

From BBI pilot project « Cooperation for the Development of Ecosystem Natural Capital Accounts in Francophone African Countries » to COPERNICEA



Regional BBI Round Table for Central and Eastern Europe,
26-28 February 2018, Minsk, Belarus

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UQÀM



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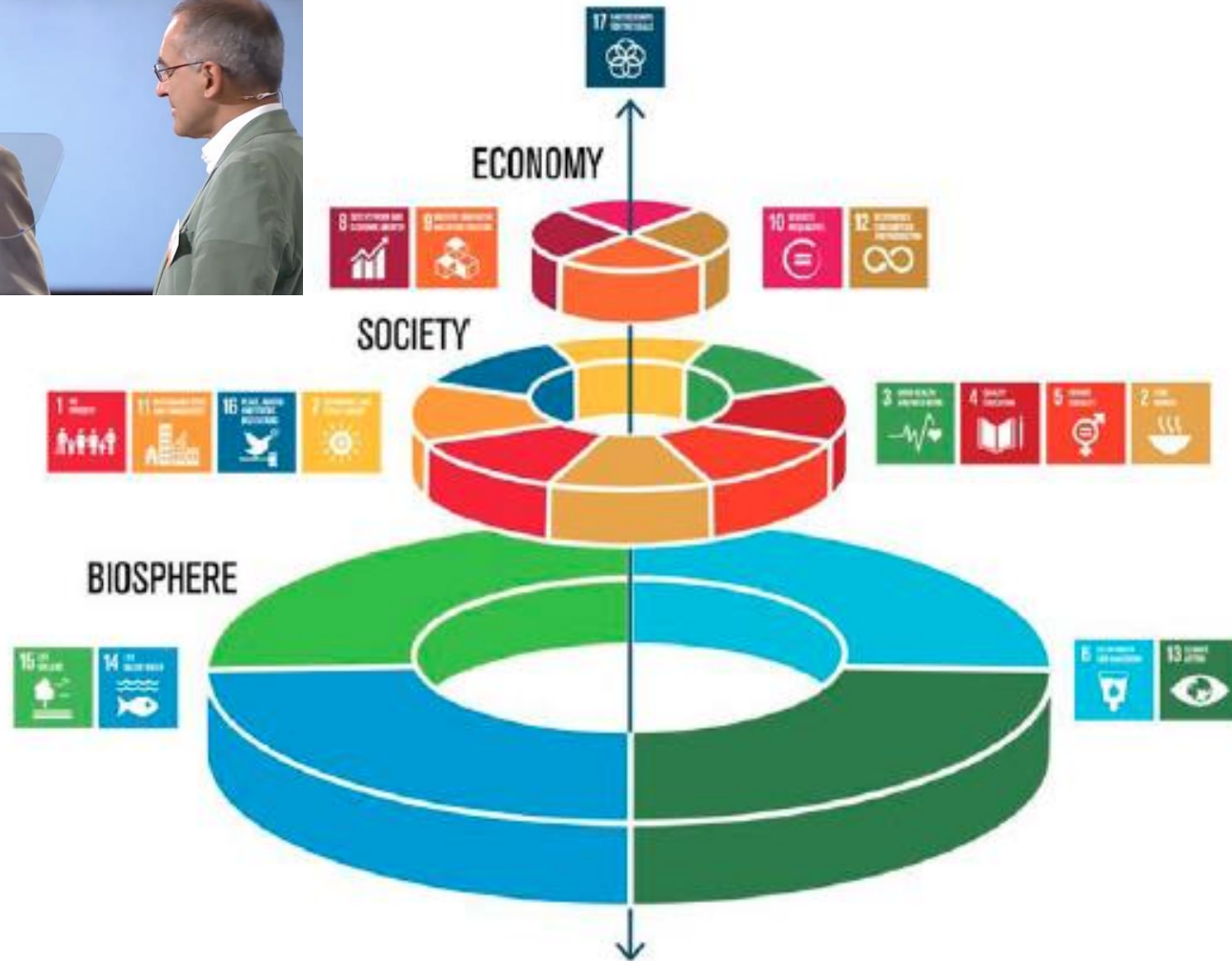


Figure 14. In this illustration, the SDG's have been arranged to show how healthy ecosystems are a prerequisite for human wellbeing and economic development. Source: J. Lokrantz/Azote in Rockström & Sukdev 2016 and Folke et al. 2016.



