Annex 1: Optional Guideline and Questionnaire

To Assist with Preparation of an FCPF Readiness Plan Information Note (R-PIN) 3/8/08

The guidelines and questions below are designed to assist a country in preparing its R-PIN submission to the Forest Carbon Partnership Facility (FCPF):

1. Following this guideline and answering these questions is optional. We hope this Annex may assist some countries in organizing their information for filling out some questions in the R-PIN, or elaborate further on some information
2. The data-related questions are intended to establish what data are currently available for use in land use/land cover change and biomass/carbon emissions analyses.
3. Analysis-related questions are focused on determining the in-country capacity for analysis that would be required to monitor carbon emissions and identify pertinent REDD polices.
4. Institutional questions are geared toward determining the current capacity of the country's governmental system to successfully implement a carbon emissions reduction strategy.
5. Only selected template questions are included below.

Template question 2. Which institutions are responsible in your country for:

a) forest monitoring and forest inventories:
ANAM is the official institution that defines the governmental and non-governmental actions in the local, regional and national scope which guarantees the efficient and effective intersectorial coordination for the protection, conservation, improvement and restoration of the environmental quality, stimulating and promoting sustainable environmental behaviors. ANAM has a National Forest Service which is currently improving its capacity to be able to prepare a new forest inventory in the near future with the support of other national institutions and international donors.

(1) Which government institutions, NGOs, or other organizations will be responsible for monitoring and verifying land use/land cover change? How do you plan to manage collaborations between/among these institutions?

(This question is intended to establish the benchmark for current capacity, and help you design a work plan for improvement. Please describe the capacity of major governmental and non-governmental institutions involved.)

ANAM, MIDA (Agriculture Ministry, for agricultural land use), MIVI (Housing Ministry, for urban land use) for the intergovernmental information exchange. The Water Center for the Humid Tropics of Latin America and the Caribbean (CATHALAC, for satellite imagery), and NASA through the U.S. Agency for International Development (USAID), so far, the country has not decided the necessity of working with an additional international institution but is evaluating to introduce The Natural Conservancy (TNC) as one of NGO prospect to collaborate together with ANAM to achieve Panama's REDD goals.

ANAM will encourage Communities (stakeholders) to adopt responsibilities for protecting and conserving forests and natural resources, therefore reducing CO_2 emissions from deforestation. Thus communities will earn income by protecting the forest. This will be achieved by the implementation of payment of environmental services schemes that need to be properly defined to avoid perverse incentives.

The General Controller together with the Ministry of Economy and Finance are responsible for data collection.
It has been done every 10 years, but some information is collected and it is publicly available quarterly and annually**. The national accounts have been collected since 1950. The economic census has been collected since 1920.** They are summarized into reports and these are available to the general public.
The data is available to download from the internet in the following web page: http://www.contraloria.gob.pa/dec/
The scope of the available information is national. The coverage of the data is national, local and household.

Template question 3. Current country situation (e.g., Where do forest deforestation and forest degradation occur in your country, etc.):

ANALYTICAL CAPACITY

(1) Briefly summarize the most important studies, data bases or other information related to deforestation and/or land use/land cover change in your country.
(This will provide an overview of what information is available today for policy makers. Provide background and details of the research available, and briefly review the relevant literature under the headings of: biophysical; social; economic)

- Final Report of Forest Coverage and Land Use results of the Republic of Panama: 1992-2000.
- National Greenhouse gases inventory for the "Land use change and forestry" module. The document presents the estimates of GHG emissions from the Land Use and Land Use Change and Forestry Sector from

three main activities: Changes in forest biomass and other types of woody vegetation, conversion of forests and grasslands, abandonment of cultivated land. The document also estimated the emission of gases other than CO_2 (CH_4, N_2O, CO, and NOx) from Burns linked to the conversion of Forests and grasslands.

(2) Are there any studies or projects on forest governance issues (i.e., forest concession policies, decision-making processes, transparency of forest operations and management), or legal frameworks that might be pertinent to REDD?

Gaps perceived could be in some data values may not be so accurate. It is needed verification of those values

(3) Describe the known and perceived gaps in analytic work to date. What kind of information is still needed?

Time span between a study and the next one. With new existing technologies, we will be able to work on close future estimations and "launch" from them. The methodology utilized in the National Greenhouse gases inventory for the "Land use change and forestry" module and ANAM- forest inventory are not the same and can not compare. Absence of forest type data which is essential for estimating carbon emissions.

