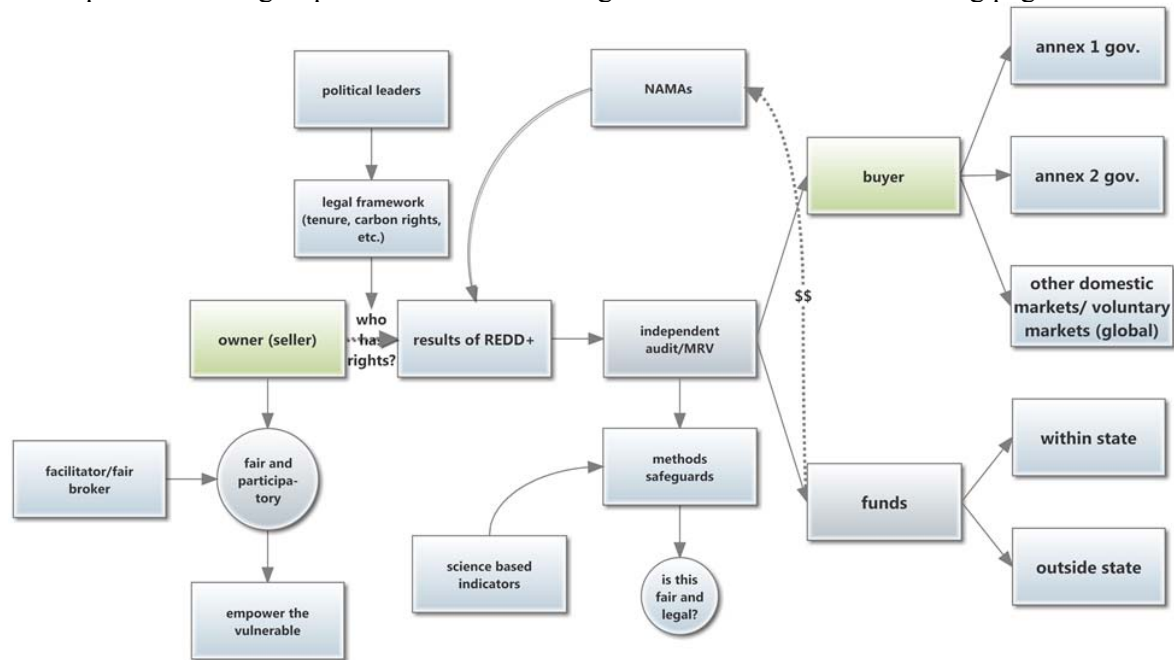
Notes for the diagram

General observations on vulnerability:
Communities are vulnerable in all cases.
Federal system: decentralized
Local GOV getting stronger and central GOV is threatened
Product developers: risking the investment
The people that do not have access to markets are vulnerable. Corruption in the system can create vulnerability, by exclusion of certain groups in society.

Market/project-based system:
There is a complexity at sub-national and national level and depending on who are packaged as buyers and sellers? Their values, perceptions and power relation.
Safeguards maybe observed but not implemented under this architecture.

Rights to land and carbon can be different.

It is not possible to have markets, if scientists are not involved. Voluntary markets have disappeared. Market based scenario, not virtual market, has to be made to exist with assistance from scientists and policy makers.

Additionally is an issue

Compliance market concerns more with making money, not so much about people's rights, vulnerability.

Indigenous people can be sellers and markets can be established at national level

National Funds outside existing national administration:

The idea of economic efficiency is originated from the West and there is a discrepancy between the North and South.

NAMAs: would that fit under which model? ICA?

Accountability measures cannot be escaped.

Recommendations:

Empower the most vulnerable actors

There need to be an overarching governance and policy framework otherwise this system will fail.

This system only works when social safeguards are taken into account

There need to have facilitators (e.g. NGOs)-intermediaries who act as fair and honest power brokers, not the market brokers.

It is recommended to carry out stakeholder's analysis before moving into building different types of architecture

GW1.3 Good governance

Group 3

Chair: Paul Vedeld
Rapporteur: Jawad Ali

Topic: How do you characterize the various architectures concerning their capacity to ensure accountability and transparency, and avoiding corruption? What do you see as the main challenges facing the various national architectures in these respects?