Aichi Biodiversity Target (2010)

Strategic Goal A: Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society

➤ Target 2

By 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems.





Sustainable Development Goals



- 15.9 By 2020, integrate ecosystems and biodiversity values into national and local planning, development processes and poverty reduction strategies, and accounts
- 17.19 By 2030, build on existing initiatives to develop measurements of progress on sustainable development that complement gross domestic product, and support statistical capacity-building in developing countries



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SEEA Volume 1
“Central Framework”

World Bank: SEEA/ Applications WAVES



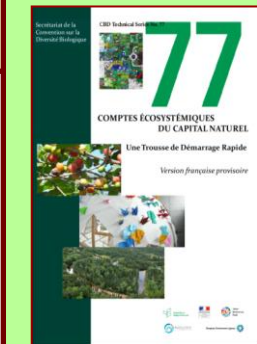
AEE: SEEA/ECA Ecosystem Capital Accounts



**SEEA-EEA/ENCA-
Mauritius**



CDB:
ENCA -QSP



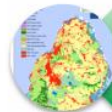
What is ENCA ?

Example: Mauritius – Experimental Ecosystems Natural Capital Accounts 2014



Key points

- A suite of accounts with land cover as a starting point
- It is complex but it can be done!
- Focuses on assets (e.g. natural capital) rather than services
- Learning by doing



Land cover



Water



Biomass/Carbon



Biodiversity



Capability

http://commissionoceanindien.org/fileadmin/resources/ISLANDSpdf/Experimental_Ecosystems_Natural_Capital_Accounts_Mauritius.pdf



WAVES © 2014

What is ecosystem accounting and why it is important 23 February 2015

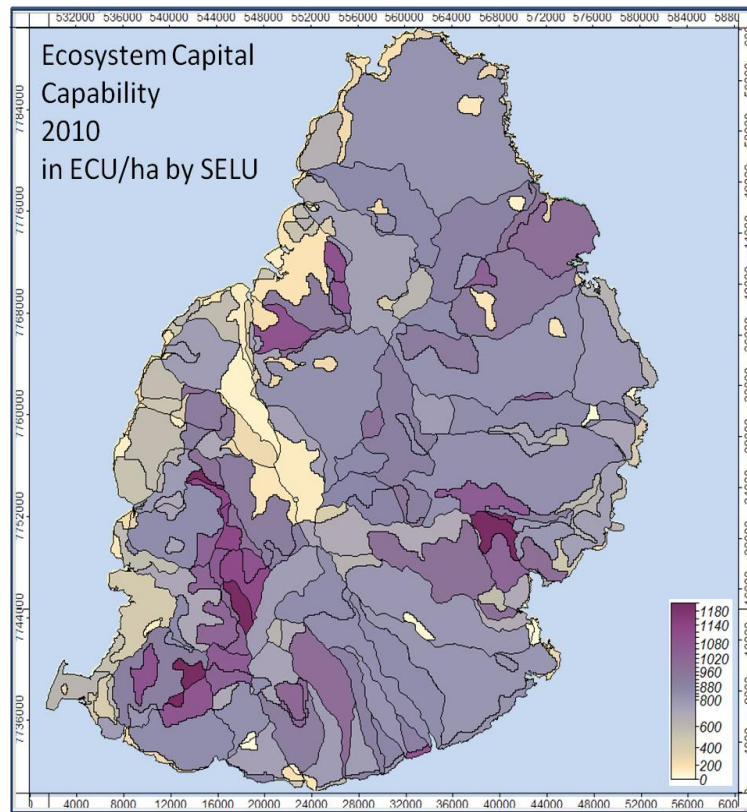
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Source: Michael Vardon's presentation at the World Bank WAVES 1st Knowledge Exchange on Ecosystem Accounting, Manila, the Philippines, 23-27 February, 2015

