

INTERNATIONAL TROPICAL TIMBER ORGANIZATION

ITTO

STRATEGIC POLICY ACTIVITY ITTO/CBD Collaborative Initiative to Conserve Tropical Forests [Decision 6(XLVI)]

TITLE	BUILDING THE CAPACITIES FOR BIODIVERSITY CONSERVATION IN TRANS-BOUNDARY CONSERVATION AREAS (TBCAs) IN THE CONGO BASIN COUNTRIES THROUGH SFM PRACTICES AND THE USE OF SATELLITE AND RADAR IMAGERY (PHASE 1)
SERIAL NUMBER	PP-A/50-296
COMMITTEE	REFORESTATION AND FOREST MANAGEMENT
SUBMITTED BY	ITTO
ORIGINAL LANGUAGE	ENGLISH

EXECUTING AGENCY	RESEAU DES AIRES PROTEGEES D'AFRIQUE CENTRALE (RAPAC)		
COLLABORATING GOV.	CAMEROON, D. R. CONGO, GABON, REP. OF CONGO		
DURATION	12 MONTHS		
APPROXIMATE STARTING DATE	UPON APPROVAL		
BUDGET AND PROPOSED SOURCE OF FINANCE	Source	Contribution in US\$	Equivalent in national currency
	ITTO	1.280.619	
	RAPAC	116.000	
	TOTAL	1.396.619	

Countries:

Angola, **Cameroon**, **Congo**, CAR, Chad, **D.R. Congo**, Equatorial Guinea, **Gabon** & Rwanda.

Activity Title:

BUILDING THE CAPACITIES FOR BIODIVERSITY CONSERVATION IN TRANS-BOUNDARY CONSERVATION AREAS (TBCAs) IN THE CONGO BASIN COUNTRIES THROUGH SFM PRACTICES AND THE USE OF SATELLITE AND RADAR IMAGERY

Phase 1

The Required amount:

- (1) External contribution: US\$1,280,619
- (2) Counterpart contribution: US\$116,000

Activity period:

Phase 1: June 2014 – May 2015

Requesting Organizations : ITTO and RAPAC/COMIFAC

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LIST OF ACRONYMS

AfDB	African Development Bank
AGEOS	Agence Gabonaise d'Etudes et d'Observations Spatiales
AMU	Activity Management Unit
ASC	Activity Steering Committee
CA	Collaborating Agency
CAR	Central African Republic
CBD	Convention on Biological Diversity
COMIFAC	Commission des Forêts d'Afrique Centrale (Central African Forest Commission)
COP	Conference of Parties (to CBD)
DRC	Democratic Republic of Congo
ECCAS	Economic Community of Central African States
EO	Earth Observation
EU	European Union
FFBC	<i>Fond Forestier du Bassin du Congo</i> / Forest Fund for the Congo Basin
FTNS	<i>Fondation pour la Tri-Nationale de la Sangha</i> (Foundation for Trinational Sangha Conservation Area)
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
INPE	INPE - <i>Instituto Nacional de Pesquisas Espaciais</i>
IRD	<i>Institut de recherche pour le développement</i> (French National R&D Institute)
ITTA	International Tropical Timber Agreement
ITTO	International Tropical Timber Organization
IUCN	International Union for the Conservation of Nature
JICA	Japan International Cooperation Agency
LAB	<i>Lutte anti-braconnage</i> / Poaching Control
MOFA	Ministry of Foreign Affairs
OSFAC	<i>Observatoire Satellitaire des Forêts d'Afrique Centrale</i> (Satellite Monitoring Centre for the Forests of Central Africa)
PACEBCo	<i>Programme d'appui à la conservation des écosystèmes du Bassin du Congo</i> / Support Programme for Congo Basin Ecosystem Conservation
Pm	person/month
R/A	<i>Recherche Action</i> / Active Research
RAPAC	<i>Réseau des Aires Protégées d'Afrique Centrale</i> / Network of Central African Protected Areas
RIFFEAC	<i>Réseau des Institutions de Formation Forestière et Environnementale d'Afrique Centrale</i> / Network of Forestry and Environment Management Training Institutions in Central Africa
SAR	Synthetic aperture radar
SWOT	Strengths, weaknesses, opportunities, threats
TBCA	Trans-boundary Protected/Conservation Area
TNS	Tri-Nationale de la Sangha (Trinational Conservation Area of Sangha)
TRAFIC	Wildlife Trade monitoring network
TRIDOM	Tri-National Dja-Odzala-Minkebe
UNDP	United Nations Development Programme
USD	United-States Dollar
WCS	Wildlife Conservation Society