A. Market	B. National Fund outside state	C. National fund (state fund)	D. Budget)
Powerful will take on the process and incentives	Clear roles actors/stakeholders maintaining and using the national funds can increase transparency	Actors other than the government is important with clear roles for maintaining and using the national funds to increase transparency	Too much control of state - without market driven activities things will not work
Market for carbon is outside the country and local setting	Regulatory mechanism of the national park fund in some countries		This model is tested and has not worked. Role of civil society

where carbon credits will produce, therefore sellers will have no access to market information	can be taken as an example for lesson		and stakeholders will be limited resulting in misappropriation of resources
Buyers and sellers has an incentive to maximize profits, therefore deforestation can increase	Civil society role is possible in this model to improve transparency over accordingly	Civil society role is also possible in this model to improve on accountability of both indigenous/local people and the state	Technical issues and limited capacity of state to handle the process
Capacity of indigenous people and local communities to handle market and market information is limited	Various actors/stake-holders will have the opportunity to keep checks on who get the incentives from reduced deforestation reduced forest degradation		Credibility of the state institutions in questions
No market based mechanism/laws in place in the carbon credits producing countries			

GW1.4 Building on what is?

Group 4

Chair: Patrick Bisimwa Kulimushi
Rapporteur: Grace Wong

Topic: Should REDD+ be built on existing institutional structures or on creating new ones? The group should evaluate administrative demands and costs of establishing and running REDD+ given the different characteristics of the four architectures.

It depends … on the situation and socio-economic-political context in country.
Current practices demonstrate a blurring of the lines between the 4 stylised architectures proposed by Vatn and Vedeld (2013) and a mix of old and new structures. In most cases, the acidification of REDD finance to state budgets presents a unique opportunity towards either a strengthening of existing policies and governance or development of new.

Comparison of administrative demands and costs of bold old and new systems drawing on country-specific lessons from group participants:

Building on existing systems:
Time and capacity constraints for new systems – DRC has 3 year timeframe to collect information/lessons from projects to feed into the REDD national strategy, and chose to fund

existing projects managed by local and international NGOs, and private sector. The integration of REDD into these projects creates hybrid projects – blend of old and new.

In Tanzania, the use of existing institutions is driven by availability of knowledge, information, methodologies, particularly for MRV. REDD projects are facilitated by existing and experienced institutions, INGOs and other actors who are experienced, but this is challenged by national governments because funds would flow directly to projects bypassing the State. Tenure is key problem.

Use of existing institutions is cost efficient – but effectiveness and legitimacy uncertain
Costs may be too high in the short-term to develop new systems – transaction costs and uncertainty – perhaps easier to deal with "familiar" evils?

Create new systems:
In Vietnam, political ideology and national identity are strong drivers for setting a new frame outside of normal practice. Heavily centralized system with strong government ownership. REDD architecture builds on old/existing PES system, but the old is also pretty new!
In Indonesia, donor demand and pressure (from Norway) to overcome or manage old failings of existing institutions also create trade-offs – marginalization of old agencies could undermine process and create wider faultlines (e.g. Indonesia)

GW1.5 Legitimacy

Group 5

Chair: Syed Nasir Mahmood
Rapporteur: Josi Khatarina

Topic: What do you consider to be key strengths and weaknesses of the different architectures to ensure the legitimacy of REDD+? The group is free to consider whatever aspect it finds relevant.

Background
The four generic architectural models for operating REDD+ at the national level as drafted by UMB are :

1. Market/ Project based
2. National Fund outside existing national administration
3. A fund within the national state administration
4. Conditional budget support

The task of the group was to address two questions

i. on legitimacy: what is considered to be key strengths and weaknesses of the different architectures to ensure legitimacy of REDD+?
ii. Building on what is : Should REDD+ built on existing institutional structures or on creating new ones? To consider administrative demands and costs of establishing and running REDD+ given the different characteristic of the 4 architecture.

Due to shortage of time only the first question was thoroughly discussed by the group and the findings were shared at the plenary.

Overall, the group determined that all of the mechanisms have problems with leakage and permanence. The bulleted summary of the findings is given below:

1. Market/Project-based system

STRENGTHS
- Near perfect system, everything defined because based on CDM
- Measurable and verifiable no matter what scale

(assumption is that it will be something like the existing system of CDM with EB where all procedures and methodologies are well documented)

WEAKNESSES
We should avoid CDM because it did not work for the forestry sector. It was too complex.
- Risk of Insufficient national ownership
- Insufficient involvement of indigenous people and communities
- Less chance of leakage (this finding was discussed in the plenary by Group I)

2. National fund outside existing national administrations

STRENGTHS
- Transparency, accountability chances are high
- Public participation
- Less chance of leakage

WEAKNESSES
- Less likely to have political commitment because detached from government
- Chance of leakage

(leakage, permanence Additionality and displacement were used impliedly to leakage)

3. Fund w/in national state admin

STRENGTHS
- Similar to B, but stronger linkages to national policy-making
- Stronger fiduciary safeguards possible

WEAKNESSES
- Stronger fiduciary safeguards

APPENDIX C3

THEME 2: MAKING REDD+ PARTICIPATORY AND PROTECTIVE OF LOCAL RIGHTS

GW2.1 Why participation?

