SECOND EXPERT MEETING ON HARMONIZING FOREST-RELATED DEFINITIONS FOR USE BY VARIOUS STAKEHOLDERS

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CONCLUSIONS

Need and Tools for Harmonization

The Meeting reiterated the need for a common understanding of, and harmonization between, forest-related definitions of core terms used by different international processes and instruments to reduce errors in employing terms; the reporting burden on countries and related costs; and the confusion in communicating with the media and the public at large.

Harmonization in this context means improved comparability, compatibility and consistency between definitions; establishment of linkages; and description of relationships between terms. The process of harmonization involves documentation of similarities and differences between definitions, for which analytical tools can be used.

It was recognized that each international convention or process was context-specific and applied its own definitions of forest-related terms. However, the use of these terms and the way they were defined should be as consistent as possible. As an example, when COP7 of UNFCCC used "degradation" in its mandate to IPCC, it actually intended to focus on a human-induced reduction of carbon stock in the forest, whereas under other processes it was related to any change in the forest condition, leading to a reduced overall capacity to supply goods and services from the forest[1].

The Meeting emphasized the need of accuracy in the definition of terms that were used for different purposes under various processes. Before adopting new definitions for widely used terms, consistency with their current use in other fora should be considered.

Whilst the Meeting recognized that a comprehensive definition of forests requires the inclusion of social considerations, the group agreed that, for the purposes of this process, it was not appropriate to further incorporate these into the core definition of forest. They should be included instead in the further characterization of forest. This should be explored in the appropriate arenas and through mechanisms such as the international frameworks for criteria & indicators for Sustainable Forest Management.

The comparative analytical framework of forest-related definitions between international processes should be widely disseminated, used and developed. Such a framework, drawing on comparative matrices and set concepts, identifies (i) the presence or absence of various elements or parameters contained in the respective definition (binary concept, e.g. minimum crown cover) and (ii) quantified threshold parameters (e.g. 10%). The framework can be used effectively to compare definitions, thereby improving communication and clarifying the need and feasibility of developing new ones.

It was anticipated that the outputs of this harmonization process would form part of the expected report by the Collaborative Partnership on Forests (CPF) to the third session of the United Nations Forum on Forests (UNFF-3) on progress made in fostering a common understanding of concepts, terminology and definitions.

Status of Harmonization

The two expert meetings concluded that differences were minor in the definitions of the terms listed below. The meetings identified ways in which the definitions could be further harmonized or the differences which could be dealt with:

• forest
• forest land
• forested land
• other wooded land
• non-forest
• reforestation
• forest degradation
• forest improvement

The Meeting identified other terms that were used primarily in a regional rather than a global context, and with differing meaning from region to region, such as:

• old-growth forest
• semi-natural forest

Since the current definitions of the terms indicated below had certain inconsistencies, the expert meeting made proposals for new formulations or adaptations. However, it was recognized that some further work may be required to finalize this task through a cooperative effort between the relevant bodies and in cooperation with countries. The terms in question were:

• other land (other than forest and other wooded land)
• afforestation
• deforestation
• planted forest
• forest rehabilitation
• forest restoration
• forest fragmentation
• secondary forest
• trees outside forests; and
• low forest cover

A number of "supporting" terms, referring to the condition or quality of forests would still benefit from an effort towards coining common, broadly accepted definitions. This follow-up work could take place in cooperation with the processes and bodies that have a mandate to, or an interest in, using them. These terms include, *inter alia*:

• forest plantation
• natural forest
• naturalness of forest and other forest conditions
• managed and unmanaged forest
• consideration of quality of forest management and, in particular, sustainable forest management in different contexts.

Forest and Change Processes between Forest and Other Land Classes

The three international processes that have defined "forest" deal with the concept from different viewpoints:

• FRA deals with trees as a resource in the following categories: forest (including forest plantations); other wooded land; and other land with trees outside of forests.

• The Marrakech Accord (MA) of the Kyoto Protocol (KP) is mainly concerned with the measuring and accounting of carbon and carbon stock changes and defines as forest all areas containing trees within country-defined structural parameters.

• CBD is concerned primarily with biodiversity issues and appears to follow the FRA definition of forest with the exception that temporarily unstocked areas are not explicitly included.

However, all the definitions include threshold parameters covering minimum area, minimum height and crown cover. As the processes have different purposes, their parameters have been defined differently: in the case of the KP, each of the threshold parameters has a range of optional values within which parties must choose a specific value; the other two processes specify the same fixed values for them. In addition, the FRA specifies a minimum strip (stand) width and defines a maximum period for which a forest may remain temporarily unstocked.