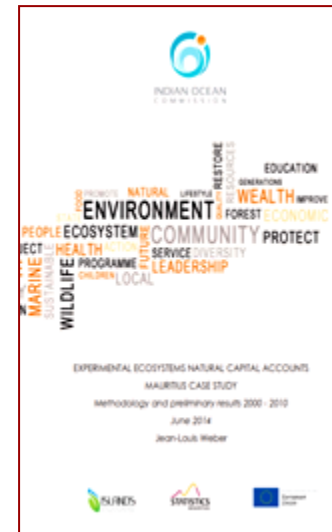
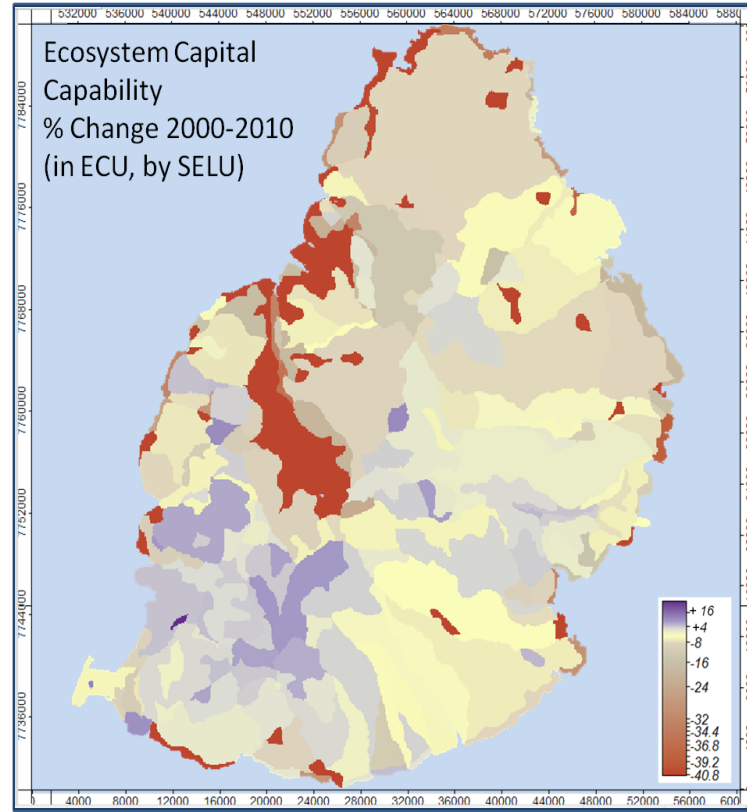


Experimental Ecosystem Natural Capital Accounts in Mauritius

Ecosystem Capital Capability:
ECU value by Socio-Ecological Landscape
Units, 2010



Ecosystem Capital Capability (inland):
Change in ECU value, % by Socio-Ecological
Landscape Units, 2000-2010



Experimental ENCA,
Mauritius Case Study (IOC, 2014)

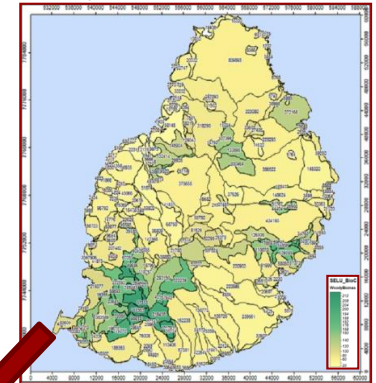
SEEA-ENCA Mauritius preliminary results :

The biomass-carbon account

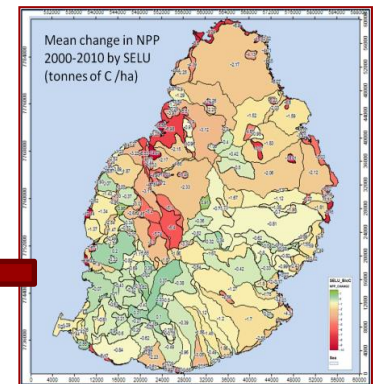
Carbon Accounts show the capacity of the ecosystems to produce biomass and the way it is used by crops harvests and trees removal or sometimes sterilised by artificial developments or destroyed by soil erosion or forest fires (in line with IPCC guidelines). Accounts are compiled using various sources such as products based on earth observation by satellite (e.g. MODIS NPP), on in situ monitoring (for IPCC-LULUCF, FAO/soil, FRA2010) and official statistics .

