GCF Brazilian Members' Database Analysis

Task 3 Report
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Summary

Introduction

The database's purpose is to *create a GCF knowledge database that will include the current REDD actions (programs, projects, policies) of member states and provinces and institutional, technical, financial, legal, and other needs to identify possible cooperation niches among GCF members as well as collective needs that could be approached by the GCF as a common benefit to all; and also to provide information to elaborate communications materials and fundraising proposals*.

The database template was elaborated by Task 3 group (composed by Ilarious Wibisono (Aceh), Noak Kapissa (Papua), Natalie Unterstell (Amazonas), John O'Niles (TFG), Mauricio Phillip (Mato Grosso)) coordinated by Luis Meneses and with strong support from Natalie Unterstell and Ernesto Roessing. The template addresses important topics REDD programs have to develop.

Some of the databases were filled out by consultants (Luis Meneses for Acre, Amapá and Pará; Kate Hyder for Amazonas) in close dialogue with GCF representatives and also by government staff, as the case of Mato Grosso (Elaine Corsini, Mauricio Phillip e Eliani Fachim supported by Ernesto Roessing) in each state, and they were reviewed by GCF members' representatives after Santarem Meeting.

The database is expected to be a living document allowing GCF members to update information and add new elements according to the REDD program's evolution. A platform to host the database is being studied by the Secretariat based on the suggestions gathered from members in Santarem Meeting.

This document is intended to present a general analysis across the Brazilian GCF Members' databases and it is structured as follows:

I. **GCF Brazilian Members' Profile** – characterization of the five Brazilian members with general territorial, population, economical and environmental information.
II. **Environmental Service** – Information associated with deforestation and degradation, as well as baseline and emissions reduction targets.
III. **Implementation mechanisms for REDD** – information related to REDD programs' concepts and actions carried to address social safeguards, as well as structural policies and institutional arrangements linked to REDD actions. It also describes REDD projects being developed within state's territory.
IV. **REDD financing** – available information associated with REDD programs' costs and financing strategies.
V. **Needs identified for REDD program improvement** –this section systematizes the needs identified by members in order to improve their REDD programs. During the Santarem Meeting, brazilian members chose a group of actions understood as collective needs that could be prioritized by GCF Secretariat in fundraising actions.

I. GCF Brazilian Members' Profile

The five GCF Brazilian Members (Acre, Amapá, Amazonas, Mato Grosso and Pará) cover an area of more than 4 million km2, representing 47% of the Brazilian territory. The original forest cover in these states represented 16% of the World's Tropical Forests. Since then, 1,9% of the World's Tropical Forests have been lost within these states.

The GDP of the five states sum up more than 80.5 billion dollars with an average per capita income of US$ 5,916 (ranging from 3,400 to 8,575). A total population of 14.9 million people live in these states, approximately an average of 23% living in rural/forest areas. A Human Development Index average 0.772 ranging from 0.751 to 0.796. Within these states live 154 indigenous nations represented by a population of 217,169 in an area of 936 thousand km^2 (23% of total area).

Regarding forest classes, there is a huge variety of ecosystems within the Amazon Biome and within GCF members' territories. In order to be comprehensible, it is possible to classify the forests in 3 major classes: dense rainforest (Terra Firme forests); savannahs (Cerrado) and transition forests. There are two implications associated with the forest classes: one is that Cerrado has a different environmental protection law in Brazil when compared to Amazon dense rainforest, especially related to the area of forest that can be cleared (20% of a property in the Amazon and 65% in Cerrado). The other implication is

that for some GCF Member states, the Cerrado is an important forest class, such as for Amapá and Mato Grosso where the Cerrado occurs and deforestation in this forest class is significant. In the other states the Terra Firme Rainforest classes are predominant.

As it can be seen in the Table below, 62% of the forests within the five Brazilian members are under a legal status of protected area, meaning indigenous territories, fully protected areas (strict use), conservation forests (sustainable use by traditional communities and indigenous peoples) and sustainably managed forests (production forests designated to concession or private forests under logging). In table 1 "forest without legal protection" are directly associated with private properties and other public land without final designation. 49% of the areas with legal protected status belong to the Federal Government and 13.4% are under State's jurisdiction. Considering the portion of these forests that are not legally protected, it is found an average of 36% of total members' territory ranging from 13% in Pará to 58% in Mato Grosso.

Table 1 – General information on Brazilian GCF Members related to area and status of the forests (km2) and total numbers and percentages in relation to total territory area.

	Acre	**Amapa**	**Amazonas**	**Mato Grosso**	**Para**	**Total**	**%**
Area (km2):	164.221	143.453	1.570.746	903.357	1.247.689	**4.029.466**	**100**
Status of Forests (%; km2):							
o Original forest area	**164.221**	**130.829**	**1.467.502**	**522.650**	**1.210.258**	**3.495.557**	**87**
o Fully protected forests:	**16.159**	**53.323**	**151.926**	**33.336**	**166.813**	**421.557**	**10**
o Federal	9.205	53.318	113.988	16.550	112.726	305.787	7,6
o State	6.954	5	37.938	16.786	54.087	115.770	2,9
o Conserved forests	**50.271**	**24.717**	**675.646**	**131.854**	**422.422**	**1.304.910**	**32**
o Indigenous	23.202	11.838	457.361	129.000	315.067	936.468	23
o Federal	27.043	4.817	78.142	1.522	38.199	149.723	4
o State	26	8.062	140.143	1.332	69.516	218.719	5
o Sustainably managed forests	**15.448**	**27.814**	**9.805**	**19.680**	**711.351**	**784.098**	**19**
o Federal	9.923	4.120	9.805	0	554.200	578.048	14
o State	5.525	23.694	0	19.680	157.151	206.050	5
o Forests without protection	**74.980**	**24.977**	**662.623**	**527.000**	**163.383**	**1.467.224**	**36**
Deforestation %	**12,0**	**0,9**	**3,8**	**22,8**	**10,0**	**10,2**	