Threshold parameters for defining forest under KP are flexible within a fixed range. Reporting burden could be reduced if countries applied the same threshold parameters for UNFCCC/KP and FRA reporting. The values chosen might actually differ from the definitions they employ nationally. The Marrakech Accord provides strong incentives for Annex I Parties to provide data based on forest area delineation consistent with the information that has historically been reported to FAO or other international bodies. In fact, in many instances, countries did not report to FAO data that were based on their respective national definitions, but rather data that were adjusted to the commonly agreed FRA definition.

In the future, there may be a need to add new parameters for the subclassification of forest, such as level of stocking in relation to potential (e.g., unstocked/understocked/ stocked forest); tree; and potential of land for trees.

Including "temporarily unstocked areas" in the CBD definition of forest would make it essentially the same as the FRA definition. The UNFCCC/KP rules require parties to provide information on how they distinguish temporarily unstocked forests after harvesting from deforestation. This is compatible with the FRA 10-year default for the temporary period.

The FRA and CBD definitions of forest include a land-use component. Lands where non-forestry uses predominate are not classified as forest, even where the tree cover exceeds the threshold values of the other parameters. In FRA, these areas are instead covered under "trees outside of forests" and "other wooded land". The UNFCCC/KP does not make this distinction. The impact is illustrated in Figure 1.

There is a need to clarify the related term "predominantly forestry" in the FRA definition. Its current wording refers to land use, or forests that are used for purposes of producing wood and non-wood forest products; for protection, multiple use or conservation (i.e. forests in national parks, nature reserves and other protected areas); as well as forest stands on agricultural lands (that is, windbreaks and shelterbelts of trees with a width of more than 20 m, rubberwood plantations and cork-oak stands). It is also used for forests which are not used at all due to inaccessibility or other reasons. However, stands of trees established explicitly for agricultural production and agroforestry systems are excluded. UNFCCC does not have any land-use requirements in its definition of forests, but does face the same overlap problems when it comes to forest management activities.

FRA already collects data on forest plantations and categorizes plantations managed for wood or fibre production, protection, etc., as forest. Plantations managed for tree crops are non-forests. UNFCCC/KP defines all plantations as forest (including those that are the result of afforestation and reforestation).

There is a need of further harmonizing the terms afforestation and deforestation in future provisions of UNFCCC/KP with the FRA definitions. UNFCCC may also want to consider removing the requirement for a 50-year non-forest use prior to afforestation and combining the terms afforestation and reforestation, using only the former. This would ease reporting and remove a major inconsistency with FRA.

It was recognized that permanent forest loss was almost always human induced and rarely a natural occurrence. The definitions of deforestation are specific to the purposes of the two processes; however, compatibility cannot be achieved because the FRA and UNFCCC/KP definitions of forest are different. As a result, figures reported by the two processes on changes between forest and other land classes are not likely to be comparable.

The UNFCCC/KP terms "forested land" and "forest land" can be considered synonymous of "forest" and, therefore, it is recommended that the use of the term "forest" be preferred in all contexts.

There is a need to clarify the method of classifying lands with a combined land use under the UNFCCC definitions and assess whether the UNFCCC approach can be aligned with the FRA classification by, e.g., dividing the FRA land class "other land" into subclasses. This could take into consideration the categories used in the IPCC Good Practice Guidance preparation process and subsequent discussions in the SBSTA/COP of the UNFCCC/KP.

Forest Degradation and Change Processes within the Forest

Definitions of forest degradation developed by FRA, CBD, ITTO and IPCC LULUCF Task II in a preliminary draft were analysed in a comparative matrix (Table 1) regarding occurrence and quantification of elements such as structure, function (provision of goods and services), site, reference state, spatial and temporal scale, resilience and cause.

• Three clusters of shared elements emerged, related to "structure", "functions, goods and services" and "site-specific reference state".

• Using these shared elements, a core definition for forest degradation was derived: "Forest degradation is the reduction of the capacity of a forest to produce goods and services." The term "capacity" refers to the time scale and the reference state of any given forest. Although this core definition is not considered to serve as a substitute for existing definitions, it is offered to clarify the common ground between them.

• The definitions of FRA 2000, CBD and ITTO are comparable with respect to the main clusters. The meeting believed that the definition of forest degradation should not use long-term reduction of tree crown cover as a proxy for degradation, which, anyhow, could only be assessed *ex post* over several commitment periods.

