



Enhancing Scientific Cooperation between the European Union and Central America

Fortaleciendo la cooperación científica entre la Unión Europea y América Central



ENLACE Final publishable summary report

"Final publishable summary report"



ENLACE (Enhancing Scientific Cooperation between the European Union and Central America) is a project co-funded by the European Commission in its 7th Framework Programme under the Grant Agreement no 244468 running from 1st Nov. 2009 to 30th Apr. 2014.



Grant Agreement number: 244468

Project acronym: ENLACE

Project title: Enhancing Scientific Cooperation between the European Union and Central America

Funding Scheme: Coordination and Support Action –Coordination Actions

Period covered: from 1.11.2009 to 30.04.2014

Name of the scientific representative of the project's co-ordinator¹, Title and Organisation:

Diassina Di Maggio, Director of APRE – Agenzia per la Promozione della Ricerca Europea

Tel: +39 06 48939993

Fax: +39 06 48902550

E-mail: dimaggio@apre.it

Project website address: <http://www.enlace-project.eu/>

¹ Usually the contact person of the coordinator as specified in Art. 8.1. of the Grant Agreement.



TABLE OF CONTENTS

4.1 Final publishable summary report.....	3
Executive summary.....	3
Summary description of project context and objectives.....	4
Description of the main S&T results/foregrounds.....	9
Potential impact and main dissemination activities and exploitation of results.....	14
Public website address and contact details.....	16



4.1 Final publishable summary report

Executive summary

The project ENLACE has been funded under FP7-Capacities -International Cooperation and it is part of the INCONET strategy, set up by the European Commission in the 1st call of proposal of the FP7-INCO Programme. The project started on the 1st of November 2009 and closed on the 30th of April 2014.

The main goal of the project is to improve the development of the Euro-Central America research area and, in particular, to establish the EU/CA bi-regional dialogues.

Moreover, the initiative has been planned for achieving the following further objectives:

- Promote and structure the participation of third countries in the activities of FP7;
- Promote regional integration and will lead to the identification and the prioritisation of common research areas of mutual interest and benefit;
- Facilitate the uptake and use of common identified research areas and the monitoring of performance and impacts of international S&T cooperation across the Specific Programmes of FP7.

In particular ENLACE aims at supporting the bi-regional dialogue between the EU and the Central America Countries (CA) on S&T issues, identifying common interests in research areas, setting up S&T priorities, supporting capacity building activities, and enhancing the dialogue within the region.

The planned activities were: policy dialogue meetings between EU and CA stakeholders to identify research priorities of mutual interest; training activities to set up the network of FP7 National Contact Point in Central America and an Enterprise Europe Network correspondent.

In addition, the project foresaw a set of activities to enhance the networking among EU and CA researchers and to raise awareness on FP7 in CA. Dissemination events from one side and travel grants for researchers from the other side will provide concrete tools to boost the participation of CA in FP7. The consortium included 14 multi-skilled partners, 6 from the EU and 8 from the Central America, that ensured the fulfilment of ENLACE's objectives.

The consortium achieved the following results, in a nutshell:

	Number of events	Number of participants
Experts dialogues	6	> 600
NCPs appointed		29
Trainings	3	> 100
Staff exchange	2	10
Innovation seminars	2	> 100
Travel grant scheme	3	34
Publications ²	26	
Events attended	> 50	> 1000

² All documents are publicly available in the **public project website** (<http://www.enlace-project.eu/results>)

Summary description of project context and objectives

The ENLACE project aims at the bi-regional dialogue on research areas between EU and Central America, setting up S&T priorities, supporting capacity building activities, and enhancing the dialogue within the region.

The main objectives of the project are:

- Enhancing the networking among EU and Central America researchers;
- Organizing S&T dialogues, to identify research priorities of mutual interest and raising awareness on FP7 in Central America.
- Setting up the network of FP7 National Contact Point in Central America.
-

ENLACE is part of the The EU-CELAC S&T Policy Dialogue. The Bi-Regional Policy Dialogue Process in Science and Technology completed its first decade in 2009. During that time, it has advanced on the goal of the strategic partnership through policy dialogue in regular summits of Head of States from the European Union and Latin America and the Caribbean. From January 2013, the summit process is known as European Union-Community of Latin America and the Caribbean (EU-CELAC).