Group 5

Chair: Paulo Jose Chiarelli de Azevedo
Rapporteur: Naya Sharma Paudel

Topic: Participation of local and indigenous communities is emphasized in REDD+. Do you consider it a means to expand REDD+ or an aim in itself? For what issues is participation important? How can it be best ensured?

There are a number of explanations why there must be a full and effective participation of indigenous people and local communities on REDD. These can be categorized into two major areas: i) instrumental reasons; and ii) ethical, moral reasons. The first rationale emphasizes on outcomes of active local participation in terms of informed decision, increasing local commitment and ownership of the programme, strong compliance of decision/rules, all would lead of effective conservation and resources and therefore successful REDD. The second emphasizes on more fundamental issues of human rights, citizenry rights, community empowerment and political and civic rights. If indigenous people and local communities are going to be affected from any REDD project, they must have the rights to take informed decision whether to participate in the scheme or not. Many REDD projects appreciate and internalize both rationales and have put adequate resources to ensure full and effective participation of those who are affected from the project. However, neither all follow the similar principles nor are they truly implemented in everyday practice.

Arenas for participation

REDD+ projects can adopt and entertain participation in a range of arenas. The Indigenous People and local communities can be involved and consulted right from the beginning to introduce the concept of REDD and the vision and goal of the proposed projects. This will be followed by the practical modalities of implementation of the project. Some more critical areas would be decisions related to change (restrictions) in traditional land use practice, basis of benefit distribution and expected roles of community members in MRV. Though participation can be/should be adopted in all the stages of project – from inception to implementation, the extent of consultation and level of local contribution varies a lot. For example, local participation be less on more technical aspects of REDD implementation such as MRV and GIS mapping.

Challenges of ensuring full participation

One of the key challenges in inviting people to participate in REDD process is we do not know what to offer in terms of potential benefits. Given the evolving nature of REDD+ architecture and uncertainty in carbon market or even flow of Aid money in REDD, it is difficult to predict the amount of REDD money available. The lack of clarity and uncertainty of REDD benefit is one of hurdle of undermining active local participation.

Second, participation is always costly and demands a huge resource, efforts and also in many cases extends the time frame. Especially these challenges are particularly so with free, prior informed consent. Yes, in principle FPIC must be fully observed. However, in practice, it is rather an expensive process. This is particularly difficult when communities are heterogeneous and there are diverse interests within the local communities.

Third, there are questions of legitimacy of those leaders who engage with authorities or companies. They cannot represent all the communities, as there are diverse interests. Moreover, there are tendencies these days that when local leaders engage with project promoters or with authorities he or she is seen as co-opted by the powerful actors. In many cases these leaders gradually get detached from their own constituencies.

Overcoming challenges to participation in the context of REDD+

Some of the following strategies would help overcome the challenges to meaningful participation.

- Creating and maintaining trust between the project promoters and local communities,
- There must be adequate additional money and other incentives to keep the people interested in REDD
- Participation must be internalized as an important process not just to get the project implemented but as an end itself. The empowered, proactive and able citizens can better engage in strengthening local democratic process which in itself is an achievement.
- Project promoters and other support agencies should consider the local communities as internally diverse with different interests, capacities and needs.

GW2.2 The right to say no

Group 1

Chair: Julius Ningu
Rapporteur: Adriana Ramos

Topic: What possibilities do local/indigenous communities have to say no to REDD+? When should they have such a possibility? Do you evaluate this issue differently dependent on a) who owns the forests, b) how REDD+ is organized – the chosen architecture?

