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WWF Submission to SBSTA:
Views on robust, transparent national forest monitoring systems for REDD+

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WWF welcomes the opportunity to contribute to the work of SBSTA by sharing our views on the issues identified in decision 1/CP.16, appendix II (b) in conjunction with para 71. (c): to develop *modalities on robust and transparent national forest monitoring systems of the activities referred to in paragraph 70.*

In summary, WWF encourages SBSTA to consider the following when developing modalities on robust and transparent national forest monitoring systems:

1. An efficient monitoring system can be simple while at the same time remain robust by incorporating the required consistency, completeness, transparency, and comparability.

2. An inclusive national forest monitoring system should be established through a step-wise approach, using a precautionary approach that applies a discount factor indexed on the level of uncertainty of the estimates being reported.

    - Accurate activity data is needed in order to enable detection of the drivers of deforestation and degradation responsible for around 13 million hectares of forest loss per year.

3. The implications of the level of accuracy (Tier levels I, II and III) for MRV systems and their link to the financial mechanism should be clarified.

4. Forest degradation and biodiversity should initially be tracked using proxy indicators developed through existing and validated research on landscape ecology such as fragmentation monitoring, and core forest to edge forest ratios.

Specific Views:

a) Delaying performance-based payments will undermine the commitments of REDD+ countries and the incentive to implement robust MRV systems.

b) Adequate REDD+ finance for readiness (phase 1) and investment (phase 2), over and above the "fast start" funding currently available through existing multilateral and bilateral programs, could help REDD+ countries build capacities to provide accurate, consistent, complete, transparent, comparable, and useful MRV information.

c) A simplified yet credible forest monitoring system scheme should reward early action and enable a stepwise build-up of capacities and requirements. This includes prioritizing better activity data production from remote sensing while allowing the use of Tier 1 default emission factors, under a precautionary approach, until better alternatives become available or financially viable.
    - An analysis of the Readiness Preparation Proposals to the World Bank (FCPF 2010)[1] shows that around half of startup funds are currently being invested into the development of countries' MRV systems (FCPF 2010) but it remains unclear whether the level of accuracy will correlate with finance. What is the minimum required accuracy level of monitoring and reporting, and is increased accuracy guaranteeing increased finance flow? SBSTA should clarify the link between monitoring systems and financial mechanisms.

d) *Focusing readiness only on "accurate emission reduction estimates" might lead to a REDD+ mechanism that would initially only work for a few countries in the medium term*. This scenario increases the risk of international leakage. Instead of focusing on "accuracy", a more effective way to actually avoid future emissions is developing simple, responsive, consistent, and adaptive forest monitoring systems that allow for early detection of land use changes and enable quick responses to the drivers of forest loss and degradation. *Forest monitoring systems should be implemented under an adaptive management approach that addresses both REDD+ actions as well as the overall MRV system itself.*

e) Forest monitoring systems for REDD+ should, as a first step, focus on collecting accurate activity data. Detection and tracking of deforestation must be improved in order to enable early detection. Currently, accuracies are lower than what is required to detect average annual deforestation rates of 0.5% (Pekkarinen *et al.* 2009, FAO 2010[2]).
    - Using state-of-the-art remote sensing technologies, the average accuracy currently achievable for a forest/non-forest map is around 90% (Pekkarinen *et al.* 2009[3]). Small-scale deforestation (i.e., areas with low deforestation rates) is difficult to depict unless observed over long periods of time (Pelletier *et al.* 2011)[4].

[1] FCPF 2010. Harvesting knowledge on REDD+: Early Lessons from the FCPF Initiative and Beyond. FMT Working Paper #1: Harvesting Knowledge. Forest Carbon Partnership Facility (FCPF)

[2] FAO 2010 *Global Forest Resources Assessment 2010*. Rome, Food and Agriculture Organisation.

[3] Pekkarinen A, Reithmaier L and Strobl P 2009 Pan-European forest/non-forest mapping with Landsat ETM+ and CORINE land cover 2000 data. *ISPRS Journal of Photogrammetry and Remote Sensing* 64 171–183.

[4] Pelletier J, Ramankutty N and Potvin C 2011 Diagnosing the uncertainty and detectability of emission reductions for REDD+ under current capabilities: an example from Panama Environ. Res. Lett. 6 024005

- Due to cumulative sources of errors, deforestation would need to be reduced drastically to produce estimates that would enable clear detection of emission reductions (e.g., at least 50% decrease in the rate of deforestation in the case of Panama) (see Pelletier *et al.* 2011).

f) Further guidance is needed on how to estimate carbon estimate accuracies. To date, a number of methodologies use traditional statistical approaches, which are not necessarily adequate for a geospatially explicit phenomenon.

g) A precautionary approach should be used no matter what level of accuracy has been reached. This approach enables the use of estimates at any accuracy level as long as the linkage with the financial mechanisms has been clearly established.
   - Uncertainties in data from both area changes and carbon can be partly tackled through the use of a precautionary approach or conservativeness principle (e.g., by using the lowest end of the confidence interval of emission reductions, de facto applying a discount factor to the most uncertain estimates). This concept would allow for flexible monitoring requirements at the start of the REDD+ process while rewarding future improvement in the level of accuracy (Grassi *et al.* 2008[5]). It would also allow for a general comparable approach that can be implemented at a global scale right from the start.

h) No real incentive or "carrot" element currently exists to justify the investments required to develop a highly accurate MRV system. Adequate and predictable sources of REDD+ finance for results-based actions are still not available. Therefore, early implementation of REDD+ needs to be set at a threshold that is attainable with the amount of REDD+ funding currently available in order to provide proof of concept before asking REDD+ host countries to engage in onerous monitoring enhancements for which a clear rate of return cannot be calculated.

i) Monitoring of degradation and biodiversity safeguards using proxy indicators:
   - Biodiversity monitoring should be coupled with carbon monitoring (see the proposed approach by Gardner *et al.* 2011[6]). Such an approach should keep biodiversity monitoring logistically viable.

