



The LAC-EU S&T Cooperation on Bioeconomy : An overview of the main outputs from ENLACE, EUCARINET and ALCUE-KBBE projects

Jimena Arango

Project Manager, International Cooperation

MENON Network

Jimena.arango@menon.org

Rationale of LAC-EU S&T Cooperation Projects

	ENLACE	EUCARINET	ALCUE - KBBE
Objectives	Create a comprehensive map of the research areas of interest and capacity of the Caribbean and Central America - Strengthen the international visibility towards EU		To construct the basis for a strategic alliance between the EU and LAC regions , to facilitate collaboration and coordination of research and innovation in Bioeconomy
Specific Objectives	a) To identify specific research lines and scientific priorities of common interest and benefit the 3 regions; b) To discuss challenges and scenarios for EU-Central America and EU-Caribbean cooperation that can guide the future work of the ENLACE and EUCARINET projects		To establish a ALC-UE platform with relevant stakeholders to generate pertinent information for the design and implementation of <u>R&D agenda</u> and <u>policy guidelines</u> .
Phase I - Generating key information	Information collected by each Caribbean and CA partner: policy plans, actors involved in S&T policies, main priority areas & sub-themes, cases of excellence		•State of the art of the Bioeconomy in LAC •Natural Resources for BE in LAC •LAC policies and institutions •Scientific and Technological capacities •Socio-economic, trade and environmental potential of the BE in LAC
Phase II – Stakeholder consultation - Dialogue w-shops	•Dominican Republic, March 2010 •Belgium, October 2012 •Panama City, April 2013	•Dominican Republic, March 2010 •Curaçao, city April 2012 - preparatory •Belgium, October 2012 •Panama City, April 2013 San José, Costa Rica, 10 October 2013	•May 2012, Bi-regional E-Consultation organized by IICA •June 2012 Workshop (Brasilia): construction of BE scenarios •Nov 2012 Workshop (Colombia): construction of BE roadmap and RTD agenda, •March 2013 Workshop (Argentina): construction of BE roadmap and policy agenda, •June 2013 (Belgium): science-industry matchmaking on common priority RTD •Oct 2013 (Costa Rica): Biregional cooperation in BE

Main activities of the ALCUE-KBBE project

- **Benchmarking of EU and LAC bioeconomy experiences:**
Constitution of a database of experiences, resources, policies, actors.
- **Identification of key actors to set-up a LAC-EU platform:**
bioeconomy stakeholders from the civil society, the private and public sector
- **Analysis of LAC bioeconomy opportunities and limitations:**
to identify policy and R&D needs
- **Organize e-consultation and workshops:**
with multi-stakeholders from both regions to discuss and propose bioeconomy policy roadmaps, scenarios for bioeconomy development in LAC and R&D collaboration agenda on specific topics
- **Participation in international summits (SOM)**
- **Mainstreaming Bioeconomy concept in LAC**
via electronic communication instruments

Create ALCUE-KBBE Cooperation Platform

Science-industry bi-regional workshop in key technological areas (Colombia)

- Determine the needs of industry
- Identify areas with potential for international and regional cooperation
- Exchange on technological transfer and innovation best practices to improve science-industry cooperation

Development of networks on common specific RTD issues

- **2 workshops organized in EU** on key research and technology areas to identify possible topics for joint project development

Data base management

- Stakeholders and contact lists from industrial, academic, governmental, agricultural sectors of both regions
- Inventory of actors, laboratories, start-ups and major R&D projects related to the KBBE development in the EU and LAC

Principal Outputs



Bioeconomy concepts mainstreamed in the LAC region

Bioeconomy roadmaps, development scenarios & agendas for R&D cooperation and policies

Bi-regional RDT project ideas and profiles (FP7, Horizon 2020 calls)

Some successful consortia constructions and investments in common priority RDT themes



R&D Caribbean Data Base –
KBBE filter search

http://www.eucarinet.eu/eudb/eudb_pages_default.php

24 % Caribbean Success Rate in FP7 participation vs Average of 20%

Caribbean Bio-economy research in the context of the EU-LAC JIRI
Research lines identification

Biodiversity and CC & Bioeconomy WG collaboration
CELAC - SoM Input Support

NCP & RO set-up - 8 identified covering the EN, ES, FR & NL



NCP & RO set-up - 29 named
CR, HO, GT, NI, PA
4 – Environment and BE

ENLACE directory on Central American research institutions

Foresight for Central American Bio-economy research in the context of the EU-LAC JIRI".
Research lines identification

Biodiversity and CC & Bioeconomy WG collaboration
CELAC- SoM Input Support

EUCARINET-ENLACE Bio-Economy Priority Pathways	Priorities EU-LAC SOM Working Group on Bio-Economy			
	Capacity Building	EU-LAC Bio-Economy Observatory	Biomass Conversion	Beneficiary (Caribbean, Central America)
FOOD VALUE CHAIN EFFICIENCIES				
Capacity building for all stakeholders of the food value chain	✖			CAR
Information system on Caribbean fruit and vegetables		✖		CAR
Adding value to wastes from local agri-food processing			✖	CAR
Food Processing – effects & info about bioactives compounds	✖	✖		CA
ECO-INTENSIFICATION AND ECO-SERVICES				
Eco-tourism as a basis for sustainable development	✖			Both
Agro-diversification Synergetic production (agro-ecology)	✖			Both
Water and soil retention (water management & value)	✖	✖		Both
Climate change mitigation	✖			CAR
Integrated pest, waste and nutrient management	✖		✖	CA
Organic farming and sustainable land management	✖	✖		CA
No-till and conservation tillage agriculture		✖	✖	CA
Biodiversity conservation and sustainable management of ecosystems	✖	✖		CA
SUSTAINABLE MANAGEMENT OF MARINE BIODIVERSITY				
Integrated Coastal Zone Management and system approaches	✖	✖	✖	Both
Marine ecosystem degradation and its effects on human health		✖	✖	Both
Environmental profit and loss accounting / true pricing	✖	✖		CAR
Integrated aquaculture		✖	✖	CAR
Scientific Data Collection	✖	✖		Both
Natural Resources governance and socioeconomic studies	✖	✖		Both