Pre-conditions:
Awareness
Adequate information - previous to consultation process
In which cases they have the right to be consulted?
- Not only when they have the ownership
- But also when they are affected
- Even if the country has not signed international agreements like the ILO 169
- They also should have
  - The right to stop a project
  - Ways to influence the outcomes

Depending in the architecture ?
- No doubts in the project based approach
- Funds:
  - Participation in governance
  - Prior informed consent for projects to be supported (exception for those presented by the communities or indigenous organizations)

National approach
- Participation in decision making in the national level
  - National targets
  - Strategies
  - Legislations
- Participation in the implementation – bottom up

At what time in process?
- Before the beginning - previous design phase
- In all steps

Consequences for those that say NO?
- Communities should get together to decide
- Process should guarantee the Internal equality of communities interests and opinions

GW2.3 Rights and compensation

Group 2

Chair: Daniel Murdiyarso
Rapporteur: Thu Ba Huynh

Topic: *Forests tenure is characterized by legal pluralism – often complex combinations of formal and informal property and use rights. What rights holders should be eligible for compensation in REDD+? How should the distribution of REDD revenues be decided?*

When carbon is commoditized, the logical thinking is that communities may have given up their rights. Men and women have different interest in forest and agricultural economies and hence carbon market.

When the GOV further inserts its control over resources and the emergence of forest mafia with concessions given by the GOV, how can different incentives be designed, how can they be supported to maintain this system?

Forgone revenue: institutions and actors, a deal for conservation for REDD+, the GOV gained money from the whole logging chain, e.g. 18 billion USD from palm oil industry in Indonesia? Surveys carried in Brazil show the 67% of the population who think their life is improved have partners with illegal loggers and fishermen. It is difficult to move ahead with these defendants of BAU.

How can participation change the balance of power? How to measure participation? What is considered effective participation? Cosmetic participation and authoritarian participation? Real participation is when people are empowered to define, based on institution that is empowering, at landscape scale with structured interaction of all stakeholders sitting at the same table, evident in the case of Cameroon. There are non-homogenous groups, elite captured internally, that is why everyone should be at the table.

FPIC should be considered as a specific tool to empower local people and a social learning process which should be adapted, and continuous (indigenous people defined REDD+ as the longer term- full life plans). FPIC should aim at competence building and empowerment. Local people should be trained to carry out FPIC, develop indicators and self-evaluate…good experiences PLA have been around for 20 years. There is a four-step strategy:

(1) Right referencing, participatory mapping (multi-layer mapping with one layer on rights). Who is having claims, having what resources? This has been done on large-scale
(2) Organize stakeholders forum
(3) Negotiation: what are you going to when you have revenue, all the strategies- not decide
(4) Formula: mechanism for funding…

The right to say NO. This is not an option. This is a must. Different pathways of REDD architecture should develop indicators of the possibility to say NO. Below is our suggestion with ranking of the possibility to say NO (1 is the strongest)

A 3; B 2; C 1; D 4

GW2.4 Fighting over rights?

Group 3

Chair: Resham Dangi
Rapporteur: Kamaluddin Prawiranegara

Topic: Forests tenure is characterized by legal pluralism – often complex combinations of formal and informal property and use rights. Given the uncertainties this creates, what risks do you see regarding potential loss of existing local rights, and redistribution of such rights (e.g., elite capture) following from instituting REDD+? How could such challenges be met?

Question: "… what risks do you see regarding potential loss of existing local rights, and redistribution of such rights (e.g. elite capture) following from instituting REDD+? How could such challenges be met?" The challenges and solutions relate to two main issues: politics/power, and complexity. The main conclusions of the group may be summarized with regard to each in turn:

Politics/power:

The challenge. When rights are formalized, some people are probably excluded as a result – even when formalization is based on well-established customary rights. Four risks in particular may be distinguished.

Those who earlier enjoyed customary rights that were not well established (newcomers?) might lose out to those whose customary rights are more readily proven;

In the process of identifying and formalizing customary rights, the elite in the village are likely to be at an advantage, which they may use to their own benefit;

Outsiders, such as private companies, who probably understand and master the law better than local people, may be able to take advantage of their knowledge to gain rights despite the intention of the law;

Central government, similarly, might possibly gain at the expense of local people.

Possible solutions.
  - Information: accurate and easily understood information to be provided in a timely fashion – not only to local people but also to local government officials. It will be most effective if this is provided to both groups at the same time, to ensure that the rights and responsibilities of each are understood.
  - Participation (closely related to information): local people should participate actively in the process of interpreting the implications of REDD+ for tenure rights.
  - Financing of REDD+ could be made conditional on satisfactory procedures with regard to both information and participation.