1) Context and justification

The Eleventh Conference of Parties (CoP 11) to CBD held in Hyderabad, India, from 8 to 19 October 2012 has welcome in its Decision XI/6/C/23 the sound cooperation between the Convention on Biological Diversity (CBD) and the International Tropical Timber Agreement, 2006 (ITTA-2006) as part of the « *CBD/ITTO Collaborative Initiative for Tropical Forest Biodiversity* » Agreement under the Protocol of Understanding signed by the Secretariats of CBD and the International Tropical Timber Organization (ITTO) respectively on March 2nd, 2010. CoP 11 reiterated its invitation to the Parties to CBD and ITTA-2006, as well as to some organizations and institutions concerned by this issue, to further support the « ***CBD/ITTO Collaborative Initiative for Tropical Forest Biodiversity*** ». This proposal has been developed in consideration of the need to enhance the implementation of the CBD Work Programme on Forest Biodiversity in the Member Countries.

Since the highly successful organization of the Tenth Conference of the Parties (COP 10) to the CBD in Nagoya, Japan, 18-29 October 2010, the Government of Japan has been playing a leading role in promoting biodiversity conservation throughout the world, thanks to the implementation of the "***Satoyama Initiative***" whose motto is to promote the vision of "***living in harmony with nature***". Thus the Government of Japan has funded three projects through ITTO, that is to say a project in each of the three tropical timber producing regions (Africa, Asia-Pacific and Latin America), as a contribution to halting the loss of biodiversity in the context of the *2011-2020 Decade of Biodiversity Conservation*, as recommended by the 10th COP.

Referring to the report by the Commission of Central African Forests (COMIFAC), "*State Forestry 2010/Les Forests of the Congo Basin*" Trans-boundary Protected Areas (TBCAs) are regarded as the cornerstone of conservation biodiversity in the landscapes of the Congo Basin countries, mainly consisting of natural forests sheltering one of the richest biodiversity content in the world. Although protected by law, the majority of TBCAs established in the countries of the Congo Basin face the pressures of human activities which contribute to the belief in the "*empty forests*" syndrome, if appropriate means are not mobilized to reverse the current trend of biodiversity loss. This "empty forest syndrome" means that TBCAs exist in theory, under Government orders creating them, as well as on maps of the countries of the Congo Basin, while they often lack the technical and financial resources that could make them fully operational in their biodiversity conservation roles.

And that is the reason why this sub-regional Activity has been prepared in collaboration with the countries of the Congo Basin to help make TBCAs operational in the field of biodiversity conservation through sustainable forest management practices and the use of satellite imagery and radar. This sub-regional Activity is part of the implementation of the "*CBD / ITTO Collaborative Initiative*" in the countries of the Congo Basin, and as such it will be consistent with the objectives of the CBD and ITTO and be responsive to the calls by COP 11 to further support this initiative.

During the twenty-six years of its existence to-date, the ITTO has been involved in the development of TBCAs with its member countries in the Tropics. To date, 18 projects have been implemented or are on-going in Africa, Asia Pacific and Latin America to support TBCAs. These TBCA supporting projects are a source of invaluable lessons and experiences that have been documented and shared internationally with the holding of an international conference on trans-boundary of biodiversity conservation in Quito, Ecuador, from 21 to 24 July 2010.

2) Development Objective

Development Objective is to contribute to the management of threats to biodiversity in Trans-boundary Protected Areas (TBCA) in the countries of the Congo Basin.

3) Specific objective

The specific objective is to build the capacity and expertise in the use of satellite imagery data for the management of TBCAs in the Congo Basin countries.

4) Expected Outputs

- Output 1: Institutions and national and sub-regional organizations involved in TBCA management in the Congo Basin have increased their capacities to use EO data.
- Output 2: Active Research (R/A) on the use of telemetry in TBCA law enforcement actions has yielded innovative tools.
- Output 3: Knowledge Transfer to TBCA managers for the use of satellite imagery completed.