(4) How much of this analysis was conducted by in-country experts, as opposed to international experts or organizations?

(The objective here is to identify the current level of independent in-country capacity for REDD analysis. REDD work in most countries is likely to combine national and international teams.)

100%

Template question 8. Implementing REDD strategies:
b) Would performance-based payments though REDD be a major incentive for implementing a more coherent strategy to tackle deforestation? Please, explain why. (i.e., performance-based payments would occur *after* REDD activities reduce deforestation, and monitoring has occurred):

See Question 8 b.
REDD policies do not conflict with existing national natural resources policies, they rather complement with existing ones, specially with our National _Environmental Strategy that is under current revision. REDD policies will support our watershed recovery and management initiatives currently under execution.

(1) Has the government already begun thinking about how to use future revenues from REDD and how it would redistribute income from carbon emissions reductions/avoidance? Or should this be elaborated during the Readiness Process?

(Outline major distribution channels for funds to be distributed by government agencies. Identify any voluntary markets within the country and the means by which these transactions are monitored.)

See Question 11 c
Revenues will be utilized to finance sustainable development projects in poor and extremely poor communities, outside of the scope of the CBMAP project. The mechanism will be developed during the Readiness Process.

Template question 9. REDD strategy monitoring and implementation:

Physical Data Capacity:

(1) Does your country have a forest inventory?
(Forest inventories typically provide very accurate, on-the-ground estimates of timber volume, biomass, etc. Together with statistics on forest-area change, access to forest inventory data is critical to quantify carbon

emissions resulting from land conversion.). If yes, consider providing the following detail:

The last forest inventory made in Panama was elaborated since 1970 by FAO. Actually the country doesn't have any related document, except for a project called "Fortalecimiento Institucional del Sistema de Información Geográfica de la ANAM para la evaluación y monitoreo de los Recursos Forestales de Panamá con miras a su manejo sostenible" (Institutional Strengthening of the Geographic Information system of ANAM for the evaluation and monitoring of Forest Resources of Panama towards its sustainable management).

- Is it a national or regional forest inventory? Or an inventory only for protected areas?
  (It is important to know how representative the inventory is of existing forest conditions)

It was a regional forest inventories made in the provinces of Bocas del Toro, Darién, Colón (Donoso) and Herrera- Los Santos (Penízula de Azuero) and not for specific protected areas. It was made in forestry areas.

- When was it implemented?
  (If an inventory was conducted only once in the distant past it will not be representative of current conditions but may be useful for establishing historical baselines)

It was implemented since 1970 to1971-1972. We think it may be useful for establishing historical baselines but it's necessary to get the complete information probably in FAO, Rome, because some documents of this inventories was lost in Panama.

- What is the spatial intensity (i.e., plot density) and temporal frequency (i.e., time between inventories) of data collection?
  (The higher the spatial and temporal frequency, the greater the capacity to monitor forest change)

In one of these inventories the spatial intensity was forty plots, each 100 hectares. Two 100 hectare areas was inventoried. The plots' dimensions were 1 km x 1 km. The surface was 185,000 hectare (FAO, 1971). In other area the intensity of the inventory was 0.1% with plots of 25m x 200m. (FAO, 1972).

- Are sample plots permanent, i.e., revisited and re-measured during subsequent inventories?
  (Permanent plots are more useful for monitoring forest carbon uptake/emissions)

The sample plots didn't was permanent, because it never was revisited and re-measured during subsequent inventories.

- Which vegetation attributes (stem diameter, canopy cover, etc.) are measured?
  (This information is essential to understanding what the inventory can be used for, e.g., monitoring, modeling, etc.)

The measured attributes where: dhb, and diameter at different heights and taxonomic species identification.

- What size classes/species (all species, commercial only, etc.) are measured?
  (Measurements of most/all species and size classes provide for a more representative inventory)

All species in the forest where measured.

- Can you provide accuracy estimates for the inventory?
  (Accuracy estimates are useful for determining the utility of an inventory for a particular application.)

The accuracy was +-15% over the total volume of each forest condition class, with probability of 0,95.

(2) Are locally-derived, species-specific allometric biomass equations available?
(Allometric equations are needed for computing biomass estimates from forest inventory data. Local allometric equations provide more accurate estimates of biomass than regional equations do.)