• The lower threshold for crown cover provided in the FRA2000 and IPCC LULUCF Task II definitions makes a distinction between degradation and deforestation[2]; however, neither quantifies a differential necessary for justifying the use of the term degradation.

• From the context of COP Decision 11/CP.7, the Meeting considered that the mandate to IPCC to develop a definition for direct human-induced "degradation" (sic) of forests might refer less to the long-term impairment of the capacity of a forest to produce goods and services, but rather to methodologies of accounting for emissions from *short-term carbon stock decreases in a Party's managed forest over the first commitment period*. On the other hand, the draft definition currently considered within IPCC LULUCF Task II appears to allude to the *long-term aspect* of degradation. Any short-term reduction of timber and carbon stocks may not represent degradation in the common sense at all, and may even reflect forest improvement, e.g. a silvicultural tending operation or a reduction of overmature or overly dense timber. Therefore, another term, such as "stock reduction", may be preferable to "degradation" in the context of carbon monitoring.

• Resilience is an important concept linked to degradation. It is an implicit element of most definitions, but articulated only by ITTO as "altered beyond the normal effects of natural processes". Resilience remains a mainly scientific concept, which is not yet operationally measurable. Certain components of resilience, however, may be assessed (e.g. soil buffering capacity). Moreover, in cases of heavy damage to a forest stand, it might be possible to conclude that resilience of the ecosystem and its capacity to revert to its prior condition even in the long term have been impaired. Tallying forest areas with such heavy damages, e.g. soil compaction from machinery, emission-induced element toxicities, topsoil erosion, as a separate category might be the only feasible approach to capture this element of degradation in a short-run assessment.

• The choice of spatial scale of the degradation process is related to the objectives of the assessment and the parameter considered. Forest degradation will usually be determined for the stand but, in many circumstances (e.g. fragmented forests, water catchment runoff), it can only be assessed at the forest management unit, watershed or landscape level. It might also be legitimate to accept certain tradeoffs at the stand level, as long as a proper level of goods and services is maintained at the landscape level.

• Forest naturalness appears inadequate as a reference point for forest degradation, due to possible past human influence and natural shifts in the ecosystems and to the fact that there is no intrinsic attribute (besides "naturalness") which is linked exclusively to natural forests.

The CBD and ITTO definitions consider only "human-induced" forest degradation, whereas FRA does not differentiate forest degradation by cause. Truly natural forest degradation might be rare, but large areas could be involved. However, the reduction of a forest area's capacity to provide goods and services which is triggered by natural events, such as landslides or volcanic eruptions, may not constitute long-term degradation but rather a natural ecosystem shift. The IPCC is expected to develop definitions for direct human-induced degradation of forests and methodological options to inventory and reporting by the end of 2003.

Developing a composite index for degradation incorporating various attributes, such as productivity or biodiversity, in one single measure is a research challenge, which is likely to involve value judgement. Where data on the elements of a composite index are available, these could be directly used to measure different aspects of degradation.

The Meeting settled on the following core definition of forest degradation:

> *Forest degradation is the reduction of the capacity of a forest to provide goods and services.*
>
> Explanatory note: Capacity includes maintenance of ecosystem structure and functions.
>
> Supporting terms are forest improvement with its subsets forest rehabilitation and forest restoration (Figure 2). The latter two were identified from the literature, but not discussed in detail.
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> *Forest improvement is the process which increases the capacity of a forest to provide goods and services.*
>
> Explanatory note: In this sense, forest improvement is the opposite of forest degradation, as defined in the core definition above. Forest improvement is not synonymous to reversal of "stock reduction" as defined above, as improvements may even entail reduced stocks in the short term.
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> *Forest rehabilitation is the process of restoring the capacity of a forest to provide goods and services again, where the state of the rehabilitated forest is not identical to its state before degradation.*
>
> *Forest restoration is the process of restoring a forest to its original state before degradation (same functions, same structure, same composition).*
>
> *Forest fragmentation is the process that results in the conversion of formerly continuous forest into patches of forest separated by non-forest.*
>
> Explanatory note: This definition, offered by CBD, is the only international definition for this term and, as such, should serve as a default for other processes. Further discussion is suggested to cover certain aspects, such as habitat and ownership fragmentation; patch size; edge effects; distance; corridors; connectivity; existence and migration barriers and their impacts.