Simplified bio-carbon accounts by districts, 2010										Tons of carbon	
Provisional	2010	Riviere du Rempart	Pamplemousses	Flacq	Moka	Grand Port	Plaines Wilhems	Black River	Savanne	Port Louis	TOTAL
Initial stock 2010	1457955	2101934	4135543	4165122	2855365	3327114	3173857	3196601	432317	24845808	
Woody biomass	873403	1137222	2068571	1744337	1796040	1643485	2224653	2409579	265193	14162483	
Topsoil organic carbon	584551	964712	2066972	2420785	1059325	1683629	949204	787022	167124	10683324	
Flows/inputs	335582	417954	819601	675923	736068	454057	642970	739278	68922	4890354	
Net Primary Production	335582	417954	819601	675923	736068	454057	642970	739278	68922	4890354	
Flows/outputs and decrease	349143	448659	870542	708508	725853	481532	650835	744290	74976	5054339	
Removals, harvests	65446	90345	108405	56498	90172	35596	87914	81900	1698	617974	
Wood removals										0	
Sugarcane	63718	86585	104230	52531	87208	31984	83773	80223	912	591165	
Food crops	1727	3759	4175	3656	2918	3565	4141	1633	786	263	
Other cops	0	0	0	311	46	46	0	44	0	447	
Decrease due to land use change	4102	4761	5762	3629	3240	5216	2881	2290	1388	33269	
Other decrease (fire, erosion...)	14580	21019	41355	41651	28554	33271	31739	31966	4323	248458	
Soil/decomposers respiration v2	265016	332534	715020	606730	603888	407449	528301	628133	67567	4154638	
Net Ecosystem Carbon Balance 1 (flows)	-13562	-30705	-50941	-32585	10215	-27475	-7865	-5012	-6054	-163985	
Statistical adjustment	16597	28379	33235	15034	-29421	11163	-19714	-15632	6178	45819	
Net Ecosystem Carbon Balance 2 (stocks)	3035	-2326	-17706	-17551	-19206	-16312	-27579	-20644	123	-118166	
Final Stock 2010	1460990	2099608	4117837	4147571	2836159	3310802	3146278	3175957	432440	24727642	
Woody biomass	876438	1134896	2050865	1726786	1776835	1627173	2197074	2388935	265316	14044318	
Topsoil organic carbon	584551	964712	2066972	2420785	1059325	1683629	949204	787022	167124	10683324	
Net accessible bio-carbon resource 2010	73600	83094	86875	51642	112974	30296	87089	90500	1479	617550	
Change in stocks in the previous year	3035	-2326	-17706	-17551	-19206	-16312	-27579	-20644	123	-118166	
Flows/inputs (+)	335582	417954	819601	675923	736068	454057	642970	739278	68922	4890354	
Soil/decomposers respiration v2 (-)	265016	332534	715020	606730	603888	407449	528301	628133	67567	4154638	
Index of intensity of use of bio-carbon 2010	112	92	80	91	125	85	99	111	87	100	

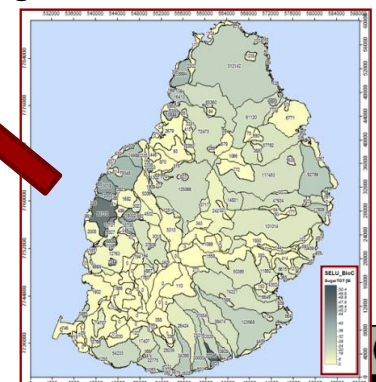
Woody biomass/ tons of C



Change in NPP/ tons of C



Sugar cane harvest/ tons of C



CBD Technical Series No. 77

ECOSYSTEM NATURAL CAPITAL ACCOUNTS: A QUICK START PACKAGE

**For implementing Aichi Biodiversity Target 2
on Integration of Biodiversity Values in National
Accounting Systems in the context of the SEEA
Experimental Ecosystem Accounts**