Complexity:

The challenge: Despite attempts to standardize the practice of REDD+, there are substantial differences in tenure rights not only between countries (even within, e.g. Amazonia), and within countries – reflecting differences in natural resource endowments, and in socio-

cultural, political and other dimensions. And 'bundles of rights' are correspondingly varied: rights of use, of access, of alienation – possibly also dependent on the seasons.

Possible solutions: Flexibility in the interpretation of REDD+ rules, allowing bottom-up involvement in order not only to ensure that local people's preferences are recognized, but also that the full complexity of the situation is adequately understood – in each different context.
Note: the issues of power and complexity are linked. Complexity is associated with uncertainty, which can serve the interests of those who have the power to decide 'whose rules matter'.

GW2.5 REDD+: A recipe for recentralization?

Group 4

Chair: Leif John Fosse
Rapporteur: Charles Meshack

Topic: It has been argued that REDD+ may create a process of recentralization in forest management. What is your experience with regards to this and what are the potential consequences? Are there intrinsic characteristics of REDD+ that drive such a process and if so, how could it be counteracted/avoided?

Recentralization not intrinsic to REDD, but context-specific.

Nepal – Recentralization of CBFM is not likely to happen – because of history of CBFM. But CBFM only works in the mountains not feasible in the Terai.

Tanzania – Incomplete decentralization and devolution of responsibility for managing forests to community level. Competition for resources between the states and local communities makes for insecure tenure for communities in diminished incentive for long term management of forests.

Uganda - Most (64%) of land forest is under community and Private ownership. However there is a question who owns the carbons? This depends highly on land tenure system.
Collaborative forest management between the government and local communities but the returns to communities is negligible, and recentralization of forests where there are prospects for petroleum.

Vietnam- Centralised system with some room for decentralized action in the form of participatory forest monitoring and payment for forest and watershed ecosystem services and piloting in the provinces eventually becoming national policies.

Indonesia – Issuing of licensing for forest conversion decentralised without corresponding revenue allocated over the state budget, resulting in districts engaging in extractive use of natural resources. Political cycle of deforestation, palm oil or mining companies paying local politicians' elections campaigns in return for concessions. As such, some aspects of the licensing system need to be recentralized or at least synchronized across governance levels.

DRC – Communities are given right to manage the resource in proposed decree, but ineffective without secure tenure.

Ethiopia – REDD is an opportunity for decentralization through PFM. However, it still not clear who will own the carbon and what are the responsibilities?

APPENDIX C4

THEME 3: WHAT TO PAY FOR AND HOW?

GW3.1 Paying for what?

Group 4

Chair: Roshan M. Bajracharya
Rapporteur: Adrian Enright

Topic: REDD+ is described as being performance based. Nevertheless, payments can be linked to different performance indicators, e.g., policies/policy measures (outputs), actions taken (outcomes), or impacts (forest stocks or emissions). Discuss the pros and cons of the various options. Should the systems be different at national as opposed to the local level?

Process:
Began with discussions around looking to pay for services beyond carbon, and paying for activities at the landscape level. This would involve paying for broader climate change activities beyond forests e.g. paying to reduce consumption of charcoal through investment in alternative energy technologies. However, this raises a whole suite of new complexities around measurement and attribution for performance based payments.

A matrix was drawn up (see below) to try and structure our thoughts around the question of 'for whom' and 'for what' payment systems should be made. However, it was difficult to really define the 'for whom'. Obvious ones likes communities, households etc. were mentioned. However, there was serious uncertainty and disagreement around paying 'governments'. Are governments warranted as beneficiaries, or are they just recipients and then distributors?
In terms of looking at payments 'for what', we concluded it was very country specific. The issue of charcoal related deforestation in Tanzania was discussed. However, the broader issues get problematic because of problems associated with leakage and attribution of emissions savings to particular actors.

Finally, the group discussed the last axis in the matrix (4) which addresses land tenure and governance. Here, serious questions were raised as to whether REDD+ is the appropriate vehicle for tackling tenure and governance? Is REDD+ being overloaded.

Conclusion: Not enough thinking around for whom and for what at the country level?