Managed and Unmanaged Forests, Forest Condition

Forest managemen tis a concept that can be applied to planning, implementation, monitoring and control at the national, subnational, forest management unit and stand levels. Related concepts, approaches and even terms used may differ in different parts of the world. They also depend on the management objective(s), such as wood products, non-wood products, watershed protection, soil stabilization, recreation and conservation. A management plan is often a basic tool in managed forests, and it can be formal or informal. Even in the absence of a management plan, management can be implemented through established traditional practices.

The UNFCCC definition of forest management provides a useful basis for characterizing this term in its modern context.

"Forest management" is a system of practices for stewardship and use of forest land aimed at fulfilling relevant ecological (including biological diversity), economic and social functions of the forest in a sustainable manner.

The Meeting proposed a slight modification to the UNFCCC wording (for UNFCCC only for later commitment periods) in order to be applicable by all processes.

> *Forest management is the process of planning and implementing practices for stewardship and use of the forest aimed at fulfilling relevant ecological, economic and social functions of the forest.*

The term unmanaged forest can have different meanings, but generally relates to the concept that neither any management decision nor any management planning or management interventions have been implemented, etc. The term "unmanaged" may not be needed at all, since it has been argued that there are hardly any forests left that are not affected in one way or another by human intervention or where humans have made a deliberate decision not to intervene with natural processes, except in some remote, inaccessible areas. Lack of formal management does not necessarily mean that a forest is unmanaged or dealt with in an unsustainable manner.

Forest condition can be characterized, *inter alia,* by the following terms: natural forest, undisturbed forest, primary forest, old-growth forest, secondary forest, semi-natural forest, degraded forest, forest plantation. A key aspect is the different degrees of naturalness that are implied by these terms. Their interrelationships are depicted in Figure 3.

The Meeting reached preliminary conclusions on the definitions of some of these terms:

> Natural forests
>
> *Natural forests are forests composed of indigenous trees regenerated naturally. This can include both spontaneous and assisted natural regeneration.*
>
> Explanatory note: Both spontaneous and assisted regeneration are included as natural. Indigenous refers to the FRA definition. Further consideration of the term is required to clarify (i) whether the attribute "indigenous" is necessary;

(ii) whether the term "native" (CBD) is fully consistent with the term "indigenous" (FRA); and (iii) whether the definition should include a reference to forest stand rather than forest.

Primary forest

Primary forest as a subset of "natural forest" is a forest undisturbed (directly) by humans.

Explanatory note: The term "primary forest" (as used by CBD) is fully consistent with the term "undisturbed forest" (as used by FRA).

Clarification is needed on the following points:

• Does "undisturbed" exclude any disturbance by man, even if it happened long ago in historic time? If so, what would the time frame be?

• Should the disturbance by non-native animals be explicitly addressed?

Old-growth forest is a subset of primary forest. The CBD definition of old-growth forest is considered adequate. Whether old-growth is limited to primary forest or would be relevant to secondary or semi-natural forests merits further consideration. It is an important concept in several countries.

The CBD definition of secondary forest is broader than that developed by ITTO, as it includes both degraded (primary) and secondary forests. However, it was considered insufficient to describe the concept of secondary forests. Degraded (primary) forest describes a forest beyond the elastic capacity (recovery) of the forest ecosystem. This raises the issue of whether modified and degraded forests should be considered separately. The Meeting considered secondary forest to be a forest regenerated naturally, or through assisted regeneration, on land that had been previously subject to land-use change, or to partial destruction by other causes, e.g. fire. Degraded forest may be identified as a subcategory of natural forests, secondary forests and planted forests.

Semi-natural forest is a term that has particular importance in parts of Europe, but with different meanings in various countries and organizations and even within the FRA 2000 process. Semi-naturalness is sometimes difficult to identify at the field level if related to the method of regeneration (planted or natural). The initial FRA definition of semi-natural forest did not refer to species composition (indigenous/native), whereas the present one does by considering it to be a subset of natural forest. Semi-natural forest often implies a managed natural forest which, over time, has taken on a number of natural characteristics (such as layered canopy, enriched species diversity, random spacing, etc.) . Planted (plantation) forests which acquire more natural characteristics over time (e.g. abandoned forest plantations that diversify with age and natural regeneration of indigenous species) could also fall into this category.

Planted forests are forests in which trees have been established through planting or human seeding. Plantations are a subset of planted forests.