5) Results expected at Activity completion

Upon completion, the Activity will have raised awareness levels among policy makers and senior officers of TBCA to the benefits of increased satellite imagery use. This will enable TBCA managers and policy makers to make full use of satellite imagery data potentials, for application in several areas, including:

- Improving the strategic and operational data for the management and monitoring of TBCAs;
- Supporting the control of illegal practices, including poaching and illegal logging;
- Monitoring spatial and temporal changes in habitats and ecosystems;
- Land planning;
- Forest zoning;
- Supporting the development of integrated decision-support systems in the management of TBCAs;
- Improved mapping of ecosystems and habitats, as well as biological corridors.

6) Target area

The Activity relates to trans-boundary protected areas (TBCAs) located in Central Africa, which have been covered by cooperation agreements for TBCA creation and management signed between the States concerned in each case (see Table 1 and Figure 1).

Table 1: Trans-boundary Protected Areas (TBCAs) to be potentially affected by the Activity

TBCAs	TBCAs and countries involved		
	Name	Country	Surface area (Ha)
Campo-Ma'an – Rio Campo	Campo-Ma'an	Cameroon	771,000
	Rio Campo	Equatorial Guinea	33,000
Conkouati-Douli – Mayumba-Gamba	Conkouati-Douli	Congo Republic	505,000
	Mayumba-Gamba	Gabon	80,000
Lake Télé – Lake Tumba	Lac Télé	Congo Republic	438,960
	Lac Tumba	DRC	908,000
Lefini – Batéké-Leconi	Lefini	Congo Republic	630,000
	Batéké-Leconi	Gabon	204,854
Mayombe	Cacongo	Angola-Cabinda	32,000
	Dimonika	Congo Republic	136,000
	Luki	DRC	33,000
Monts de Cristal – Monte-Alen	Monte-Alen	Equatorial Guinea	200,000
	Monts de Cristal	Gabon	120,000
Sena-Oura – Bouba-Ndjidda	Bouba-Ndjidda	Cameroon	220,000
	Sena-Oura	Tchad	73,890
TNS (Tri-National de la Sangha)	Dzangha-Ndoki	RCA	125,100
	Lobeke	Cameroon	43,000
	Nouabale-Ndoki	Congo Republic	419,000

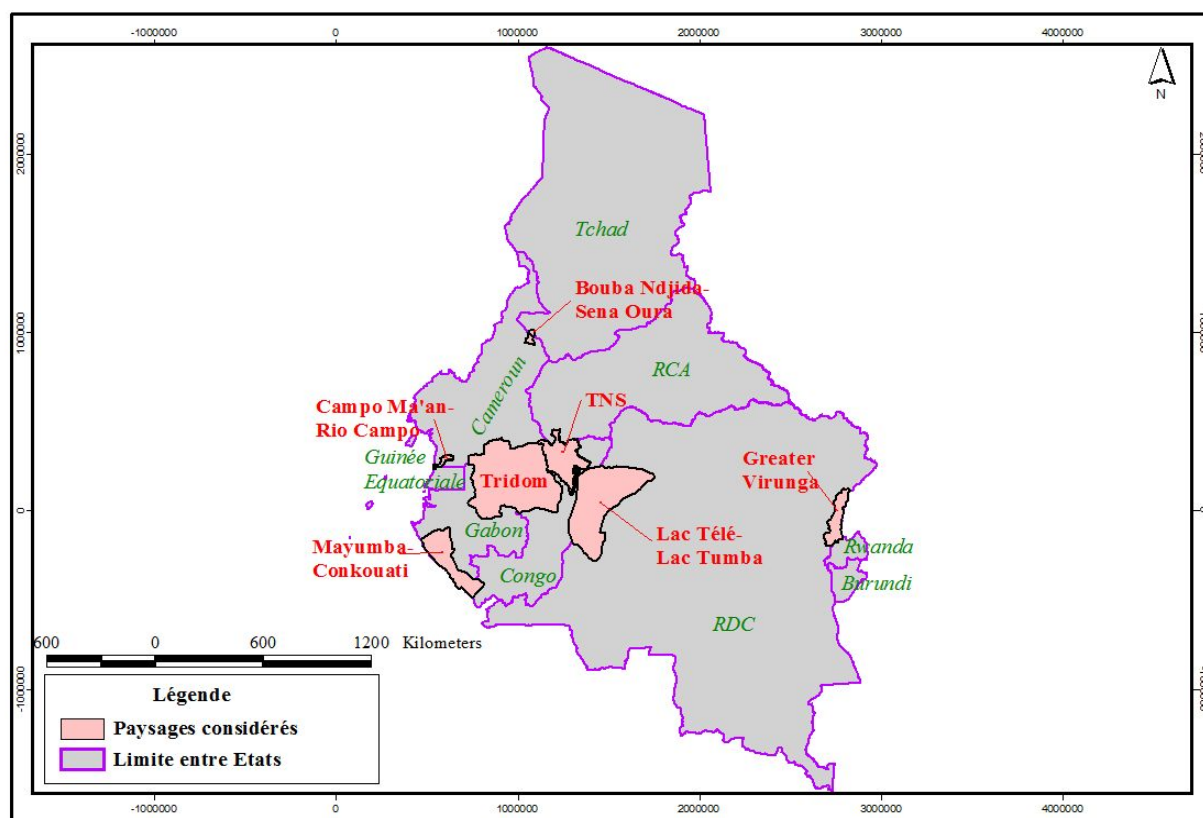
TRIDOM (Tri-National Dja-Odzala-Minkebe-Mengame)	Dja	Cameroon	526,000
	Mengame	Cameroon	137,000
	Minkebe	Gabon	756,700
	Odzala-Koukoua	Congo Republic	1,350,000
Virunga	Parc des Volcans	Rwanda	16,000
	Virunga	DRC	780,000
Total area (Ha)			8,538,504