Complexity of payment for performance

	1: REDD	2: REDD	3: REDD+	4: REED++
	Reducing Emissions	Reducing Emissions + Safeguards	Reducing Emissions + livelihoods + local rights	Governance + Tenure Rights leading to Emissions Reduction
Policies + measures (National & regional)	Bi-lateral agreements	Bi-lateral agreements	Promoting agro-forestry (i.e. seedlings, extension services etc.). Sustainable charcoal	Too complex
Actions (outcomes)		√ Government (Districts + Local);	Improved forest cover Improved efficiency of charcoal burners	C as a co-benefit?? Is REDD+ the right mechanism to tackle these issues?
Impacts/results	√ Government (representing society); local communities; companies	√	Trajectory of C emissions in forestry reduced Reduced deforestation from charcoal	

GW3.2 Co-benefits, trade-offs and payments

Group 3

Chair: Barbara Nakangu
Rapporteur: Hege Karsti Ragnhildstveit

Topic: REDD+ aims to deliver co-benefits. What trade-offs do you observe between carbon emission reductions, biodiversity protection and poverty eradication? To the extent there are trade-offs, how can these be best handled w.r.t. payments?

There will be trade-offs, but these depend on the modality of REDD+ and the existing framework of rights and benefits in the forest management system. REDD+ projects will be implemented at different levels and this will influence trade-offs. If communities are benefitting today with the present system, they might lose in a REDD system if they do not have clear tenure rights/ user rights to the forest. However, in countries where communities have few rights to forest today, the REDD agenda can help bring up indigenous peoples' rights and correct past wrongs. There are few opportunities in REDD+ without rights. The

trade-offs need to be recognized and there are ways of dealing with them which needs to be reflected in the payment mechanism. One country example is Pakistan where the forest is owned by the clans, but managed by the state. Despite clan ownership, it is the state that decides when and where to harvest. What will the state do if REDD+ is introduced? Will it give more responsibility to the clans? There is a risk that the communities will lose the little they got from today's system.

The Norwegian International Climate and Forest Initiative equals development and climate change mitigation goals. Can they deliver on both? This is a fundamental question that the politicians have not thought enough about. We need researchers to deliver the evidence.

In Peru the state ignores ancestral knowledge. Indigenous peoples have to be really careful with regards to REDD+ and make sure the state follows rigorous safeguards to hinder extreme poverty. If there is a carbon market, indigenous people have to adapt to the term market, which will decide what they can take from their land. They may lose fundamental rights that they already have obtained, i.e. the right to take out agricultural products from the forest. For indigenous peoples the forest has at least 24 different functions, not just carbon.

To look at the trade-off between poverty and climate change mitigation we need to look at poverty as multidimensional and ask what makes people poor. If activities for REDD+ imply time and labour we need to analyse how these overlap or compete with other activities of the household. Local participation in REDD+ activities could influence household relations, and mean that the work load gets transferred from men to women, for instance. The result might be more money for the household, but less time and more stress to carry out necessary chores and obligations.

The REDD+ architecture was developed for the carbon market and we cannot get away from that. Now we are trying to accommodate other functions with REDD+. We have to explore the methodological aspects of non-carbon benefits. Forest *is* livelihood and biodiversity. How can we develop qualitative indicators so that people do not pay too much or too little for the co-benefits? How will the different communities benefit compared to their input in reduced deforestation?

The co-benefit of poverty has increased since REDD+ was introduced while biodiversity has lost ground. While we might say that reducing poverty is a means to reduce carbon emissions from deforestation, it is hard to say the same for biodiversity, which is a pure co-benefit. Politicians in tropical forest countries have to make REDD+ attractive to their citizens. It is hard to do that if they only focus on the trade-offs, it is more likely to be portrayed as a win-win solution. The poor vote so politicians need their support. Tigers do not vote. There are factual trade-offs versus value trade-offs and it will be the ones in power who can enforce their value.

GW 3.3   Payment models and formats

Group 1:

Chair: John McNeish
Rapporteur: Mariel Støen

Topic: Payments can be distributed in many different ways, e.g., as individual or collective payments; directly as cash payments or indirectly as part of specific programs (energy, agriculture etc.)? What models do you find interesting at national and local levels respectively? What models do you consider most effective? What models do you see as most fair?

Payments can be distributed in many different ways, e.g., as individual or collective payments; directly as cash payments or indirectly as part of specific programs (energy, agriculture etc.)? What models do you find interesting at national and local levels respectively?

The group considered that the provenance of the funds would have much influence in the way the model for payments at the national and local levels is designed.

One option is to harmonize the system of payments at the national level, and let the community decide at the local level. Local people should have a say on how to distribute the payments. The system should respect the own forms of organization of local communities.

Governments should be in charge of legislating on benefit sharing, but the final decision should be taken at the local level.

As to what to pay, this will also depend on the level. At the global level payments should be made for reducing emissions. At the national level, the government should design the guidelines to achieve emissions reduction, at local level, communities can choose among different options.