Building on existing cooperation between the European Union and the Community of Latin American and Caribbean States, a EU-CELAC Joint Initiative for Research and Innovation (JIRI) was adopted by the VI Madrid Summit in 2010, aimed to deliver greater benefits from scientific cooperation between the two regions. The Senior Officials Meetings (SOM) with EU-CELAC representatives was established as a regular bi-regional dialogue on Research & Innovation (R&I) to consolidate EU-CELAC cooperation to implement the JIRI by updating common priorities, encouraging mutual policy learning and ensuring the proper implementation and effectiveness of cooperation instruments through biannual Action Plans. Four Working Groups in the following priority areas were established: Energy, Information and Communications Technology, Bioeconomy and Biodiversity & Climate Change.

Description of the main S&T results/foregrounds

Enhanced a closer collaboration with the secretariat of the four thematic JIRI Working Groups on in line with the Guidelines set by the EU/LAC Senior Official Meeting

Preparatory meetings:

- ENLACE Experts dialogue on the national priorities for RTD in Central America in the Energy, Environment and climate change and Knowledge bio-based economy sectors (11th June 2010, Athens)
- Thematic priority setting for EU, Caribbean & Central America in research and innovation in the Health, Environment and climate change and Knowledge bio-based economy sectors (7th – 8th of March 2011, Santo Domingo)

Experts dialogues:

- “Europe, Caribbean & Central America: Partners In ICT Research and Innovation” Visions, Innovations and Priorities Workshop (28th -29th of May 2012, La Antigua Guatemala);
- “Towards a Caribbean and a Central American knowledge Based Bio-Economy: visions, pathways and priorities” (17th - 18th of October 2012, Bruxelles).
- “Europe, Central America & Caribbean: Climate Change and Biodiversity Dialogue Workshops” (on, 22nd – 23rd of April 2013, Panama City)



Furthermore an art study of the Renewable Energies (RE) pathways in the Central American region providing the necessary background information, recommendations and perspectives on the way forward in the field has been produced as last contribution to the concerned JIRI WG.

The workshops and the study gave priority to identification and definition of research lines and scientific priorities that pave the way to new cooperation opportunities as well as enable access to cooperation opportunities to countries with low or no participation in European Programmes.

In particular great effort have been devoted to the contribution and adoption of the guidelines emerging from the EU-LAC Senior Official Meetings. All the material both preparatory paper and outcomes of the experts' dialogue have been shared with the representatives (chairs and co-chairs) of the concerned Working Group (Bio Economy, Bio-diversity and Renewable energies). The Biodiversity experts' dialogue was attended by the Panamanian representative.

Finally, as part of the main activities of ENLACE, which adopts a bottom-up approach to identify common research lines among the Central America and the EU, a priorities match making exercise has been run resulting from the various the dialogue workshops held during the ENLACE project to consolidate the main results that emerged from these dialogue workshops in terms of common priorities. Several key outcomes, thematic conclusions, key stakeholders lists issued from each dialogue as well as some concluding reflections are also presented. Furthermore, after the dialogue events, the exercise to link research lines to the identified sub-themes highlighted by the EU-LAC Senior Official Meeting Working Group is presented on thematic cross-matrixes respectively. All these outcomes aim to further feed the S&T policy dialogue events and future S&T EU-Central America cooperation activities.

Increased knowledge of the CA innovation landscape and performance in line with the Innovation Union Scoreboard

The development of the Innovation dialogue aiming at identify the most relevant innovation actors in Central America and stimulating the culture of innovation through awareness raising activities.

Public-private workshop on Innovation "Seminar: innovation capacity building" (30th - 31st of May 2012 in La Antigua Guatemala) attended also by representative from public and private organization active in the innovation field both from EU and CA countries allowed these actors to meet and discussed for the first time the different approaches and possible collaboration.

The overview of the **Innovation Performance in Central America** utilizing the available innovation indicators produced a great impact on the innovation dialogue. The report particularly focuses on a set of innovation indicators addressed for Central American countries: the data were collected in order to be aligned with the Innovation Union Scoreboard (IUS). Regarding all the CA countries a number of suggestions were be extracted:

Regarding all the CA countries a number of suggestions could be extracted such as:

- Further consolidation of all research and innovation actors within the national innovation systems and reinforcement of the legal frameworks;
- Special attention should be given towards the IPR policies in line with the WIPO guidelines that will encourage increase of domestic patents and translation of intellectual work into new products and markets;