If yes, please provide specific information on the source(s) of these equations.

Panama is a mega diverse country. For example, over 300 species of trees have been identified in a 50 ha permanent forest plot established in the Panama Canal Watershed. . A research conducted by Mc Gill University together with Smithsonian Institute and supported by ANAM developed some allometric equations that are available under a paper. There are some others, locally derived allometric biomass equations available for Panama's semi-dry tropical forest. These can be found in Chave, J. et al. 2005. Tree allometry and improved estimation of carbon stocks and balance in tropical forests. Ecologia. 145(1): 87-99.

(3) Do you have access to the following remotely sensed data?
(Remotely sensed data can be useful in determining *where* changes are taking place, a question that may not be answered well with traditional inventory data)

- Satellite imagery
- Aerial photography

(It is helpful to know how extensive a country's spatial data archive is. It is also useful to understand the extent to which data access is a limiting factor by itself.)

If yes, please specify coverage and spatial resolution (e.g., 30m, I km^2) and temporal resolution (e.g., 1997 and 2001, biannual)

Yes, through the Information Systems Administration Department of ANAM, together with The Water Center for the Humid Tropic of Latin America and Caribbean (CATHALAC) with has a program with North America Space Agency (NASA) to improve national GHG inventories, monitor fires within Mesoamerican region and alert system related to extreme weather events make Panama to be one of the leading country with the latest technology in place related to satellite imagery and aerial photography. It is worth mentioning that it is the first time NASA installed a Node outside of US territory

(4) What other spatial data do you have access to?
(The following spatial data are needed for more advanced (i.e., IPCC GPG Tier 3) model-based predictions of carbon emissions)

- Land cover
- Vegetation properties / biomass
- Soil types / properties
- Climate / meteorology
- Hydrology / river gauges
- Transportation
- Demography / population density

For each category important to you, you could provide: source, resolution, date, and coverage.

• Land cover:
Source: ANAM
Resolution: Scale 1:250,000

Date: Year 2000
Coverage: Nationwide

• Vegetation properties / biomass
Source: ANAM
Resolution: Scale 1:250,000
Date: Year 2000
Coverage: Nationwide

• Soil types / properties
Source: ANAM
Resolution: Scale 1:1,000,000
Date: Year 1985
Coverage: Nationwide

• Climate / meteorology
Source: ETESA, Panama Canal Authority (for the Panama Canal watershed area)
Date: Current
Coverage: Nationwide

• Hydrology / river gauges
Source: National Geographic Institute (IGN, in Spanish), Panama Canal Authority (for the Panama Canal watershed area)
Resolution: Scale 1:250,000
Date: Year 2000
Coverage: Nationwide

• Transportation
Source: National Geographic Tommy Guardia Institute (IGNTG, in Spanish)
Resolution: Scale 1:250,000
Date: Year 2000
Coverage: Nationwide

• Demography / population density
Source: General Controller
Date: Year 2000
Coverage: Nationwide

- Administrative and Political Bound

Source: IGNTG
Resolution: Scale 1:250,000
Date: Year 2007
Coverage: Nationwide

- Geological and Geophysical

Source: IGNTG
Resolution: Scale 1:250,000
Date: Year 2007
Coverage: Nationwide

- Ocean and Estuaries

Source: IGNTG and CATHALAC
Resolution: Scale 1:250,000
Date: Year 2007
Coverage: Nationwide

- Inland water resources

Source: IGNTG, ANAM and CATHALAC
Resolution: Scale 1:250,000
Date: Year 2007
Coverage: Nationwide

- Agricultural and Farming

Source: Agriculture Ministry and CATHALAC
Resolution: Scale 1:250,000
Date: Year 2007
Coverage: Nationwide

- Biology and Ecology

Source: ANAM and CATHALAC
Resolution: Scale 1:250,000
Date: Year 2007
Coverage: Nationwide

Template question 12. Please state donors and other international partners that are already cooperating with you on the preparation of relevant analytical work on REDD:

(1) How will you work in conjunction with independent national or international consulting teams?

(This question will allow the country to establish plans for improving capacity and service delivery. Describe which ones and their roles.)

Through the implementation of cooperation agreements with international organizations, that could contribute with experts and financial support in the execution of a national forest inventory. National programs will match with international ones

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