On whether to pay in cash or for specific projects at the community level, our position is that this would vary between countries and communities. However, securing land rights is a precondition for making people interested in participating in REDD+ schemes.

What models do you consider most effective? What models do you see as most fair?

A market based perspective is perceived as unfair, but as the REDD+ project is evolving we believe that the future will hold a combination of market based and global fund.

When governments around the world are realizing that we need a market, we need to involve private actors, compel private actors to make payments of some sort. A market is a way of doing it, a fee is another way. This however, raises issues of fairness and equity. Would it be fair to let companies buy emissions in developing countries (cap and trade)? Would that approach create incentives for technology development?

We believe that the best approach is to create funds to pay for forest conservation and stimulate companies to develop better solutions.

GW3.4 Monitoring and verification

Group 5

Chair: Gilbert John Anim-Kwapong
Rapporteur: Larissa Falkenberg Kosanovic

Topic: Monitoring and verification could be undertaken in many different ways and at different levels – e.g., remote sensing, forest inventories, participatory monitoring. What models do you find interesting? Is it necessary to have monitoring both at national and local levels, and if yes, how can they be linked? Is monitoring important both for carbon and co-benefits? Discuss the pros and cons of the models specified.

Core question: Monitoring and verification
1. Among remote sensing, forest inventories, and participatory monitoring, what models are interesting?
   a. Remote sensing couples with ground truthing;
   b. Forest inventories are limited but are necessary;
   c. Participatory monitoring should be done;
   d. Must include socio economic monitoring;
   e. Most important link is monitoring and verification and across scales (local + national);
   f. Reporting serves both these goals;
   g. Need to avoid double accounting especially in nested REDD+;
2. Is it necessary to have monitoring both at national and local level? yes
3. How can local and national level MR be linked?
   a. By strong national authority;
   b. There needs to be one national system (supported by sub-national reporting mechanism) determined by the country itself;
   c. By national monitoring system to ensure similar data and definition will be used nationally, however co-benefit does not have to be the same over different districts;
4. Is monitoring important both for carbon and co-benefit?
   a. Yes, but its challenging to measure co-benefits in REDD+;
   b. Measuring co-benefit need different monitoring system from carbon;
5. Pros and cons of the model specified?
   a. Feasibility of attributing co-benefit to REDD+ currently very limited;

Supplementary questions: Co-Benefits, trade-offs and payments:
1. trade-offs between carbon emission reductions?
   a. Examples Nepal where forest protection consistent with livelihood improvement;
2. How can these be best handled with respect to payments?
   a. Trade-offs are already beginning to be addressed in the ICDP aspect of many REDD+ projects. Forest access restrictions compensated by non-conditional livelihood enhancements. The job of REDD+ is to compliment these payments, expand the compensation of opportunity costs and achieve win-win.

APPENDIX D

LIST OF PARTICIPANTS

Full participants

	Name	Affiliation
1	Adrian Enright	SNV Vietnam
2	Adriana Ramos	Instituto Socioambiental, Brazil
3	Anne Larson	Center for International Forestry Research (CIFOR)
4	Arild Angelsen	Norwegian University of Life Science
5	Arild Vatn	Norwegian University of Life Science
6	Audun Garberg	Norwegian Ministry of the Environment
7	Bahadar Nawab	Comsats University, Pakistan
8	Barbara Nakangu	IUCN Uganda Office
9	Bishal Sitaula	Norwegian University of Life Science
10	Chandra Kirana	Indonesia REDD+ Task Force
11	Charles Meshack	Tanzania Forest Conservation Group
12	Charlotte Nakakaawa	Norwegian University of Life Science
13	Christopher Martius	Center for International Forestry Research (CIFOR)
14	Daniel Murdiyarso	Center for International Forestry Research (CIFOR)
15	Darley Kjosavik	Norwegian University of Life Science
16	Desmond McNeill	Centre for Development and the Environment, University of Oslo
17	Edwin Vasquez Campos	COICA
18	Elizabeth Stormoen	Norwegian Agency for Development Cooperation
19	Ellen Stenslie	Norwegian University of Life Science
20	Esteve Corbera	Universitat Autònoma de Barcelona
21	Grete Benjaminsen	Norwegian University of Life Science
22	Gene Birikorang	Hamilton Resources Ghana
23	George Kajembe	Sokoine University of Agriculture, Tanzania
24	Gilbert John Anim-Kwapong	Cocoa Research Institute of Ghana
25	Gorettie N. Nabanoga	Makerere University, Uganda
26	Grace Wong	Center for International Forestry Research (CIFOR)
27	Hans Fredrik Hoen	Norwegian University of Life Science
28	Hege Karsti Ragnhildstveit	Rainforest Foundation Norway
29	Ida Hellmark	Norwegian Agency for Development Cooperation
30	Ingrid Nyborg	Norwegian University of Life Science
31	Ivar Jørgensen	Norwegian Agency for Development Cooperation
32	Jawad Ali	Education Development Centre, Pakistan
33	John Andrew McNeish	Norwegian University of Life Science
34	Josi Khatarina	Indonesian Centre of Environmental Law (ICEL)
35	Julie Mollins	Center for International Forestry Research (CIFOR)
36	Julius Ningu	Tanzania Vice President's Office
37	Justine Namaalwa Jjumba	Makerere University, Uganda