II. Environmental Service

1. Deforestation dynamics monitoring

The Table 2 lists the data related to deforestation and degradation in the five member states. It can be seen that deforestation is known in four out of the five states (explained in topic 1.4). An average of 10.2% of deforested area is found within the five members being Amapá the state with the smallest percentage of deforested area (0.9%) and Mato Grosso with the highest (22.8%[1]).

It can be seen a general drop in the deforestation rate comparing the 2000-2004 period with 2005-2009 period, except for Amapá state that has increased 170% of the deforested area. In average 40% of deforestation rate has dropped within the two mentioned periods, in which Acre had a 57% reduction, followed by Mato Grosso with 43%, Amazonas with 35% and Pará with 24% reduction. These numbers reveal a deforestation reduction trend for the period. This success is attributed to improvement in the surveillance and control measures by Federal Government and States' governments, as well as to

[1] Considering only deforestation in Tropical Terra Firme forests and in transition forests, it does not include deforestation estimates for Cerrado.

unheated commodities markets (especially beef and soy bean) that decreases demand over new cleared areas.

Table 2 – Deforestation and degradation monitoring status and data (km2).

	Acre		Amapá		Amazonas		Mato Grosso		Pará	
1. Deforestation dynamics monitoring										
1.1 Deforestation is known?	Yes		Partially		Yes		Yes		Yes	
1.2 Deforested area (km2): (PRODES; State method)	19.769	20.679	1.293	2.024	60.000		205.861		125.229	
1.3 Average deforestation rate:										
1995-1999: (km2/year) (PRODES)	595		19		1.023		7.127		5.812	
2000-2004: (km2/year) (PRODES)	731		20		984		8.837		7.087	
2005-2009: (km2/year) (PRODES)	319		54		636		5.046		5.394	
2. Degradation dynamics monitoring										
2.1 Degradation is known?	Partially		Partially		Partially		Partially		Partially	
2.2 Degradation level (km2; 2007 and 2008 DEGRAD)	123	121	50	63	180	65	8.951	12.988	3.899	8.264

Note: that Acre and Amapá has different monitoring methods for deforestation estimates and data is shown in the table.

Characterization of deforestation dynamics

Factors such as land speculation, lack of zoning and destination of public lands, profitability of cattle breeding and subsidized credit loans have incentivized deforestation in the Amazon**.** The majority of deforestation has taken place along primary and secondary roads, as well as other access ways such as rivers.

Acre – 70% of deforested area is for **cattle breeding**. The conclusion of the pavement of roads BR 317 in 2007 and BR 364 (2011) consist on important drivers for deforestation. Deforestation agents were historically **mid and large landowners/farmers**, although in the last years **small household farmers** contributed significantly. This has changed the deforestation dynamics, while in 1998 the largest deforestation polygon was 1,886 ha, in 2009 it was 133 ha. In 2007, 80% of the deforested polygons were smaller than 5 ha, in 2008, 67% of the polygons were still smaller than 5 ha.

Amapá – Deforestation has been historically low and also hard to be estimated due to presence of clouds. Almost 90% of deforestation has occurred along the roads. In 2005-2006, 33% of deforestation polygons were 0- 10 ha, other 32% from 10 -50 ha and 25% of deforestation in polygons bigger than 100 ha. 18% of deforestation has taken place in settlement projects. Almost 40% of deforestation has occurred in the Cerrado (savannahs) possibly for **silviculture** (eucalyptus) while in Terra Firme (where settlement projects are located) deforestation is driven by **subsistence agriculture**.

Amazonas – There is a recent increase in **agricultural activities (intensive grain production), livestock raising, and illegal land occupations in the south of the state**.

Pará – Deforestation drivers are **cattle ranching, subsistence and commercial agriculture and logging**. 60% of deforested areas are cattle ranching farms; 30% of deforested areas were done by small households dedicated to agriculture and cattle breeding, 4% are associated with logging and 3% associated with commercial and high productivity agriculture.

Mato Grosso – Deforestation is associated mainly with livestock grazing and high productivity agriculture. Selective logging opens up forest areas which then are subject to illegal occupation and migration, generally used for cattle-ranching. Also, intensive agriculture (especially soy) also contributes to deforestation, either directly (conversion of Cerrado – savannahs - to plantations) or indirectly (land used for cattle ranching become plantations, and cattle ranchers deforest new areas).

Monitoring methodologies and accuracy

The official deforestation estimates in Brazil is done by INPE (National Space Agency), using 2 methodologies PRODES (Deforestation Monitoring Project in the Legal Amazon, releases yearly deforestation data) and DETER (Project to Detect Deforested Areas in Real Time, alerts system to support law enforcement combating deforestation). PRODES is the source of official data on deforestation

estimates in the Brazilian Amazon since 1988. Having the purpose of monitoring the deforestation increase in the Brazilian Amazon, the method analyzes analog color images on a scale of 1:250,000, with a minimum resolution area of 6.25 ha mapped. These data allowed creating a mask for subsequent image analysis, allowing a faster process for information generation, decreasing the time for geoprocessing as it analyzes only the increments of deforestation.