Sources : Etats des Forêts 2010 / Les Forêts du Bassin du Congo, OFAC-COMIFAC / EU Programme, RAPAC-COMIFAC

The area of trans-boundary protected areas in countries not members of ITTO is 479,990 ha, or about 5.6 % of the total area included in this table.

Phase 1 will focus on TBCAs related to the democratic Republic of Congo, for field activities, while the TBCAs regarding other countries will be involved in a process of information sharing of findings to be derived from the implementation of Phase 1. The field activities in TBCAs of other countries are planned for the Phase 2 implementation.

Figure 1: Map of Trans-boundary Protected Areas (TBCAs) in Central Africa (cfr. Ngoufo, 2012)



7) Work Plan (for Phase1)

For the 12-month Phase 1, to be implemented in the Democratic Republic of Congo, actions are planned in the following Gantt chart:

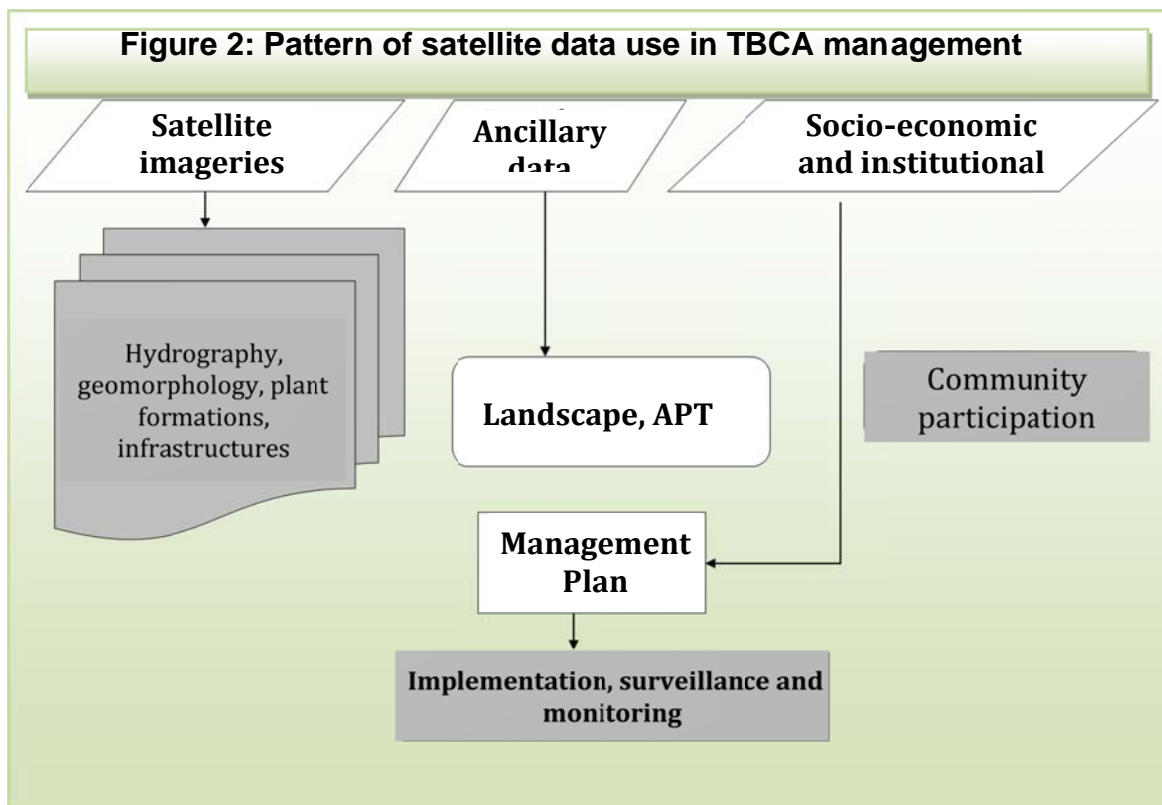
Outputs/actions	Responsible party	Year 1 (Quarter)			
		1	2	3	4
Output 1: Institutions and national and sub-regional organizations involved in TBCA management in the Congo Basin have increased their capacities to use EO data					
Action 1.1: Implementation and operation of the Activity Management Unit at RAPAC Secretariat	RAPAC / AMU Manager				
Action 1.2: To convene an Activity start regional workshop in DRC to secure the policy bases of the Activity and inform partners on the phased approach chosen by the donor for the Activity execution	RAPAC / ICCN				
Action 1.3: To establish the baseline status of the use of EO data in TBCA management and identify the needs of final users of remote-sensing technologies	Remote-sensing expert / ICCN				
Action 1.4: Technical specification and acquisition of equipment and material required for EO technologies application	AMU / Remote-sensing expert / Sub-regional Initiatives				
Action 1.5: To organize the training in the use of satellite imagery in the strategic decision-making process applied to forest ecosystem management	AMU / Sub-regional Initiatives				
Action 1.6: To establish data bases for satellite data to be used for TBCA management in the target countries (starting with D. R. Congo during Phase 1)	AMU/ Remote-sensing expert				
Output 2: Active Research (R/A) on the use of telemetry in TBCA law enforcement actions has yielded innovative tools					
Action 2.1: To develop and implement an active research to address the threats and constraints on the management of TBCAs	AMU/Remote-sensing expert				