38	Kaisa Korhonen-Kurki	Center for International Forestry Research (CIFOR)
39	Kassim Kulindwa	Norwegian University of Life Science
40	Larissa Falkenberg Kosanovic	Norwegian Embassy in Vietnam
41	Lars Ekman	Norwegian Agency for Development Cooperation
42	Leif John Fosse	EU REDD Facility, European Forest Institute
43	Leif Tore Trædal	Norwegian University of Life Science
44	Levania Santoso	Center for International Forestry Research (CIFOR)
45	Mads Halfdan Lie	WWF Norway
46	Maria Brockhaus	Center for International Forestry Research (CIFOR)
47	Mariel Støen	Centre for Development and the Environment, University of Oslo
48	Mariteuw Chimere Diaw	African Model Forest Network, DRC/Cameroon
49	Marte Nordseth	Norwegian Ministry of the Environment, Norwegian Climate and Forest Initiative
50	Maryanne Grieg-Gran	International Institute for Environment and Development (IIED)
51	Morten Nordskag	Norwegian Ministry of the Environment, Norwegian Climate and Forest Initiative
52	Natalie Unterstell	National REDD+/Forest focal point. Ministry of the Environment, Brazil
53	Naya Sharma Paudel	Forest Action Nepal
54	Nils Herman Ranum	Rainforest Foundation Norway
55	Patrick Bisimwa Kulimushi	National REDD Coordination Unit, DRC
56	Paulo Jose Chiarelli de Azevedo	Ministry of the Environment, Brazil
57	Poul Wisborg	Norwegian University of Life Science
58	Pål Vedeld	Norwegian University of Life Science
59	Resham Dangi	Nepal Ministry of Forestry
60	Roshan M. Bajracharya	Kathmandu University, Nepal
61	Signe Howell	University of Oslo
62	Solveig Verheyleweghen	Norwegian Ministry of the Environment, Norwegian Climate and Forest Initiative
63	Syed Mahmood Nasir	Pakistan Inspector General of Forests
64	Synne Movik	Norwegian University of Life Science
65	Thu Ba Huynh	University of Melbourne
66	Virgilio Viana	Amazonas Sustainable Foundation (FAS)
67	William Sunderlin	Center for International Forestry Research (CIFOR)

Phd students:

	Name	Affiliation
68	Ashish Aggarwal	School of Environment and Development, University of Manchester, UK
69	Baruani I. Mshale	University of Michigan (Ann Arbor), School of Natural Resources & Environment
70	Cecilie Hirsch	Centre for Development and the Environment, University of Oslo and Norwegian University of Life Sciences
71	Clare Tompsett	University of Bergen
72	Dario Vespertino	University of Tuscia Via San Camillo de Lellis, Italy
73	Deborah Delgado Pugley	UniversitéCatholique De Louvain
74	Dilli Prasad Poudel	University of Bergen
75	Dorcas Peggy Somuah	University of Amsterdam
76	Jonas Ibrahim Hein	University of Goettingen,
77	Lisa Westholm	University of Gothenburg
78	Marjanneke Vigje	Wageningen University & Research Centre
79	Mary Gorrett Nantongo	Norwegian University of Life Sciences
80	Melis Ece	University of Eastern Finland
81	Mesele Negash Tesemma	University of Helsinki
82	Nathan Debortoli	CDS/UnB Brasília - Brasil
83	Rico Konsager	Technical University of Denmark
84	Susanne My Giang	University of Hamburg
85	Toa Loaiza Lange	University of Göttingen