An independent estimate is done by IMAZON NGO using their own methodology called SAD. The minimum resolution area detected is smaller than PRODES. These estimates are available for Pará and Amazonas. Acre has improved SAD methodology through its Central Unit for Geoprocessing (UCEGEO), improving scale and increasing the minimum resolution area mapped in order to support the local demands for surveillance and control of deforestation. Therefore, the data generated by SAD and UCEGEO are estimates with adequate scale to comply with the specific State's demands regarding deforestation control, while the INPE's estimates allow the follow-up of deforestation in the Brazilian Amazon. Amapá and Pará have been developing their own methodology to cope with the above parallel 4th situation where clouds hamper the deforestation estimates. Mato Grosso has been doing the forest cover monitoring since 1992, quantifying deforestation in the whole state territory, collecting data for the three state's biomes: Amazon, Cerrado and Pantanal.

2. Forest degradation dynamics monitoring

As it can be seen in Table 2, degradation is considered partially known as the INPE's methodology (DEGRAD) is very recent and its purpose is focused on surveillance, therefore data is not easily translated into systematic estimates of forest degradation that could be easily incorporated in REDD programs.

Characterization of degradation dynamics

Degradation drivers in the Amazon are mainly logging (legal and illegal) and forest fires. These fires associated with deforestation and pasture cleaning are aggravated by extreme droughts such as the ones occurred in 2005 and 2010.

Monitoring methodologies used

From 2007 on, INPE (National Space Agency) has been estimating degradation using the DEGRAD methodology, based on LANDSAT and CBERS images, assessing 3 levels of degradation: low, medium and high degradation. It is uncertain how DEGRAD can be used for REDD program's estimates on degradation.

IMAZON NGO has used SAD methodology to estimate forest degradation in Amazonas, Para and Mato Grosso.

3. Forest Carbon Stocks quantification

The Amazon Forests range from 61 tons of Carbon per hectare (t C/ha) to 198 t C /ha (Brown and Lugo 1992; Fearnside 1997; Houghton *et al.* 2000). IPCC considers an average estimate of 155 t C/ha.

Currently several States are developing carbon stocks quantification studies. Acre has come up with a average of 123 t C /ha ($\pm$ 45) for aboveground stock; Amapá has been using a value of 180 t C /ha ($\pm$ 7); Pará has data only from one of the REDD projects (Calha Norte) that revealed an average of 163 t C /ha. In Mato Grosso, the Cotriguaçu REDD project presented average value of 140 t C/ha, while other REDD project (SESC Pantanal), analyzing different forest classes, has found values ranging from 49 to 194 t C/ha. Amazonas is finalizing carbon studies. The variation of the data is expected due to the different forest classes, and the different methods used indicated a significant level of uncertainty.

Carbon quantification methods used

Carbon stocks are not widely known in GCF Brazilian members' forests. Although the general estimates produced by IPCC and other researches in the Amazon, States are looking for other methods to increase accuracy of the carbon stocks figures to be used in REDD program estimates.

Currently, Amazonas is finalizing carbon estimates study for the whole state. Para and Mato Grosso are also waiting for carbon estimates coming from REDD projects and studies in different forest classes. Amapa has developed a very accurate method based on collection of allometric data of aboveground and belowground parts of every tree in 4 100-m2 plots. The data of the 4 plots were extrapolated to the State Forests and the average carbon stocks is being used to elaborate a PDD for State Forest module 4.

Acre has carried a simple methodology based on vegetation mapping and ground-based samples, with a more technically demanding method based on remote sensing. Aerial biomass stocks were estimated by applying allometric equation using measured aboveground biomass of trees with DBH >10 cm (diameter at breast height) determined by measurement of 44 plots throughout the state. The plots were located in relation to each of the 18 forest classes existing in the State and carbon estimates extrapolated to each forest class.

The two REDD projects in Mato Grosso (Cotriguaçu and SESC Pantanal) used parcels methods in different forest classes quantifying forest biomass based on diameter and applying the standard protocol RAINFOR (Cotriguaçu). The other project (SESC Pantanal) developed allometric equations based on the extraction of individuals from different diameter classes for determination of carbon in trunk, branches and roots.

4. Baseline definition and emissions reduction targets

All members that have presented a baseline, calculated it based on the methodology defined by the Amazon Fund and Environment Ministry, being the historical average for the period 1996-2005, this average is the baseline projected for the next 5-year period (2006-2010), when it will be reviewed for the previous 10-year period (2001-2010), the average of this period will be projected as baseline for the next 5-year period (2011-2015) and so on.

States especially in areas of low deforestation such as Amazonas and Amapa and also REDD projects are proposing projected baselines, modeling scenarios of low and high deforestation projections. Para, Amazonas and Mato Grosso are expecting to define baselines for the REDD Program from the lessons learned of the REDD projects within its borders.

III. Implementation mechanisms for REDD

5. Structural policies in place for reduction of deforestation

The policies highlighted here are considered structural and relevant for establishing successful REDD programs, as described below. These policies are described in the databases of each one of the members, while in this section a brief report is given on the current policies of the members that are related to REDD.

- Plan for Prevention and Control of Deforestation – These plans were demanded by the Environment Ministry as strategies to halt deforestation in Brazilian Amazon States as well as a target for deforestation reduction. All the five members have developed the plan under distinguished levels of implementation.