- Development of projects that will functionally link universities, research centers and local industries –multinational conglomerates and could be highlighted as success stories for further encouragement of cooperation;
- Attention should be given to engage SMEs that are lagging behind in terms of adoption of technology while they are an integral part of the local development and contributors of work places;
- Creation and dissemination at regional level of best practices as CA countries could learn a lot from each other in terms of comparability, sustainability and transferability of effective practices that deliver results in similar cultural and social-economic environments;
- There is a high need for specific funding programs such as the Development Banking System as it is the case in Costa Rica which will encourage financial support for innovative ventures;
- Opportunities for international and regional collaboration should be maximized as national innovation systems could be positively affected while the research infrastructures and the pool of researchers will be exposed to international and regional paradigms. Synergies and cost effective cooperation could be established while both the components of each national innovation system and the system itself could be more extrovert in a continuously globalized economy. That eventually serves in claiming a place in parts of the global value chains with serious positive impact on the local and regional economies.

Enhancing the networking among EU and Central America researchers

3 editions of the ENLACE Travel Grant Scheme have been issued to promote exchange between Central American and European researchers as well as to encourage contacts between research institutions for joint participation in the Seventh Framework Programme (FP7).

Within the three calls, the ENLACE project funded a total of 34 researchers, 27 from Central American countries, 7 from Europe.

One of the grantees was involved in a proposal that had been funded by the EC.

The impact assessment showed that the ENLACE travel grant scheme was a good opportunity to promote the exchange between Central American and European researchers as well as to enhance contacts between research institutions from both regions. For the grantees, their journeys to Europe and Central America brought benefits for their personal and institutional work and gave an impulse to research in Central America. Due to the visits at the partner institutions the grantees got an insight view on the work of their counterparts. Opportunities for joint future cooperation, mainly in the area of research but also for education and teaching were also facilitated. The project proposals are consolidated through personal meetings between the partner institutions as doubts can be reduced. Moreover, the direct contact to research partners also creates space for new and innovative ideas. Already existing contacts could be strengthened due to personal meetings but also new contacts could be established.

Long term benefits of the 1st and 2nd Call of the ENLACE Travel Grant Scheme

The Travel Grant Scheme, as part of the ENLACE project, provided financing for Central American researchers to travel to Europe. The aim was to enable a journey for the participation in a scientific event as well as to build up new contacts and facilitate institutional and scientific cooperation.

The first call took place in 2010, awarding travel grants to 8 scientists from four Central American countries (Costa Rica, Guatemala, Nicaragua, Panama). The second call was launched in 2011, in which 14 researchers from five Central American countries (Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua) were supported. The third call was launched in 2012, the administrative implementation was finished in September 2013. In order to assess the long terms benefits of the 1st and 2nd call, an evaluation of their results has been conducted. For this purpose a questionnaire was developed and sent to all 22 grantees



(50% male, 50% female). 2/3 of the grantees (13) sent back the completed questionnaire. The findings are as following:

1. The 13 grantees who sent back the completed questionnaire participated in 11 different scientific conferences, covering a wide thematic range (for instance Agriculture, Food & Natural Resources; Information & Communication Technology; Ecological Economics; Physics etc.), whereat the ICT conference 2010: Digitally Driven (27-29 September 2010) in Brussels has been the most visited event. Besides the participation in scientific conferences, the visit and contacting of European research institutions was an additional intended purpose of the travel grants. Altogether the 13 grantees visited 31 institutions (universities and research institutions) in 11 different European countries;
2. 92 % of all grantees (12) indicated a benefit for themselves as well as for their institution from the participation in the grant programme. The personal benefit is expressed for instance through networking, the exchange with researchers or by becoming acquainted with the scientific infrastructure of European institutions. A more measurable form of benefit is the cooperation projects (in detail below), which developed as an indirect result of the grantees` journeys;
3. 85 % of all participants (11) are still in contact with the institutions/researchers they met during the conferences;
4. 91 % still keep contact with the institutions/researchers which they visited during their stay in Europe, through preparing and/or executing joint projects.

Concerning the question which part of their journey was more beneficial, the participation in a conference or the contacts made afterwards, only two grantees quoted for one option. The remaining 82 % of the grantees evaluated both parts as equal beneficial for them, in terms of personal benefits as well as for cooperation projects. Though, the contacts established during the visit to the research institutions are more concrete due to common scientific interest and more time for exchange.

The dissemination highlight in the third period was represented by the **FP7 adventure roadshow**. The series of 6 events (5 in each Central America countries and the last one in Europe) aimed at giving the widest visibility of ENLACE to the broadest audience at all levels such as the scientific community in Europe and Central America, the EC officers and EU institutions as well as the EU 27 member states.