This document has been prepared in 2014 for the Secretariat
of the Convention on Biological Diversity (CBD)
by Jean-Louis Weber (independent consultant)



European Environment Agency



ECOSYSTEM NATURAL CAPITAL ACCOUNTS: A Quick Start Package

Secretariat of the
Convention on
Biological Diversity

CBD Technical Series No. 77



77

ECOSYSTEM NATURAL CAPITAL ACCOUNTS:

A Quick Start Package



European Environment Agency



Ecosystem Natural Capital Accounts: A Quick Start Package

Special Training Session at COP 12, Pyeongchang (Republic of Korea)



COP12 / MOP7 / MOP1
PYEONGCHANG KOREA 2014



**Japan
Biodiversity
Fund**





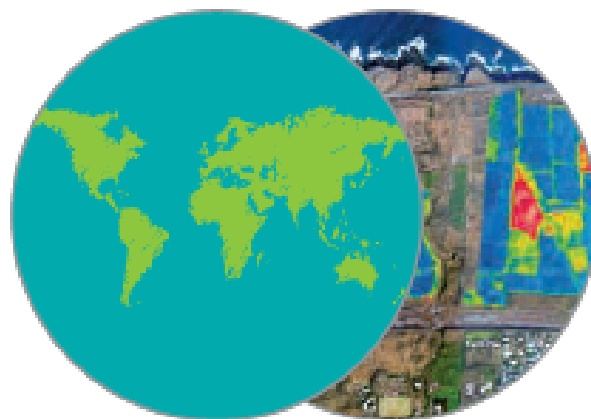
Side event organized by CIRAD, Université du Québec à Montréal (UQAM), and the CBD, promoting the upcoming Summer School on "Accounting Ecosystems" at UQAM

École d'été 2016

• Pratique • • • • • de la Comptabilité • • Écosystémique • • • • •

> Formation au démarrage
de comptes, méthodes,
outils et organisation

> 8 au 19 août 2016
Département
de Géographie
de l'UQAM



Pavillon Hubert-Aquin
- Campus A – 4160,
400 rue Sainte-Catherine Est,
Montréal QC H2L 2C5, Canada

Technical and Financial Supports of the Montreal Summer School in 2016



Convention sur la
diversité biologique



Japan
Biodiversity
Fund



UQÀM



cirad

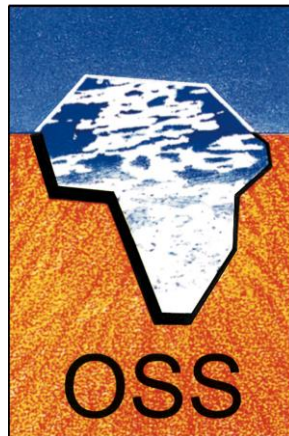
LA RECHERCHE AGRONOMIQUE
POUR LE DÉVELOPPEMENT



ORGANISATION
INTERNATIONALE DE
la francophonie



INSTITUT DE LA FRANCOPHONIE
POUR LE DÉVELOPPEMENT DURABLE
IFDD



PRCM



Professionnels from francophone Africa ...