Forest plantation sare covered by various definitions, and parallel terms are also used, such as plantation forest. "Planted forests" serve a broad range of objectives, including protection, conservation and commercial production. Forest plantation or plantation forest is understood to be planted forests that have been established and are (intensively) managed for commercial production of wood and non-wood forest products, or to provide a specific environmental service (e.g. erosion control, landslide stabilization, windbreaks, etc.). Planted forests established for conservation, watershed or soil protection may be subject to little human intervention after their establishment. Changes may occur in purpose, degree of management intensity, time scale and potential reversibility (to other land uses), which also merit consideration. The Meeting considered the FRA definition of forest plantation to be precise and recommended it for consideration by other organizations, fora and processes.

The meeting concluded that there was possibly a need for appropriate subclasses of planted forests to capture their diversity[3].

Figure 4 illustrates an option for the grouping of different types of managed and unmanaged forests.

Forest Classification and the International Processes

There are a great variety of forests worldwide. In order to study, assess or manage them, many classifications have been, and continue to be, developed. These classifications depend on the objectives and geographic levels (from global to local) of the study, assessment and management, and sometimes also on the tools being used (e.g. remote sensing).

The Meeting recognized that original country data were highly useful in all international analyses and reporting. For the sake of reporting consistency among countries and over time, and to facilitate data compilation, there should be, in general, one global definition for each core term, but countries should be free to report on more disaggregated levels.

Differentiated definitions of the core forest-related terms were not recommended. However, in addition to a global definition, different processes may need qualifiers to describe specific aspects of forests related to their objectives. These qualifiers could sometimes be expressed in the form of classification with respective definitions, as explanatory notes, instructions for reporting or other modalities. Specific forest types (e.g. mangroves) would possibly also deserve that their own definitions be applied at an international level.

It was noted that some of the international processes used forest classification systems in their work, and it was pointed out that *all* processes could probably benefit from their use. The following conclusions were reached on how classification systems could be used effectively within a harmonized framework:

1. All the international processes could use, as a first order classification, the FAO global ecological zoning, which is based on the high hierarchical level of domains (i.e. tropical, subtropical, temperate, boreal, polar).

2. A further breakdown into forest types may be desirable for some of the processes but may not be necessary for others.

3. Additional levels of classification could be introduced, as needed, based on the forest function, e.g. production, protection, ecological services, social, historic, spiritual.

In choosing between internationally applicable classification systems and respective definitions, the feasibility for countries to collect and analyse the data required should be taken into account.

Special Needs and Requirements of Countries with Low Forest Cover and Unique Types of Forest (LFCCs)[4]

General forest definitions, agreed upon as applicable to all countries and types of forest, will also apply to LFCCs and countries with low forest cover conditions.

Classifying a country as a low forest cover country may have political implications that cannot be identified at present. For example, if a country is categorized as LFCC, it is unclear whether this would imply restrictions to the export of forest products, including non-wood forest products (NWFPs), or whether it could provide access to increased financial or technical assistance from GEF, multilateral development financing institutions, the Clean Development Mechanism (CDM) of the KP, bilateral agencies, etc.

Until the intended use of such classification is clarified, a "working definition" of LFCC could be a country where forest - as defined by FRA - covers less than 10 percent of its territory. It should also be recognized that many countries have large areas with low forest cover, although they as national entities would not fall under the LFCC group as a nation.

Trees outside forests play a large and significant role in low forest cover conditions. Therefore, special attention should be given to the inclusion of Trees outside Forest (TOF) in national forest assessments in LFCCs and countries that have significant areas of land with low forest cover conditions. Failing to do so would give an incomplete picture of the importance of woody vegetation in terms of energy, biological diversity, carbon sequestration, contribution to sustainable livelihoods, etc.

Forest classifications according to Ecological Domain, Ecological Zones and Forest Types are valid also for LFCCs. However, because in many cases there will be very little forest left to actually manage, data should also be collected on the cause of the change process from forest to other land classes, e.g., desertification (due to human impact or climate change); urbanization; overuse (overgrazing, overcutting, etc.); regeneration; migration; etc. In addition, there is a special need to consider fragile ecosystems (arid lands, mountains) and unique types of forests found in LFCCs.

[1]UNFCCC and IPCC work on this term continues.
[2]Forest degradation can occur below this threshold for crown cover, e.g. as site degradation in temporarily unstocked stands.
[3]Further clarification on this is expected from the work on "Typology of Planted Forests", carried out by CIFOR in collaboration with WWF, IUCN and others. (http://www.cifor.cgiar.org/publications/pdf_files/typology/john-typology.pdf)
[4]Term defined under the Tehran Process and the Tehran Declaration, Tehran, October 1999.