   - Over the past months, the Convention on Biological Diversity (CBD) has compiled information on content, process, and indicators about biodiversity safeguards. Subsequently, SBSTTA-16 of the CBD, which will take place in May 2012, will discuss a document that is dedicated to giving advice to the UNFCCC on the application of relevant REDD+ safeguards for biodiversity (see http://www.cbd.int/sbstta16/documents/). This document can be considered as a relevant source for further discussions on monitoring and reporting of safeguards.

[5] Grassi G, Monni S, Federici S, Achard F and Mollicone D 2008 Applying the conservativeness principle to REDD to deal with the uncertainties of the estimates Environ. Res. Lett. 3 035005

[6] Gardner *et al.* 2011. A framework for integrating biodiversity concerns into national REDD+ programmes (http://www.sciencedirect.com/science/article/pii/S0006320711004368)

- Forest Degradation and biodiversity can initially be tracked through well-established proxies derived from years of landscape ecology research. WWF proposes the use of the well-established relationships between forest degradation, forest fragmentation, and biodiversity, which are all variables also related to forest areas' accessibility.
  - More accessible forest areas show higher levels of degradation and deforestation likelihood. Data shows that deforestation and degradation are highly correlated with how accessible forest areas are (see CIAT 2000[7], Mollicone *et al.* 2007[8], Southworth *et al.* 2011[9]) and fragmentation (Numata *et al.* 2010[10]).
  - Degradation is highly correlated with recent deforestation events. Data shows degradation is over 80% explained by distance to recent deforestation events[11].

- WWF proposes following a *transition matrix* mechanism (see below) similar to the one proposed by *Bucki et al.* (*under review*)[12] which divides the "forest land" category into two sub categories, "natural forests" and "boundary forests" (= all other forests), to distribute the five REDD+ activities in greater detail.

Proposed Transition matrix (taken from Bucki *et al.* [under review])

to / from	Natural/Intact Forest Land	Non Intact Forest Land	Other Land
Natural/Intact Forest Land	Forest conservation	Forest Degradation	Deforestation
Non Intact Forest Land	Enhancement of Carbon stocks (forest restoration)	Sustainable Management of Forests	Deforestation
Other Land	→→→ [(a)]	Enhancement of C stocks (afforestation / reforestation)	

[(a)] The areas that would appear as "converted to natural forest land" (plantations, restoration or land abandonment) should mechanically be re-qualified as " Non Intact Forest " for a duration ensuring that natural structural properties, such as deep canopies, tree diversity, and suitable wildlife habitat, have been regained.

[7] http://isa.ciat.cgiar.org/catalogo/producto.jsp?codigo=P0173

[8] Mollicone D, Achard F, Federici S, Eva H D, Grassi G, Belward A, Raes F, Seufert G, Stibig H-J, Matteucci G and Schulze E-D 200 An incentive mechanism for reducing emissions from conversion of intact and non-intact forests in *Clim. Change* 83 477–493

[9] Southworth J *et al.* 2011 Roads as Drivers of Change: Trajectories across the Tri-National Frontier in MAP, the Southwestern Amazon *Remote Sens.* 3 1047-66

[10] Numata I, Cochrane M A, Roberts D A, Soares J V, Souza C M J and Sales M H 2010 Biomass collapse and carbon emissions from forest fragmentation in the Brazilian Amazon *Journal of Geophysical Research* 115 G03027

[11] Aguilar-Amuchastegui N. et al in process

[12] Bucki M, Cuypers D, Mayaux P, Achard F, Estreguil C, Grassi G, The matrix approach - a pragmatic solution for rapid REDD+ implementation, (*under review*).

- Natural forests would be defined based on the Potapov et al. (2008)[13] definition of "intact Forest" as "...an unbroken expanse of natural ecosystems within the zone of current forest extent, showing no signs of significant human activity, and large enough that all native biodiversity, including viable populations of wide-ranging species, could be maintained". This is also known as Core forest area in landscape ecology.

- Degraded Forest could therefore be considered as a transition from Intact Forests to managed forests (Mollicone *et al.* 2007[10]). This transition would occur in the edge forest. *Bucki et al.* propose an edge of 500m. WWF considers that the size of the edge used should be established based on the drivers, such as gold mining, which could generate degradation at larger distances.

- The matrix approach would make it easier for REDD+ countries to participate in the mechanism. Its metrics and terminology are transparent and would enable informed choices on forest management. The simplicity and the potentially low monitoring requirements of the matrix approach (e.g., it may work even with Tier 1-like values of C stock changes) would allow resource savings which can be reallocated to tackle the drivers of deforestation.

- The matrix does not allow converting non-forest land into natural forests in one step: planted forests would mechanically qualify as "boundary forests" for at least two commitment periods (first as Afforestation/Reforestation, then as Restoration) before counting as conservation forests (if they still meet the requirements for 'Natural Forest').

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[13] Potapov P *et al.* (2008). Mapping the world's intact forest landscapes by remote sensing *Ecology and Society* 13 51