EUCARINET – ENLACE Bio-Diversity Priority Lines of Research	Beneficiary (Caribbean, Central America)	Leading Country (ies)	Water-related problems (the way they could alter biodiversity and ecosystem processes).	Bioprospecting, considering technology and knowledge transfer and benefit sharing	Interdisciplinary research looking for multiple and interactive factors that lead to biodiversity loss and impacts on ecosystem functioning.
Climate change and its relation with ecosystems (regional integrated approach including scenarios, modeling tools and assessment of climate extremes)					
Changes in behavioral responses in key species. - In depth exploration of invasive species theme	Both		✕		✕
Research on tropical forests in CAC region - mountain ecosystems Research in indicators (butterflies)	Both	Mezoamerica region (Guatemala, Mexico)	✕	✕	✕
Water use practices in the communities - GIS data and Tools	Both	Dominican Republic	✕	✕	✕
Sustainable management of natural resources and natural hazards related problems					
In depth research on fresh water and “Marine aspects” in both resources and policies - E.g., coral reefs, Impact on fisheries-	Both	Curaçao	✕	✕	✕
Volcanology and their impacts: relation with crops, water and plants (i.e. greenhouse emissions and toxicity).	Both	Dominica or Costa Rica			✕
Research and scale issues and models: i.e. habitat characterization and species inventories for a base line	Central America	Panama		✕	✕
Scenarios of climate change (Distribution and extinction risk of species)					
Land use change – forest ecosystems protection & sustainable land and resource exploitation.	Both	Honduras	✕		✕
Changes in cloudiness resulting from increasing sea surface temperatures likely to affect eco systems - Genetic improvement of bio-prospection reproductive and frequencies of flowering of trees.	Both	Nicaragua	✕	✕	✕
Indicators and data collection-transversal themes for research cooperation	Both	Costa Rica	✕	✕	✕
Research – Bioprospecting in dry forest in CAC region: wild life and human communities living in water limited areas - microorganisms potential for finding innovative solutions and products E.g, pharmaceutical field.	Central America	Mezoamerica region (Guatemala, Honduras, Nicaragua, Mexico)	✕	✕	✕
Creation of a regional infrastructure to better monitor the direct impacts on tropical forest, and coastal and marine ecosystems	Both	Aruba		✕	✕

Lessons learnt ...

Data

- Construction of **BE is very locality specific**. Different local conditions give different BEs – but basic principles remain the same
- **Taking account of local communities on the research processes** - Socio economic impact has to be integrated on the analysis
- **General data & information issues** - Sharing information, data collection, data strategy access is lacking in CAC region. Significant amount of hard socio-economic and environmental numbers and analyses are needed to argue the possible benefits from a BE model- time for open access?

Private Sector

- **Disconnection between research centres and enterprises** - Private sector largely national
- LAC region represent many opportune conditions for Bioeconomy development. **Convince private sector & public agencies to join** to formulate a BE strategy

Human Resources and Hot Spots

- The CAC area endeavours **privileged position** with regards to **terrestrial and marine biodiversity availability** for bio-based strategies.
- **Capacity building and mobility of scientists** (training and advising PhD and Masters) Taking into account multilinguism (for CAR case)
- Tackling scientific diaspora and brain drain

Pitfalls

- There are **possibilities of confusion**: Blue economy, Green economy, Bioeconomy, eco-efficiency, sustainable agriculture, etc. Plenty of overlap, but certain specific differences.
- There is still a **high diversity in the actual use of biomass** due to differences in technological equipment, institutional and legal frameworks

Paving the way..

Sustainability

- **Lack of sustainability plans** –Provision of **training programmes** in countries of the CAC regions as well as the need to **have local students and scientists trained at the same level.**
- Bio-economy plans are to be developed based on a **sustainable use, holistic and integrated approaches**

Strategies

- **Enhance BE studies with a long term vision** in order to collect substantial data for analysis. – Including a wider audience to the research activities,
- **Research in indicators.** - Discover what sort of innovative products can be done, evaluate infrastructure issues, **create focal points in the region** that can take in the information, analyze it and process it to finally make it available to policy and agencies, business and researchers for relevant use
- A **Bioeconomy Observatory in the LAC region** may be a first step in informing and diffusing of appropriate information...

Moving Forward..

Added value from these bi-regional network projects

- (a) national bio-economy initiatives (political & scientific) ex: Argentina (national strategies/interests/WGs, Colombia born out of these projects
- (b) bi-regional platforms on S&T cooperation, ALCUE-NET, SOM, ERA-NET LAC (Joint financing arm of ALCUENET) on additional science projects, observatory & capacity development



Thank you, Gracias!

Jimena Arango
Jimena.arango@menon.org