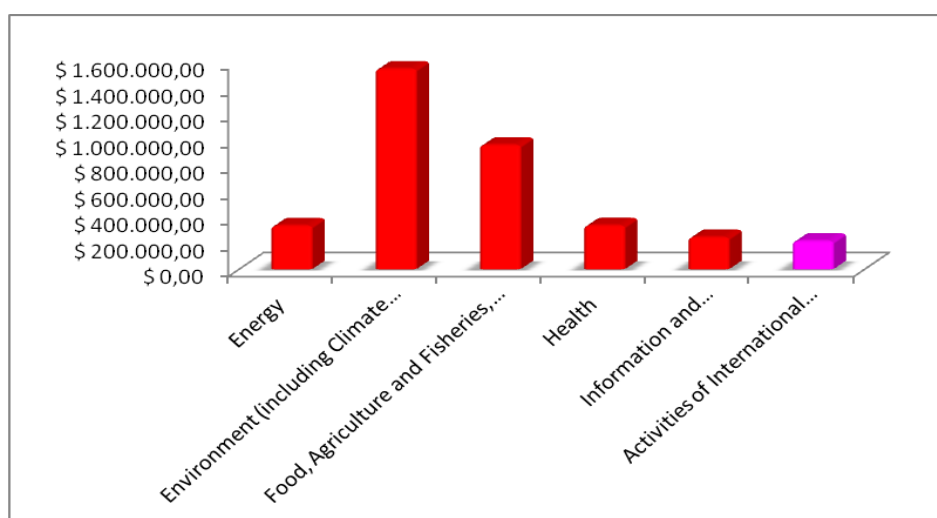
Costa Rica

The implementation of the ENLACE project in Costa Rica fostered the participation in FP7 and the establishment of National Contact Points in the country.

The overall performance of Costa Rica in FP7 is summed up in the following table.

Nr. Of Applicants	Nr. Of successful	Success rate	EC Contribution
128	19	14,8%	3.649.033 €

The table below shows the European contribution that Costa Rica received for each research area under FP7.



The research area with the highest EC contribution is Environment with 1.600.000 EUR, followed by Food, Agriculture and Fisheries with one million euro of contribution.

The establishment of National Contact Points in Costa Rica is another activity supported by the project.

NCP	Contact Person
Coordinator	ROJAS, Keilor
Health	BONILLA VARGAS
ICT	MORA, Alexander
Energy	MEZA BENAVIDES, Carlos
Environment	CASTILLO MARTÍNEZ,
Mobility	HERNÁNDEZ SÁNCHEZ, Silvia
INCO	JENSEN, Henning



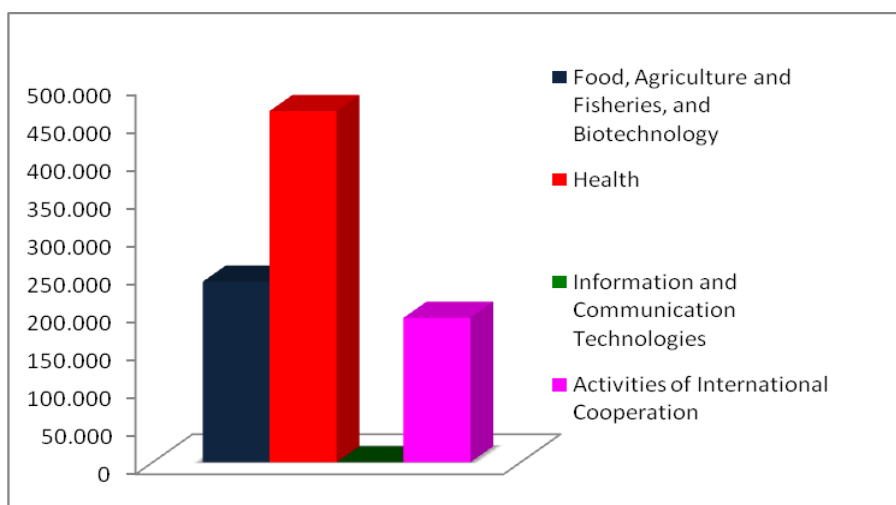
Guatemala

The implementation of the ENLACE project in Guatemala fostered the participation in FP7 and the establishment of National Contact Points in the country.

The overall performance of Guatemala in FP7 is summed up in the following table.