Output 3: Knowledge Transfer to TBCA managers for the use of satellite imagery completed					
Action 3.1: To train managers in the use of TBCA satellite and Radar images for mapping and monitoring of habitat changes	Remote-sensing expert / Sub-regional Initiatives				
Action 3.2: To build the capacities of TBCAs where Green Centers have been established by PACEBCO, for appropriate support to local communities	Remote-sensing expert / PACEBCo				

8) Implementation strategy (for Phase 1)

Remote Sensing technologies provide an overview of the phenomena taking place at landscape level. The repeated acquisition of satellite data provides a picture of the time and space dynamics to be observed at that scale. Therefore remote-sensing technologies make a response particularly relevant to protected area management and monitoring issues. But to make full use of satellite imagery

potential, the problem of image costs must be overcome, together with the cost of expertise and knowledge data; and it will be necessary to take full advantage of the range of sensors and satellites whose characteristics vary in accordance with spectral variations and ground resolution variations. Optical satellite imagery has a strong potential for mapping forest ecosystems, especially through the wide range of selectable resolutions it provides and also because of its long (20 years) history of images archives. SAR systems can capture high-resolution images in any lighting and weather conditions and with shorter revisit intervals. The synergy of optical imaging and SARs (e.g. RADARSAT 1 and 2, TerraSAR-X, ALOS-PALSAR) for mapping and surveillance would place forestry in the Central Africa sub-region in a position to use cost-reducing precision technologies.

The implementation of a spatial and temporal monitoring system for TBCAs is contingent on the acquisition of satellite images time series of different resolutions and from different sensors, to secure accurate localization of objects of interest for lesser costs. As a first step, active research will assess the potential for segregating the various TBCA habitats from the experience gained in pilot TBCAs and/or conservation areas. Figure 4 outlines a route for the use of EO data in planning TBCA sustainable management. Information extracted from satellite imagery, together with ancillary data and socio-economic data will be used as input in the development of thematic maps and provide the tools to achieve development and management plans, while allowing for community involvement.