Summer School on ENCA for Francophone Africa



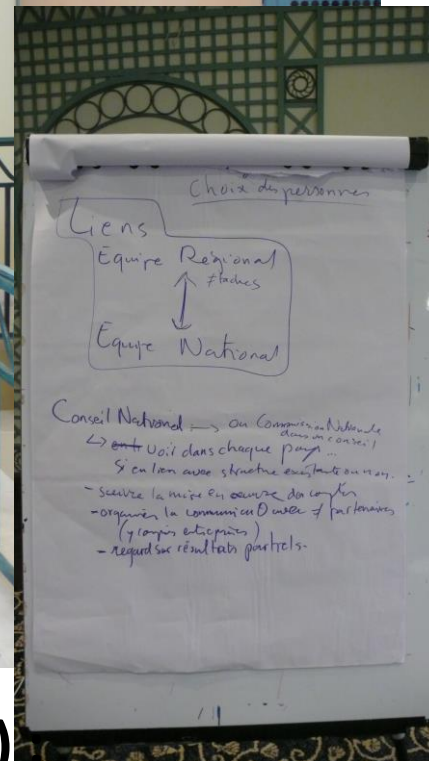
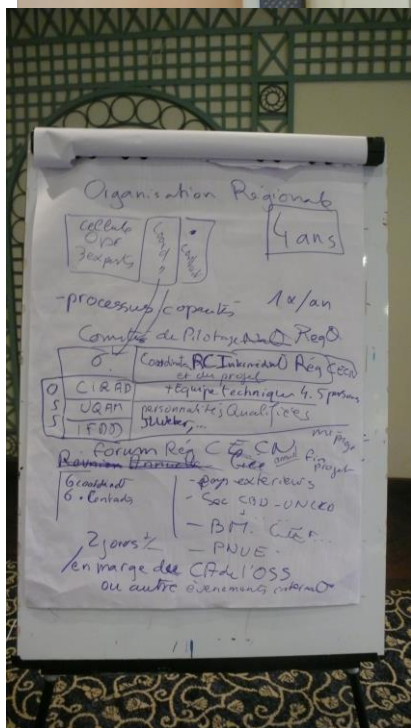
Montreal, 2016



Workshop for the development of a Regional Project on ENCA



**Montréal, Canada
August 2016**



Workshop of Tunis (November 2016)

Officially designated National Contact Points

- **Burkina-Faso** : Paul BOMBIRI, Directeur des Statistiques Sectorielles (**Min. de l'Env., de l'Economie Verte et du CC**)
- **Guinée-Conakry** : Djiramba DIAWARA, Conseil Nat. De l'Env. Et du DD (**Min. De l'Env., des E&F**)
- **Maroc** : Rajae CHAFIL, Directrice de l'Observation, des Etudes et de la Planification (**Min. Dél. Chargé de l'Env.**)
- **Niger** : **CNSEE** Centre National de Surveillance Ecologique et Environnementale (**Min. de l'Env. Et du DD**)
- **Sénégal** : Gallo SOW, Ing. Statisticien Economiste, conseiller tech. N°1 du **Ministre de l'Env. et du DD**
- **Tunisie** : Hamda ALOUI, sous-directeur du Milieu Rural (**Min. Des Affaires Locales et de l'Env.**)

Technical and financial first round-table



**Paris, France
May 2017**



Copernicea

Coopération Régionale
pour de Nouveaux Indicateurs
de comptabilité Écosystémique
en Afrique

Regional Cooperation
for New Ecosystem
Accounting Indicators
in Africa

Valeur Écologique Unitaire
CAPABILITÉ TOTALE ÉCOSYSTÉMIQUE

Ecological Unit Value
TOTAL ECOSYSTEM CAPABILITY

indices
d'usage durable
Sustainable use
index

indices de
résilience ou santé
Index of health
or resilience

indices
d'usage durable
Sustainable use
index

indices de
résilience ou santé
Index of health
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indices
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Sustainable use
index

indices de
résilience ou santé
Index of health
or resilience

COMPTE DU BIO-CARBONE
BIO-CARBON ACCOUNT

COMPTE DE L'EAU DOUCE
ÉCOSYSTÉMIQUE
ECOSYSTEM FRESH WATER
ACCOUNT

COMPTE DE L'INFRASTRUCTURE
ÉCOLOGIQUE
ECOLOGICAL INSTRUCTURE
ACCOUNT

COMPTE DE LA COUVERTURE DES TERRES
LAND COVER ACCOUNT



Carte des pays concernés
et extensions possibles

Map of the countries involved
and possible extensions



Copernicea s'étend actuellement à six pays francophones : Burkina-Faso, Guinée Conakry, Maroc, Niger, Sénégal et Tunisie.

