Trees Working Group Guidelines

First document of Working Group

Principles for NDF for TREES

1. A species' listing on Appendix II indicates that, based on the available trade and scientific information and in the view of the Parties, international trade at current rates or patterns has placed it at risk of harm in its environment on a range-wide basis.

2. The non-detriment finding (NDF) required from CITES Scientific Authorities for Appendix II (and Appendix I) species verifies that traded volumes or products will not cause further harm to the species within the range State.

3. Because species and products derived from them are the relevant units of trade, the NDF must consider biological and environmental parameters relevant to the population status of the Appendix II species. For trees, anticipated impact of current or proposed harvests on species' population status (structure & dynamics) is the central question that must be addressed during the NDF process.

4. The extent to which species population status has been described and is understood determines the scale, quality and certainty at which NDFs can be made. Comprehensive knowledge of nation-wide population structures (stocks) and dynamics (recovery capacity) would allow annual export quotas to be set at the national level in confidence that these would be non-detrimental to the species' survival. Lacking comprehensive knowledge at the national level, and considering the precautionary principle, NDF should be undertaken at the scale at which sufficient knowledge exists to verify non-detriment. In most cases at present, this scale will be the management unit within which complete or statistically inferred knowledge of population status is sufficient to assess harvest impacts on species survival.

5. Sufficient biological information for Appendix II tree species exists to propose harvest and management systems where population status is known. Management systems should represent best current practices for the type of species (product) involved, and should be adaptive over time, incorporating new understanding of harvest impacts on species' population dynamics as revealed through practice (production) and research.

6. Risk associated with a negative outcome from the NDF process – that is, NDF allowing exports produced unsustainably – declines as the level of understanding of population status and management systems designed to mitigate negative impacts increases.

Making NDF for tree species

As explained in the draft working groups´ guidelines, *The main objective of the workshop, as indicated in Decision 14.49 is to enhance CITES Scientific Authorities´s capacities, particularly those related to the methodologies, tools, information, expertise and other resources…*

The trees working group has agreed that these four elements can be tackled as follows:

- First the SA considers the harvest regime. It considers whether the specimens are taken from a plantation or from the wild. If taken from a plantation, the NDF can be made fast since it considers that the plantation has been verified by the MA and that the removal of the specimens does not affects the populations in the wild (therefore this should imply a low risk of the operation).
- If the specimens come from the wild, the SA takes a more cautious approach and considers whether the harvest implies or not removal of the whole tree.
- If removal of the specimen does not result in the death of the tree (as in the case of some medicinal trees and agarwood producing species), the guideline of maintaining the resource in the population over time and through a recovering period should be followed, and therefore should have a more reduced impact on the conservation of the populations of the species in the wild.
- If removal of the specimen results in the dead of the tree, then a complete set of guidelines (encompassing information available, possible methodologies, etc) has been proposed in this WG.
- General guidelines to help making an NDF are presented in this document and, an example of species specific guidelines for mahogany is in Annex 1 .

Essential elements of NDF (guidelines) for tree species

ELEMENT 1: SPECIES DISTRIBUTION AREA (RANGE) AT RELEVANT SCALES

OBJECTIVE: Characterize the species' distribution at different spatial and jurisdictional scales so that production and conservation areas can be identified. Suggested scales & tools that may be available include:

ELEMENT 2: POPULATION PARAMETERS AS INDICATORS OF SUSTAINABLE MANAGEMENT

OBJECTIVE: Characterize species population status (standing stocks & dynamics) to provide standards for evaluating harvest impacts. Suggested parameters & tools that may be available include:

ELEMENT 3: MANAGEMENT SYSTEMS & HARVEST RATES

OBJECTIVE: With sufficient knowledge of distribution and population parameters, determine whether management systems are appropriate to species populations subject to harvest

AND whether harvest levels are sustainable. Suggested aspects to review & issues to consider include:

ELEMENT 4: MONITORING & VERIFYING HARVESTS

OBJECTIVE: Determine whether adequate monitoring & verification systems are in place to ensure the sustainability of harvest and to reduce illegal activities & illegal trade**.** These may consist of or include:

ELEMENT 5: CONSERVATION & THE PRECAUTIONARY PRINCIPLE

OBJECTIVE: Determine whether safeguards are in place to ensure that representative natural populations and phenotypic & genetic diversity represented in harvested populations are conserved. Precautionary measures may consist of:

NDF guidelines for tree species

Having established the purpose of the NDF, the Trees Working Group considered that the basic elements to be considered for making NDF for timber and non-timber tree species have been elaborated at recent working groups focused on Appendix II species (bigleaf mahogany, agarwood). These elements have been generalized and adapted to be applied to the taxa as follows:

ELEMENT 1: SPECIES DISTRIBUTION AREA (RANGE) AT RELEVANT SCALES

OBJECTIVE: Characterize the species' distribution at different spatial and jurisdictional scales so that production and conservation areas can be identified. Suggested scales & tools that may be available include:

NATIONAL (HISTORICAL, CURRENT) DISTRIBUTION

- Vegetation & forest cover maps
- Ecosystem or -zoning maps
- National forest inventories
- Herbarium collection data (georeferenced)
- Existing and potential conservation areas