- **Ecological and Economic Zoning** – Zoning is a policy required by the Federal Government through Decree 4297/2002, being an instrument of territory development that must be mandatorily followed in the implementation of plans, infra-structure projects, public and private activities, establishing measurements and standards for environmental protection in order to ensure environmental quality, water resources and soil and biodiversity conservation, aiming at sustainable development and the improvement of living conditions of the population. The zoning is being developed by states in the Amazon and some states such as Acre and Mato Grosso have completed ZEE at scale 1:250,000, the rest of the members has been developing zoning for priority areas in their states.

- **Climate Change Law –** These laws makes sets the legal framework for climate change policies related to several sectors of the economy as determines the participation mechanisms for civil society in the regulation of the policy. Amazonas had the first law was passed and it is under the regulatory process. Mato Grosso and Para are in process of drafting the law with the respective Global Change Forums. Amapá has prepared a first draft and plans to consult the society. Acre has no law on climate change but prepared a law of the System of Incentives for Environmental Services that rules over the REDD program of the State.

- **Land registry system (CAR program)** - The CAR was developed as a complementary program to the Licensing System for Rural Properties - SLAPR and it is focused on environmental regulation of rural properties, thus allowing greater control over deforestation and illegal burning. All members have taken action to implement the CAR, in different stages, associated with the system of environmental licensing of rural properties, and it constitutes an important tool for REDD programs.

6. REDD strategy concept

Mato Grosso, Pará and Amazonas are the three members who currently have REDD projects implemented or under elaboration and considered important laboratories in the definition of their REDD programs. All of these three states are designing phase of the legal framework for REDD actions. These proposals are being developed with multi sector forums representative of public and private sectors and civil society organizations, before detailing their REDD programs. On the other hand Acre has developed the legal framework for its REDD program after the first sketches of the REDD actions.

Another important characteristic is that the REDD programs are within or are considered as part of the Federal demanded Plans for Deforestation Prevention and Control (PPCD). This direct correlation is stronger for Acre and Para.

Characteristics of REDD concepts in each one of the member states

Acre is developing a REDD Program called Program of Incentives for Environmental Services –Carbon (IES-Carbon Program). The Program is being designed to approach the whole state territory in a nested approach allowing regional and thematic sub-programs as well as special REDD projects. Regional Subprograms are related to REDD actions in most threatened areas for deforestation and thematic subprograms will be designed in order to address REDD actions in indigenous territories or protected areas, Special REDD projects are associated with REDD actions carried in smaller areas such as private properties or one protected area or land category, therefore allowing the implementation of REDD+ actions by public or private initiatives, but under the scope of a state program.

Amapá concept for a REDD program is based on State Protected Areas and possibly in Indigenous territories. The phase 1 of a REDD Program will be developed in 950,000 ha of Amapá State Forest Module 4. The second phase of the REDD Program can encompass the other 3 Modules of State Forests (totaling 1,350,000 ha) and RDS Iratapuru (806,000 ha). State Government is interested and committed with the development of a REDD program directed to the Inhampi people, at a first moment.

Amazonas' REDD actions were focused primarily in REDD projects. Currently Government is assessing current needs for the establishment and implementation of a large-scale program, focused on fostering actions on private lands and potentially within indigenous areas.

Mato Grosso Government has worked with the Mato Grosso Forum on Climate Change, more specifically with the REDD Working Group, a law that will establish the REDD program structure to be implemented throughout its territory, considering the different forest classes in the three biomes in the state: Amazon, Cerrado and Pantanal. The program plans to create a registry of projects and avoided emissions, consistent with future national system.

Pará considers the contribution of pilot REDD projects in the design of a statewide REDD Program using lessons learned. Government considers of high importance the coordination with municipalities, especially those under embargo (currently there are 15 municipalities in Para among the 50 municipalities with high deforestation in Brazil under embargo since 2008). Therefore Government intends to come up with an unrestricted program encompassing any kind of project and regional or thematic strategies.

7. Target population and rights recognition

Every member is interested in involving all significant stakeholders, especially the poor forest dependent or forest owner groups, as potential beneficiaries of the program. These groups are the indigenous populations and traditional communities, who usually have a historical role in conversation of forests. And on the other side, small households in land reform settlement projects and mid- to large- landowners who are responsible for the larger portion of deforestation in the Amazon. Clearly, Amazonas, Acre and Mato Grosso states in their REDD programs' intentions to involve also mid- and/or large land owners as beneficiaries of REDD actions, besides the forest sector

With regards to rights recognition and the role of indigenous people and traditional communities in REDD actions, Amazonas and Acre emphasized their commitment to acknowledge rights and involve indigenous and traditional communities in the design of REDD mechanisms. Acre is the only state that has carried consultation processes with potential beneficiaries in the design of REDD program.

8. Participation and Transparency mechanisms

Participation mechanisms have been based on formal multi sector forums especially in Amazonas, Pará and Mato Grosso. These forums are the main place to discuss climate change related issues and are

responsible for designing the legal frameworks, as well as, the REDD programs concepts and outlines. In Acre participation has occurred in meetings with key NGOs in elaboration phase and through a consultation process that has mobilized different groups (indigenous groups, traditional communities, settled families in land reform settlement projects, grass-roots organizations, education and research organizations among others) through internet, meetings, 3-day workshops depending on the target group. Mato Grosso and Amazonas are planning consultation processes with different sectors of society to gather suggestions for the REDD programs' law minutes .

Issues of transparency are usually focused on email and internet website publications of reports and documents. There is no significant amount of information related to REDD programs in the web, only for a few projects under implementation phase that information is relatively more available in the internet.