Nr. Of Applicants	Nr. Of successful	Success rate	EC Contribution
26	7	26,9%	891.706 €

The table below shows the European contribution that Guatemala received for each research area under FP7.



The research area with the highest EC contribution is Health with 463.134 euro, followed by Food, Agriculture and Fisheries, and Biotechnology with 238.151 euro.

The list of National Contact Points is reported here below:

NCP	Contact Person
Coordinator	Licda. Silvia PAIZ
ICT	Lic. Julio César HERNÁNDEZ Dipl. Engineer Electronic Alberto Jose MARROQUIN
Energy	Ing. Mayra VILLATORO
Food	Dr. Óscar CÓBAR Dra. Mónica STEIN
SSH	Ing. Miriam Patricia RUBIO Master in Development Lorena CABRERA CAMPAIGNAC Ph. D. in Psychology Maria del Pilar GRAZIOSO Master in Diplomats and Savira Vanessa RAMOS PEREZ
Environment	Ph. D., Applied Economist Ariel Abderraman ORTIZ LOPEZ Ph. D. Alex GUERRA NORIEGA
Health	Medical Doctor Erwin CALGUA MD Gabriel de Jesus SILVA-AREVALO



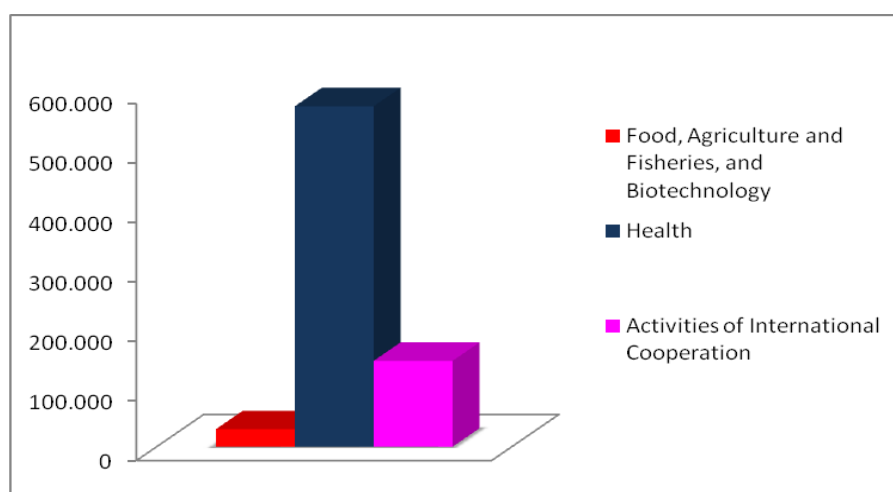
Nicaragua

The implementation of the ENLACE project in Nicaragua fostered the participation in FP7 and the establishment of National Contact Points in the country.

The overall performance of Nicaragua in FP7 is summed up in the following table.

Nr. Of Applicants	Nr. Of successful	Success rate	EC Contribution
41	5	12,2%	746.288 €

The table below shows the European contribution that Nicaragua received for each research area under FP7.



The research area with the highest EC contribution is Health with 572.496 euro, followed by Activities of International Cooperation with 144.392 euro.

The list of National Contact Points is reported here below:

NCP	Contact Person
Marie Skłodowska-Curie actions on skills, training and career development	Mrs Karen ALVARADO CUNNINGHAM
Climate action, resource efficiency and raw materials	Mr Oscar FUENTES
Secure, clean and efficient energy	Mr Humberto CHAVARRIA
Inclusive, innovative and reflective societies	Mrs. Guadalupe MARTINEZ VALDIVIA Mrs. Elsa Carolina LOPEZ CANO Mr. Jose Abel REYES BARREDA