Une extension possible du projet est envisagée notamment au Bénin, à la Côte d'Ivoire et au Mali.

L'extension serait ensuite complétée par l'Algérie, la Mauritanie, le Tchad et le Togo, pour couvrir à terme un ensemble régionalement cohérent.

Copernicea pourrait s'étendre vers l'Est dans le Sahara-Sahel, pour couvrir l'ensemble des pays concernés par la Grande Muraille Verte.

Copernicea est en liaison avec les expériences déjà menées et en cours dans l'Océan Indien aux Comores, à Madagascar et à Maurice.

Copernicea involves already six French-speaking countries: Burkina-Faso, Guinea Conakry, Morocco, Niger, Senegal and Tunisia.

This first set of countries can be extended in a second step to include other francophone countries such as Benin, Ivory Coast and Mali.

This extension may then be completed with Algeria, Mauritania, Chad, and Togo, in order to cover a coherent regional set of countries.

Another eastward extension could take place in the Sahara-Sahel region alongside the "Great Green Wall".

Copernicea works in relation with experiences already conducted and in progress in the Indian Ocean in the Comoros, in Madagascar and in Mauritius.



Regional Training Madagascar & Comores

Antananarivo, October 2016



Financé par
l'Union européenne



COMMISSION DE
L'Océan Indien



Regional Training for the Eastern Partnership countries

Montpellier, France
September 2017

ENI SEIS II East

Information System
principles and practices
in the Eastern
Partnership countries



European Environment Agency



Financé par
l'Union européenne



Lessons learned

- Enhancement of the Technical and Scientific Cooperation
- How this project could be replicated in other region?
- Other lessons

Next steps

- To search additional Financial Partners
- To create a Community of Practice Network
- To mobilise African Research Institutes and Universities (workshop in Dakar, December 2017)
- To establish a multidisciplinary degree programs and Mooc with Universities and explore the possibility of an institutionalized “Academic Chair” (related to the CBD and other Rio Conventions and SDGs, ...)
- We are also starting a project of Ecosystem Natural Capital Accounts in Africa with two eco-complex of protected areas (W Arly Pendjari and Fouta-djallon Niokolokoba)
- And we are preparing a training workshop to foster cooperation between Ghana and Anglophone West Africa countries on Ecosystem Natural Capital Accounts : a new selected BBI project for 2018



didier.babin@cirad.fr

Дзякуем Вам за ўвагу!

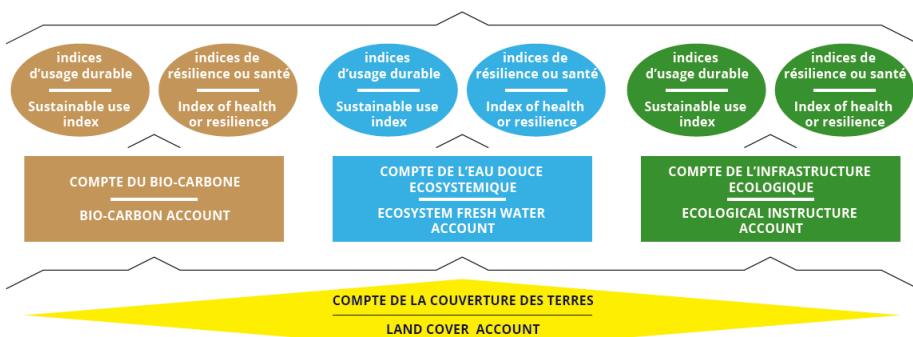
Спасибо за внимание!

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Copernicea works in relation with experiences already conducted and in progress in the Indian Ocean in the Comoros, in Madagascar and in Mauritius.