9. Benefit sharing mechanisms

Only two benefit sharing concepts are designed so far. The Amazonas' Bolsa Floresta that invests in economic development based on non-deforesting activities, social development through improved education and health, and supports community organization. Bolsa Floresta rewards inhabitants for sustainable development and forest preservation through 1) direct monthly payments, 2) investment non-deforesting and income-generating projects, 3) investment in social (education, health, etc) programs and 4) support to grass-root organizations.

Acre's concept of **Incentives for Environmental Services (IES)** is defined as the costs of actions and interventions that result in the maintenance and increase of environmental services. The IES Carbon Program understands that this approach is essentially dealing with poverty reduction. Incentives are designed to increase the income and productivity of agricultural and forestry production systems, which, in conjunction with increased command-and-control measures, will lead to reduced pressure on forests, thereby assuring their continued provision of environmental services. The environmental service provider is receiving resources that allow land use in a more sustainable manner.

10. Institutional framework and arrangement for REDD programs

Table 4 intends to reveal the institutional arrangement for the future REDD programs stewardship, considering existing and created organizations and forums involved with REDD program's **regulation, monitoring, civil society participation and implementation**. The organizations associated with implementation may not be exclusive for the REDD program, having a broader scope of actions in the States' policies, although they can play a fundamental role in the future REDD programs. The implementation organizations that can perform a potential role in the implementation of a REDD program are subdivided in: protected areas, forest, agriculture, and land tenure. Organizations that are fully functional are highlighted in bold while no highlight indicates that the organization or forum is created or is to be created but it is not fully functional. For more information of the organizations please go to the member's database.

Table 4 – Institutional framework for existing (in bold) and to be created organizations/forums related to the role (regulation, monitoring, civil society participation and implementation) in REDD program.

Role	Acre	Amapá	Amazonas	Mato Grosso	Pará
Regulation	**SEMA** Institute for Regulation, Control and Registry	**SEMA**	**CECLIMA**	**SEMA**	**SEMA** **IDESP**
Monitoring	**IMAC** **UCEGEO** Institute for Regulation, Control and Registry	**IMAP** **IEPA**	**IPAAM** **INPA**	**SEMA**	**SEMA** (GEOTEC) **IDESP**
Participation	Commission for Validation and Control REDD Program	AP Climate Change Forum	**AM Climate Change Forum**	**MT Climate Change Forum**	**PA Climate Change Forum**

	Hearing Body Science Committee				
Implementation					
Protected areas	**SEMA**	**SEMA**	**CEUC SDS**	**SEMA**	**SEMA**
Forest	**SEF**	**IEF**	**SEAFE ADS SEPRO**	**SEMA**	**IDEFLOR**
Agriculture	**SEAP SEAPROF**	**RURAP SDR**	**IDAM**	**SEDER**	**SAGRI EMATER ADEPARA**
Land tenure	**ITERACRE**	**IMAP**	**ITEAM**	**SEDER INTERMAT**	**ITERPA**
REDD actions	Agency for Environmental Services Development	**IEF**	**FAS**	**SEMA**	

Law Enforcement capacity of the State/Province

Members have not contributed with consistent information on law enforcement capacity as well as needs for improvement. Next database input will try to focus on this issue.

11. Land/forest tenure administration and relation with REDD

Little information was evaluated with respect to land tenure policies because members did not meet all the information on this item. However, all states have agencies responsible for land tenure regulation actions for the lands under jurisdiction of the state. It is expected that the next version of the database may deepen the understanding of land tenure regulation programs, especially those associated with REDD programs.

12. REDD Monitoring, Reporting and Verification systems

Currently, the most significant processes related to MRV among states are associated with: 1. REDD projects, especially those in implementation phase, are using voluntary carbon protocols such as VCS associated with CCBA standards; 2. Carbon registry system has been on the focus by several states (Acre, Amazonas and Amapa) interested in nested approaches for REDD and access to carbon markets.

Acre's REDD Program is currently part of a field test for the Social Environmental REDD+ Standards, initiative led by Care and CCBA. Acre program defines the carbon certificates as C-REDD (one ton of CO2 equivalent reduced) that will be registered and issued by the Institute of Regulation, Control and Registry. The State Registry system indicates that Federal Government will receive information on the registries issued by the Institute. It is currently being drawn up a Memorandum of Understanding between the State Government and Markit Group Limited for advice on the registry design for the System of Incentives for Environmental Services (SISA). The registry system aims to register not only carbon credits, but all of the environmental assets that might be generated by SISA.

Amapá has signed a MoU with Markit Group Limited that expresses the interest to use the registry services from Markit for the carbon credits originated by Amapá's REDD program.

Para's PPCAD (Deforestation Control Plan) defines the creation of a carbon registry system.

13. REDD projects

REDD projects are defined as REDD initiatives and activities carried out within a restricted area of defined boundaries (such as Protected Areas, municipality area or private property) proposed by private actors (e.g. companies and civil society) and/or governments (e.g. State/Provincial, municipal, regional etc).

There are currently 11 REDD projects within GCF Brazilian members in different stages of development: 5 in Pará, 3 in Amazonas and 3 in Mato Grosso. There are no REDD projects in Acre and Amapá. Annex 1 describes each of the REDD projects.