With technical results derived from the interpretation of satellite imagery, the level of deforestation and/or forest degradation in TBCAs will be identified and assessed for appropriate actions to support appropriate actions to be planned with local communities (refugees, internally displaced people and local populations) whose livelihoods depend on forests in TBCAs and who can be directly or indirectly affected by conservation activities. For instance, in the Virunga TBCA, the deforestation and/or forest degradation, as well as other problems regarding biodiversity conservation, have been mainly aggravated by armed conflicts in the Provinces of North-Kivu and South-Kivu, in the eastern part of the Democratic Republic of Congo, since the genocide in Rwanda in 1994 until November 2013 with the dismantling of the M23 rebel group.

9) Budgets (for Phase 1)

a) ITTO Budget (in US\$)

Item component	Description	Total budget (US \$)
10	Activity personnel	
11.1	Activity coordinator	60 000
11.2	Remote sensing expert	30 000
11.3	Admin. and Financial Officer	45 000
	Other staff	
12.1	Secretary	18 000
12.2	Accountant	27 000
12.3	Driver	6 660
12.4	Cleaner/worker	4 500
12.5	1 day-shift and one night-shift security guards	10 080
15	Fellowship and training in satellite imagery processing	124 000
19	Sub-total	325 240
20	Sub-contracts	
21.1	International consultant (remote-sensing – technical specifications)	6 000
21.2	International consultant (remote-sensing – R/A)	18 000
29	Sub-total	24 000
30	Duty travels	
311	DSA for meetings and training sessions	25 500
312	DSA for Consultant on baseline study for use of EO data	9 000
313	DSA for Consultant on remote sensing – R/A)	9 000
331	Travels costs of AMU experts	5 000
332	Travel costs for Consultants	2 000
39	Sub-total	50 500
40	Capital Goods	
43	Vehicle	
431	1 Light-weight Vehicle (AMU)	30 000
44	Capital goods	
441	2 Desk top computers (AMU and Collaborating Agency)	2 000
442	4 Laptop computers (AMU and Collaborating Agency)	4 200
443	2 Printers (AMU and collaborating Agency)	1 000
444	2 Photocopiers (AMU and Collaborating Agency)	3 000
445	Equipment and software for data bases (PMU and Collaborating Agency)	116 000
49	Sub-total	156 200
50	Consumables	
51	Fuel, vehicle maintenance and spare parts	14 000
531	Satellite imagery acquisition (R/A)	300 000
54.1	Office supplies (AMU and Collaborating Agency)	12 000
55	Communication (AMU and Collaborating Agency)	12 000
59	Sub-total	338 000
601	Organization of start-up workshop	30 000
604	Miscellaneous supports to local communities	200 000
62	Activity Steering Committee Meeting	2 000
69	Sub-total	232 000
	Total 10-69	1 125 940
80	Activity monitoring and evaluation	Phase 1
81	Monitoring and review (ITTO & COMIFAC)	20 000
85	ITTO Programme Support (12% Total 10-81)	134 679
89	Sub-total	154 679
100	GRAND TOTAL	1 280 619

b) Executing Agency Budget (in kind)

Item component	Description	Total (US \$)
10	Activity personnel	
10.1	Executive Secretary of RAPAC	24 000
10.2	Director of Protection Area Management	18 000
10.3	Monitoring and Evaluation Officer	18 000
10.4	Admin. and Financial Director	18 000
19	Sub-total	78 000
40	Capital Goods	
401	Office and maintenance	14 000
402	Rental cost	24 000
49	Sub-total	38 000
100	GRAND TOTAL	116 000

10) Implementation procedures

a) Executing Agency and partners

The RAPAC Secretariat is the Executing Agency of the Activity. For the daily management, it will create an Activity Management Unit (AMU) which will lead country-based coordination groups in each country involved in the Activity, for the implementation of the planned Actions.