Overall objectives of the project :

- Contribute to the measures of the wealth of Nations in a perspective of sustainable development
- Test concrete environmental and economic accounting systems in order to show the interest and facilitate their integration in the strategies of the donors
- Implement the Aichi biodiversity target on incorporating biodiversity values into national accounting systems
- Participate in the establishment of indicators of progress complementing the gross domestic product and the statistical capacity building of developing countries by implementing SDG 17.19
- Expand the commitment of African countries to the establishment of environmental accounting systems and the promotion of natural capital accounting (Sustainability Summit in Africa and the Gaborone Declaration)
- Promote and build capacity of African expertise on ecosystem-natural capital accounting

Specific objective :

- Based on regional scientific and technical cooperation, the project's specific objective is to provide the participating countries with a structured and autonomous capacity.
- The approach is based on an operational mechanism for the fast track development of the biophysical and socio-economic data infrastructure of ecosystem natural capital accounting in a way that guarantees the sustainability of this mechanism in six West and North African countries as well as its replication in other countries of the region.
- The project will take into account national and regional conditions, learn by doing and progress in a stepwise incremental way.

1. A ENCA regional institutional structure and a community of practitioners are organized and a national ecosystem accounting council is set up to steer experiments in each beneficiary country (component: **Institution**);
2. A sustainable and operational ENCA geographic and statistical data infrastructure is created in each country and synthetic indicators for monitoring the evolution of the total ecological value of the participating countries or/and specific territories, with the purpose of carrying out periodic assessments (component: **Operationalization**) ;

3. A reliable and comparable ENCA dataset is provided at the regional and country levels for the integration of ecosystem accounts in the decisional and planning process as data sources for consistent sustainable development indicators, to address ecosystems-related emerging challenges, and to promote the consideration of natural capital in countries' national accounting systems, and to facilitate decision making processes and planning. (component: **Integration**);

4. The capacities of national institutions of the countries involved are strengthened and recognized for conducting ecosystem natural capital accounting on a regular basis and implement complementary researches. (component: **Capacity**).

1. INSTITUTION:

1.1. Develop an ENCA regional cooperative intermediation platform managed by a regional intergovernmental organization (Sahara and Sahel Observatory).

1.2. Set up a national experimental ecosystem accounting Council composed of officials from ministries of environment and sustainable development, economy and finance, technical ministries and directors of other concerned national institutions, in particular national geographic agencies and statistical offices, in order to ensure the sustainability of the ecosystem accounting system and its appropriation by the different partners.

2. OPERATIONALIZATION :

2.1. Set up an autonomous ENCA mechanism in consultation with the national institutions concerned, in particular the national statistical and geographic offices and the agencies and scientific bodies in charge of ecosystem monitoring in each country

2.2 Produce the first ecosystem natural capital accounts at the country-level based on the quick start package methodology published by the United Nations Convention on Biological Diversity in order to integrate biological diversity values into the national accounting systems.

3. INTEGRATION :

3.1. Develop communication and awareness rising mechanisms adapted to the targeted audiences, from Institutions to decision makers and media, to facilitate the ENCA use and its consideration by the different decisional processes.

3.2. Mobilize concerned actors at the national and regional levels to create a partnership framework between ENCA data holders and producers to share available data and facilitate access by users and decision makers with the development of dedicated decision making processes tools.

4. CAPACITIES :

4.1. Develop the skills of qualified national institutions concerned in terms of ENCA techniques and methods in order to make them autonomous for accounts production, assessment of data and analysis procedures, and the enhancement their quality.

34.2. Collaborate with universities and academic excellence centres for the organization of certified trainings to increase skills in this emerging field at the regional and country level and facilitate accompanying research.

The project involves presently 6 French-speaking (francophone) countries: **Burkina-Faso, Guinea Conakry, Morocco, Niger, Senegal and Tunisia.**

This first set of countries can be extended in a second step to include other francophone countries such as Benin, Côte d'Ivoire and Mali and possibly Algeria, Mauritania, Chad, and Togo in order to cover a coherent regional set of countries. Other extension in the Sahara-Sahel region can take place eastward alongside the “Great Green Wall”.

The main institutions to be responsible for the project execution are the **Sahara and Sahel Observatory (OSS)**, **main regional leader**, the *French Agricultural Research Centre for International Development (CIRAD)*, *l'Université du Québec à Montréal (UQAM)* in collaboration with institutions of each participating country and other international partners.

The total project duration is estimated at 4 years for a total amount of 5 million €.