14. Relationship with National Government

Regarding the mechanisms and/or forums that States employed to negotiate the integration and/or harmonization of the state REDD strategies with a national REDD system, it was observed that all members consider the Amazon Governors' Forum as the politically relevant mechanism to negotiate with the federal government in terms related to REDD policy national and internationally. The Forum was responsible for the creation of the task force that forged a new position of Brazil in UNFCCC considering the subnational level. The continuity of the Forum is uncertain with the change of several governments' offices next year due to the October 2010 elections.

Other levels of political relationship with the Federal Government related to REDD are participation in COFA (steering committee of Amazon Fund), working groups created by Federal Government (MMA) to define National REDD Regime, participation in CONAMA (national council for the environment) and congress discussion on the REDD Law.

IV. REDD Financing

Financing strategies in REDD Program

The development of REDD programs' concepts are being carried out supported by government funds, as well as from foundations and NGOs, especially in the case of REDD projects. Members did not calculate the exact cost to develop their REDD programs, nor have final figures related to REDD program's costs. All members are currently seeking funds from the Amazon Fund, which was created with a voluntary contribution from the Norwegian government managed by the National Bank of Economic and Social Development (BNDES), in order to deploy preliminary and preparatory steps for REDD (REDDiness). The states of Amazonas, Mato Grosso, Pará and Acre had recently approved proposals and funds should be transferred on from November 2010. The state of Para is preparing a second proposal to be submitted to the Amazon Fund in order to complement the actions already financed by the Fund.

In addition, members mentioned that they are open to seek other funding sources such as grants, public financing and carbon markets.

V. Needs identified for REDD program improvement

During database development, it was asked to the interviewees what they consider as necessities and needs in order to improve the REDD programs in each of the elements assessed above. As it can be seen below, the needs identified require a further reflection as the short time for the database fill out did not allow it.

The needs were grouped in **Structural Needs** associated to investments required in infrastructure and staff and in **Methodological Needs** associated to necessary studies and methodological improvements required by the REDD program.

During the GCF Santarém meeting, Brazilian members held a joint reflection on the needs that are common to all of them. It is expected that GCF Secretariat would lead efforts to raise funds to meet those collective needs.

1. Deforestation monitoring

STRUCTURAL NEEDS –

Amapá – structure geoprocessing unit in SEMA

Amazonas – structure geoprocessing unit for enforcement

Mato Grosso – increase the number of staff for deforestation monitoring

Pará – structure the geoprocessing unit (GEOTEC) to cope with the needs of a future REDD Program.

METHODOLOGICAL NEEDS –

Acre – validation of its deforestation monitoring methodology

Amapá – assessments on drivers and dynamics of deforestation

- Technological improvements on deforestation monitoring and estimates (to deal with cloud cover)
- Capacity building for SEMA staff in deforestation monitoring and estimates

Amazonas - support to development methodology to deal with cloud cover

Mato Grosso – increase the frequency of deforestation monitoring for periods under one year.

2. Degradation monitoring

STRUCTURAL NEEDS

Acre - increase the number of staff for degradation monitoring

Amapá – structure geoprocessing unit in SEMA

Amazonas – structure geoprocessing unit (processing capacity)

-more detail in images CBERs?? (INPE started this in 2008 with CBERS' high-resolution camera, which has a resolution of 2.7 meters across a 27 km band)

Pará - structure GEOTEC to develop degradation estimates and monitoring

METHODOLOGICAL NEEDS

Acre - capacity building in degradation monitoring methodologies using LIDAR

Amapá – assessments on drivers and dynamics of degradation

- technological improvements on deforestation monitoring and estimates

Mato Grosso – need to better understand how degradation takes place in the state. It also lacks historical data series that would contribute to the understanding of how degradation process takes place.

Pará – development of degradation monitoring protocol

3. Forest carbon quantification

STRUCTURAL NEEDS

Acre - increase the number of staff for carbon quantification

METHODOLOGICAL NEEDS

Acre – UCEGEO capacity building to implement degradation monitoring and estimates and carry on carbon stocks estimates.

Amapá- Improve the carbon quantification methodology for the whole state

Mato Grosso – Perform systematic studies in order to determine the carbon stocks

4. Baseline definition

METHODOLOGICAL NEEDS

Acre – Getulio Vargas Foundation was hired to refine the baseline and emissions reduction targets

Amapa –technical support to develop projected baseline

Amazonas - development of a statewide baseline for emissions and state reduction targets that specifically discuss carbon from forest (REDD-specific) and non-forest sources(*demand nor very clear – note from editor*), and continuous improvements to baseline model as time passes

6. REDD Program general development

In order to help members develop their own REDD Program, GCF could provide a set of experts in different areas such as carbon accounting, baseline definition, safeguards and economy to help members develop roadmaps to REDD programs and to better identify needs and issues which are determinant to REDD programs.

7. Rights recognition improvement

METHODOLOGICAL NEEDS

Acre – analysis of existing norms regarding acknowledgment of carbon property and rights

Amazonas –

- establish a legal and procedural framework to integrate indigenous land into the state-wide REDD program

- Establish a monitoring and evaluation methodology for Bolsa Floresta according to the REDD standards

Mato Grosso- Legal definition on the carbon property and rights related to Indigenous Territories, settlement projects and quilombos.

8. Transparency and participation mechanisms

Acre - Strengthening of the Follow-up Commission with the Incentives for Environmental Services System with regards to capacity building on the theme in order to be able to fulfill the expected role (approval of REDD subprograms and norms).

- Webpage for publication of information of the Carbon program and Incentives for Environmental Services System.