SUB-NATIONAL (E.G. REGIONS, STATES, WATERSHEDS) DISTRIBUTION

- National databases, including management units
- Sub-national forest inventories
- Sub-national mapping from various sources

LOCAL (FOREST MANAGEMENT UNIT) DISTRIBUTION

- Statistical samples from inventories for forest management plans
- GIS representation of harvest areas
- Commercial censuses ideally based on georeferenced data
- Local, specialist & industry knowledge

ELEMENT 2: POPULATION PARAMETERS AS INDICATORS OF SUSTAINABLE MANAGEMENT

OBJECTIVE: Characterize species population status (standing stocks & dynamics) to provide standards for evaluating harvest impacts. Suggested parameters & tools that may be available include:

POPULATION STRUCTURE: NUMBER OF INDIVIDUALS, AGE AND/OR SIZE DISTRIBUTION, DENSITY, VOLUME/QUANTITY

- Field inventories applying appropriate statistical methods
- Published studies
- Reliable proxy data (e.g. local knowledge, historical data)

POPULATION DYNAMICS: RATES OF MORTALITY, GROWTH, REPRODUCTION, REGENERATION & RECRUITMENT

- Long-term studies using appropriate methods
- Modeling approaches (e.g. matrix)
- Published studies
- Reliable proxy data (e.g. local knowledge, historical data)
- Information on other factors affecting populations (e.g. microsite preferences, pests, disturbances)

ELEMENT 3: MANAGEMENT SYSTEMS & HARVEST RATES

OBJECTIVE: With sufficient knowledge of distribution and population parameters, determine whether management systems are appropriate to species populations subject to harvest AND whether harvest levels are sustainable. Suggested aspects to review & issues to consider include:

Inventory (or description) of commercial & non-commercial trees, ideally with mapping / spatial referencing

Harvest operations

- Identification of material to be harvested understanding that different harvest systems can be implemented
- Equipment / tools & methods to be used (appropriate or not)
- Measures for reducing damages during harvests (direct & environmental)
- Identification & protection of reserved areas / seed trees / future crop trees

Silvicultural practices

- Pre- & post-harvest
- Examples: liana cutting, liberation thinning, seed tree selection

Restoration / alleviation measures/ reduction of harvest impacts

- Seed tree retention
  - Enrichment planning
  - Select seeds adequately (e.g., genetic diversity, vigor) for enrichment plantings
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- Cutting cycle (rotation) or fallow period
- Post-harvest measures for reducing damages (direct & environmental)

Harvest rate evaluation

- Standards: intensity (retention %), minimum diameter cutting limit
- Quantitative knowledge of population status through appropriate statistical methods
- Expected (current) production & recovery rates (future production)
- Appropriate scaling methods

ELEMENT 4: MONITORING & VERIFYING HARVESTS

OBJECTIVE: Determine whether adequate monitoring & verification systems are in place to ensure the sustainability of harvest and to reduce illegal activities & illegal trade**.** These may consist of or include:

Monitoring & verification

- Pre- & post-harvest review mechanisms to verify management practices
- Permanent plots to assess harvest impacts on populations
- Chain-of-custody from harvest to export
- Transparent practices that improve control of trade in harvested products
- If export quotas have been set, assess whether they indicate sustainable harvests

Optimization of timber / non timber use & processing

- Conversion / correction factors for translating raw material (e.g. standing volume, pre-processed weights) into processed product (e.g. sawnwood, extracts, etc.)

ELEMENT 5: CONSERVATION & THE PRECAUTIONARY PRINCIPLE

OBJECTIVE: Determine whether safeguards are in place to ensure that representative natural populations and phenotypic & genetic diversity represented in harvested populations are conserved. Precautionary measures may consist of:

- Conserving different populations throughout the natural range to ensure phenotypic & genetic diversity
- Establishing reserve areas to protect un-harvested populations
- Establishing seed banks & other mechanisms for conservation of germplasm
- Giving due consideration to the effects of legal and illegal harvesting on species conservation status
- Giving consideration to incentives and benefits from harvests (e.g. species / habitat conservation)

Annex 1.- Case studies matrix

	Timber species					Non-Timber species		
	Gonystylus bancanus	*Pericopsis elata*	*Guaiacum sanctum*[1]	*Swietenia macrophylla*	*Caesalpinia echinata*	*Taxus*[2]	*Aquilaria spp.*	*Prunus africana*
Estimation of species range area								
National level								
Subnational level								
Management units					No applicable			
Population parameters								
Periodic measurements								
Indicators of sustainable management								
Local reference values								
Management principles, methods & indicators								
Silvicultural system								
Silvicultural treatments			No applicable					
Harvest systems								
Regeneration								
Conservation								
Commercial plantations ¿domestication?			No applicable					
Monitoring & verifying harvests, processing & conservation								
Determination of annual production quotas					No applicable			
Optimization of product processing								
Monitoring & verification								
Level of knowledge	High		Middle		Low			

[1] México
[2] Wild populations

Annex 1 NDF Mahogany

Annex 2.- Glossary

Annex 3.- NDF Workshop Format

Annex 4.- Tools and expertises

It is recommended that a Scientific Authority be in place with expertise in the taxa concerned.

Consult the range of expertise available.

Tools available include the species, trade and other databases on the CITES website, among others.

Annex 5.- Web Site TreeWG