The Executing Agency (RAPAC Secretariat) will sign a memorandum of understanding with the *Institut Congolais pour la Conservation de la Nature (ICCN)* for the implementation selected activities, as Collaborating Agency, in the Democratic Republic of Congo, in relation to, among others:

- Zoning for land-use allocation;
- Landscape Ecological Mapping (biotope mapping);
- TBCA Management planning and surveillance;
- Tracking changes in habitats and wildlife corridors;
- Exploring innovations in support of combatting poaching in TBCAs;
- Complementary and integrated use of optical satellite imagery and precision radar imagery;
- Identification of field actions for the rehabilitation/restoration of forest lands in TBCAs with the involvement of local communities (refugees, internally displaced people and local populations).

There will be a need to seek collaboration with the following sub-regional initiatives which are operating in the Democratic Republic of Congo:

- OSFAC (*Observatoire Satellitaire des Forêts d'Afrique Centrale / Satellite Monitoring Centre for the Forests of Central Africa*) based in Kinshasa (DRC) and mainly supported by USAID;
- PACEBCo (*Programme d'appui à la conservation des écosystèmes du Bassin du Congo / Support Programme for Congo Basin Ecosystem Conservation*) funded by the African Development Bank;
- ERAIFT (*Ecole Régionale Post-Universitaire d'Aménagement et de Gestion Intégrés des Forêts Tropicales / Regional Post-Graduate School of Integrated Tropical Forest Development and Management*), based in Kinshasa (DRC) and mainly supported by European Union. ERAIFT is a member of RIFFEAC (*Réseau des Institutions de Formation Forestière et Environnementale d'Afrique Centrale / Network of Central African Forestry and Environmental Training Institutions*).

b) Activity Steering Committee (ASC)

The PSC will include representatives from: COMIFAC, Donor, ITTO, RAPAC (Rapporteur), Collaborating Agency, Sub-regional Initiatives, Institutions in charge of TBCAs, etc. The PSC will meet

to provide guidance to the Executing Agency and Collaborating Agency in order to prepare the scaling-up of the project in the Phase 2 during which field activities will be extended to other ITTO member countries (Cameroon, Gabon and Republic of Congo).

c) Stakeholders involvement mechanism

Participation of stakeholders will be through institutional contact committees to be established in each country. Interagency information meetings will be held during the project to keep the various partner institutions informed about Activity progress, through Internet network.

d) Reports, supervision, monitoring and evaluation

The Executing Agency and Collaborating Agency, through the ITTO project on-line monitoring system (OLMS), shall submit to the ITTO, during the project implementation period, the following reports and documents:

- Yearly plan of operation at the beginning of each year;
- At the end of each month, a summary of the highlights of the month along with the tables of unaudited financial and cash-flow statements;
- By the end of January and end of July, the progress reports developed after the format introduced in the ITTO Manual for monitoring, review and evaluation of ITTO projects, including measures to sustain the project after the end of donors' financial support. Tables of the Activity's unaudited financial statements and cash flows relating to external funding and counterpart funding must be attached to each progress report;
- All results, outputs and other means of verification documented in accordance with the logical framework matrix as soon as they are finalized or in compliance with the Activity schedule
- Completion report no later than three months after completing the execution of this Activity.

With regard to external financial control, the implementing agency shall submit an annual financial audit report to the ITTO within three months following the end of the year in review. The final audited financial statements must be submitted within four months following the completion of the Activity. Activity accounts shall be audited by duly recognized external auditors, selected by the Executing Agency in consultation with ITTO.

The Executing Agency and Collaborating Agency shall also submit to ITTO technical reports and reports of studies conducted by the consultants. The Activity will be periodically inspected by ITTO, COMIFAC and the Executing Agency at least once a year. During these inspection visits, the Activity will show its progress and demonstrate how its logical framework is adhered to and how the decisions of the management committee are followed through.

The ITTO Regional Office for Africa (ROAf), based in Libreville (Gabon), will be first in line for closely monitoring of the Activity with the Executing Agency (RAPAC), which is also based in Libreville (Gabon). ROAF will be involved in the monitoring of technical and financial aspects of the Activity, together with the COMIFAC and FPBC Secretariats in which JICA has representatives, through regular inspection visits.

11) Visibility of Japanese contributions

The logo of the Japan International Cooperation Agency (JICA) and the flag of Japan will be included on all publications, press releases, PowerPoint presentations and posters of public events, on equipment and materials, as well as on the RAPAC website. Representatives of JICA, working as technical experts in the Executive Secretariat of COMIFAC, will be invited to take part in the key events of the Activity implementation (workshops, field monitoring missions, Activity Steering Committees, etc.).