Amazonas - Mapping of REDD initiatives implemented by various institutions in Amazonas

- Work with the local media to increase visibility
- Plan for working in the municipalities and doing consultations outside of Manaus
- Explicitly reference and allow for indigenous peoples and their rights in any REDD document

Mato Grosso - Methodologies for carrying on the consultation process with the different sectors.
- Set up of the new SEMA website, currently under development, in order to publicize information and reports of the Forum and its working groups.

9. Benefit sharing mechanisms

METHODOLOGICAL NEEDS

Acre - Analysis of benefit sharing mechanisms, analyzing the different realities of the potential beneficiaries.

Amazonas –
- Legal framework for expanding REDD actions programs outside of conservation units and potentially into indigenous territories
- Develop guidelines through a consultation process for benefit-sharing activities

Mato Grosso – Assessment studies that subsidize a fair system of REDD benefit sharing contemplating all different stakeholders in society

10. Capacities of REDD Program organizations improvement

STRUCTURAL NEEDS

Acre – Creation of the carbon registry that may be flexible and adjustable to international and national regulation when defined.
- Government staff capacity building on procedures to design REDD projects (competence of the Agency), to elaborate norms, criteria for pre-registry and registry approval and issue of emissions reduction certificates.

Amapá – permanent staff engaged in state agencies (related to REDD)

Amazonas - More money and resources for monitoring and on-the-ground enforcement activities

Pará – additional support in terms of funding, staff and capacity building for state agencies **r**elated to REDD
- strengthening of municipalities to collaborate with SEMA in REDD actions

METHODOLOGICAL NEEDS

Acre - Definition of methodologies of REDD project elaboration and accreditation of REDD projects certifiers.

Amazonas –
- Organizational assessment to explicit definition of and division of responsibilities between organizations as well as evaluation of the need of a separate organization to run the state carbon registry.
- coordination and integration of this task among governmental and non-governmental departments at all levels of organization and jurisdiction

Mato Grosso - After defining the structure of the REDD program, there will be a great need for training for existing state agencies, as well as for those that will be created. Ther ewill be a need to increase staff and probably have outside consultants on technical aspects and legal issues in the early stages of implementation.

11.Land tenure regulation

METHODOLOGICAL NEEDS

Acre – has already a methodology and it is under implementation, however, it is still required the capacity to increase number of properties included the land registry and licensing system.

Mato Grosso – Carry out field surveys to identify land tenure for subsequent process of regulation of rural properties.

- The State already has a deforestation and degradation monitoring system, but still requires the implementation of forest regeneration.
- There is a need for capacity building and institutional strengthening for the implementation of robust monitoring systems in order to assure that the Mato Grosso REDD Program complies with

social and environmental requirements from donors as well as of voluntary and mandatory markets.

12. MRV systems in REDD Program

STRUCTURAL NEEDS

Amazonas - Establishment of capacity (staff and resources) within governmental infrastructure for completing MRV process

- More on the ground capacity for enforcement

Mato Grosso – Institutional strengthening for the implementation of robust monitoring systems for REDD program compliance.

METHODOLOGICAL NEEDS

Acre - Necessity to verify the methodologies for certification of emissions reductions (such as VCS)

Amazonas -

- Development of own strategy and capacity for verification and certification, as well as responsibilities within governmental infrastructure
- Establishment of a carbon registry system.

Mato Grosso – Capacity building for the implementation of robust monitoring systems for REDD program compliance.

- Forest biomass mapping more precise than the currently available is mandatory, requiring Forest inventories.

15. REDD Financing

METHODOLOGICAL NEEDS

Amazonas - cost analysis, economic viability studies and financing strategies

Mato Grosso - An estimate of the costs to implement REDD has to be made, either during the current process of discussion or after it, in order to allow the State to adequately plan its budget and seek external funding sources for its implementation.

Collective needs Identified by Brazilian members

During the Santarem meeting, the Brazilian members met and reviewed the needs presented by all members, prioritizing actions related to methodological issues that could benefit all or most of the members. The 8 prioritized needs are described below and it is expected to be the subject of fundraising activities by the Secretariat. These actions have a fundamental character to give purpose and focus to the GCF Fund (elaborated by Task 2) in order to improve the quality of members' REDD programs and enhance the appreciation of the GCF by its members.

1. Search for partnership aiming at methodological improvement for deforestation monitoring in cloud cover areas (Amapá, Pará, Amazonas)
2. Development of degradation monitoring protocol for REDD programs
3. Development of analysis, recommendations and capacity building for Statewide IPCC Tier 2 forest Carbon Stocks
4. Discussion and definition of baseline methods in Brazil
5. High qualified group of experts to support GCF members in the development of their REDD Programs especially regarding carbon accounting, baseline, safeguards
6. Assessment of Carbon Registry systems and assess possibility for a common registry system for Brazilian members
7. Economical Analysis to support State REDD programs regarding cost-benefit analysis for for members' realities and international marketing strategy
8. Legal framework analysis to include federal areas into state REDD programs regarding Indigenous Territories, Traditional Communities (quilombolas, rubber tappers etc), Settlement projects and Federal Conservation Units

Annex – REDD projects in Amazonas, Mato Grosso and Pará

AMAZONAS REDD PROJECTS: Project Name	**RDS JUMA**	**RDS Mosaico do Apui**	**RDS Madeira**
REDD Projects within State/Province			
Location:	Novo Aripuanã, Southern Amazonas	municipalities of Apuí and Novo Aripuanã, Southern Amazonas	municipalities of Manicoré, Borba and Novo Aripuanã, Southern Amazonas
Year of initiation	2008	tentatively 2011	tentatively 2011
Status of project (planning or in progress):	In progress	planning	Planning
Land area (km2) of REDD area:	5.896	24.672	2.831
Pre-existing special status of land	State Sustainable Development Reserve as of 2006	a mosaic of state and federal protected areas	State Sustainable Development Reserve
Number of people living in REDD area:	339 families	7.500 families	480 families
Organizations (governmental or non) operating project:	FAS (Amazonas Sustainable Foundation, a semi-state entity) and SDS (the Secretary of the Environment), with technical support from IDESAM (Institute for Conservation and Sustainable Development of Amazonas)	tentatively involved are FAS , SDS, IDESAM (Institute for the Conservation and Sustainable Development of Amazonas), IIEB (International Institute of Brazilian Education), and WWFBrasil	tentatively involved are FAS, SDS , IDESAM , and WWFBrasil
Source(s) of funding:	initial (4 years) funding from the Marriot, other funding sources will be found in next year	Not Known	Not Known
Proposed life of the program (years):	50	Not Known	Not Known
Estimated avoided emissions (tons CO2):	189.7 million	Not Known	Not Known
Baseline method	projected	Not Known	Not Known
MRV protocol:	normal monitoring as part of conservation unit Amazonia, with additional on the ground efforts and certification based on CCB Standards. VCS underway	Not Known	Not Known
Other (any important and relevant details	part of Bolsa Floresta program		

MATO GROSSO REDD PROJECTS: Project Name	**Pilot Project REDD+ Cotriguaçu**	**Surui Carbon Project**	**Xingu Project**
REDD Projects within State/Province			
Location:	Cotriguaçu municipality, Northwest region	Indigenous Territory 7 de Setembro, Rondolandia (MT) and Cacoal (RO), Espigão d'Oeste (RO) municipalities	Municipalities surrounding Xingu Indigenous Park
Year of initiation/proposed year of initiation:	elaboration began in 2008, no estimate for starting implementation	Not assessed	TBD
Status of project (planning or in progress):	Planning	planning	planning
Land area (km2) of REDD area:	9.400	2.800	TBD
Pre-existing special status of land	55% private properties and 50% if them already registered in SEMA database; 18% Indigenous Territories; 14% protected areas; 13% small households settlement projects;	Indigenous Territory	TBD
Number of people living in REDD area:	14.965 (estimate for 2009)	1.350	TBD
Organizations operating project:	SEMA/MT, TNC, Cotriguaçu municipality, ICV e ONFI (French cooperation agency for forests)	Associação Metareilá (indigenous organization), IDESAM NGO, Kaninde NGO, ACT-Brasil NGO, Forest Trends and FUNBIO	ISA NGO
Source(s) of funding:	Government, TNC, ONFI and ICV with resources from CLUA and Climate Works	Own resources of the organizations and Forest Trends	
Proposed life of the program (years):	30 years	Not assessed	
Estimated avoided emissions (tons CO2):	26 million tCO_2 between 2006 and 2020	TBD	
Baseline method	historical (Amazon Fund methodology based on 100 ton C/ha	projected	
MRV protocol:	TBD	CCB and VCS Standards	

PARA REDD PROJECTS: Project Name	**Calha Norte**	**Sao Felix do Xingu**	**REDD Tembé**	**Avoided Deforestation in Small Households In Transamazon road**	**REDD Ecomapuá**
Location:	North of Para State, Calha Norte Region, in 3 State Forests: Parú, Faro and Trombetas	Sao Felix do Xingu municipalities and surroundings	Alto Rio Guama Indigenous Territory, Pará State	Pacajá, Anapu and Senador José Porfírio municipalities	Breves municipality, Marajo Island
Year of initiation	TBD	TBD	TBD	2009	Not assessed
Status of project (planning or in progress):	planning (initial studies: carbon estimates and scenarios' modeling for baseline definition)	planning	initial agreements between C-Trade and Indigenous Association	initial phase of implementation	planning
Land area (km2) of REDD area:	74.000	200.000	690	317	941,71
Pre-existing special status of land	State Protected Areas designated for logging concessions	State/national conservations areas; Indigenous territories; Private Lands and Settlement Projects.	Indigenous Territory	Settlement Projects	private area
Number of people living in REDD area:	TBD	TBD	700 families	350 families	450 families
Organizations (governmental or non) operating project:	IMAZON NGO (elaboration of studies carbon and modeling); Conservation International (supporting the elaboration of initial studies); SEMA (coordination and supervision)	TNC (proponent and technical guidance); Municipal Government; SEMA	C-Trade (company responsible to invest in the project elaboration) and Tembe People association	IPAM NGO; Fundação, Viver, Produzir e Preservar (FVPP – local association); FUNBIO Private Public Fund; Ministry of Planning	Private Company Ecomapua is proponent; Winrock International (economic viability study); Georgia University (carbon accounting) and Amazonia Sustentável Institute (social assessment).
Source(s) of funding:	Conservation International	TNC, public and private funding	private source from C-Trade	Amazon Fund and Foundation resources	private sources
Proposed life of the program	TBD	TBD	15 years	Not assessed	20 years
Avoided emissions(t CO2):	TBD	TBD	TBD	1.76 in 5 years	6 million
Baseline method (projected, historical or other)	Scenarios' modeling are working with 4 scenarios: low deforestation; conservation; high pressure and average of low and high pressure (more likely to happen in the region).	TBD	TBD	historical 1998-2008	in process of definition
MRV protocol:	TBD	TBD	TBD	TBD	VCS