ENLACE FINAL REPORT



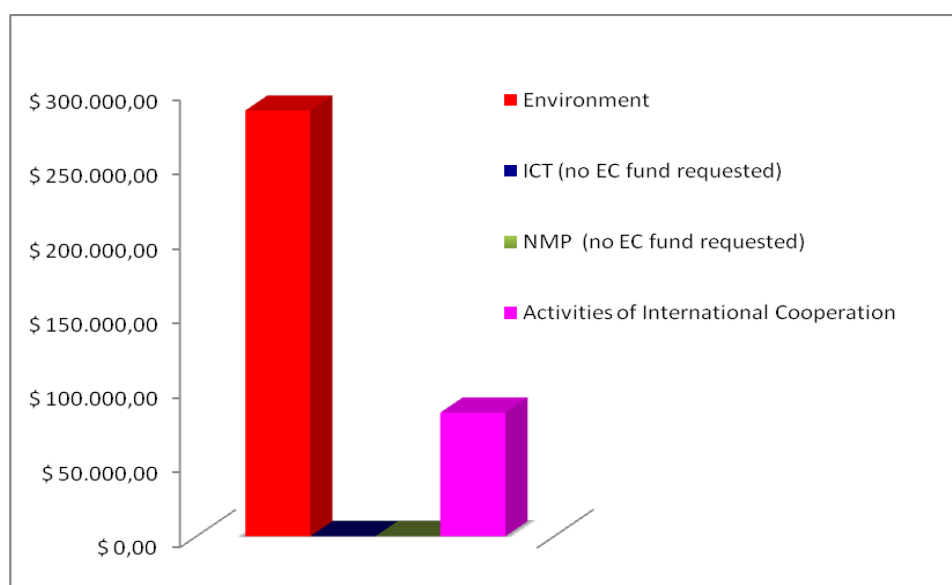
Honduras

The implementation of the ENLACE project in Honduras fostered the participation in FP7 and the establishment of National Contact Points in the country.

The overall performance of Honduras in FP7 is summed up in the following table.

Nr. Of Applicants	Nr. Of successful	Success rate	EC Contribution
12	3	25%	369.304€

The table below shows the European contribution that Honduras received for each research area under FP7.



The research area with the highest EC contribution is Environment with 286.160 euro, followed by Activities of International Cooperation with 83.144 euro.

The list of National Contact Points is reported here below:

NCP	Contact Person
Coordinator	Eduardo Antonio PAVON

ENLACE FINAL REPORT



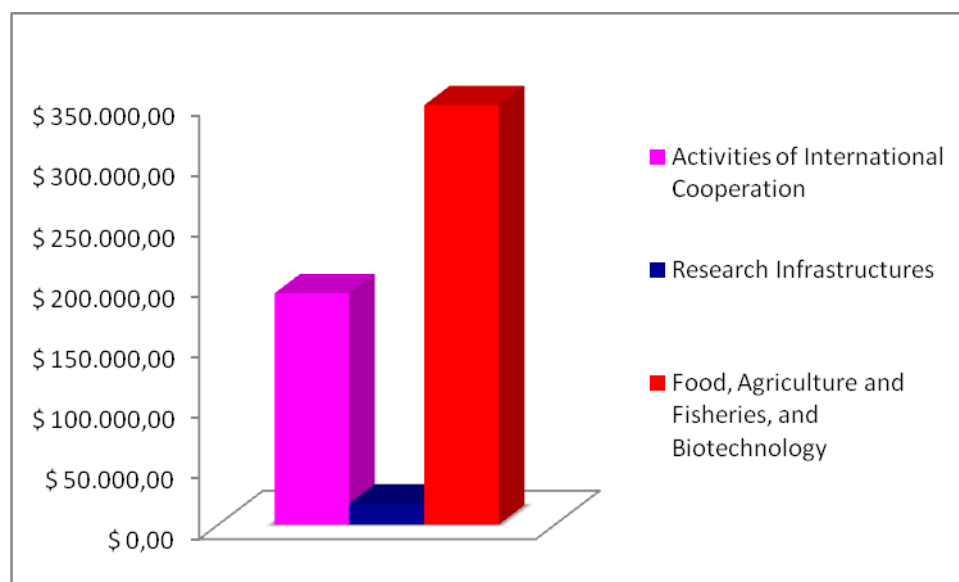
Panama

The implementation of the ENLACE project in Panama fostered the participation in FP7 and the establishment of National Contact Points in the country.

The overall performance of Panama in FP7 is summed up in the following table.

Nr. Of Applicants	Nr. Of successful	Success rate	EC Contribution
29	5	17,2%	555.654 €

The table below shows the European contribution that Panama received for each research area under FP7.



The research area with the highest EC contribution is Food, Agriculture and Fisheries, and Biotechnology with 346.980 euro, followed by Activities of International Cooperation with 191.340 euro.

The list of National Contact Points is reported here below:

NCP	Contact Person
Coordinator	Claudia M. Guerrero Monteza

Potential impact and main dissemination activities and exploitation of results

All the ENLACE activities: workshops, analysis exercises, meeting with researchers and stakeholders produced sound knowledge exchange and the identification of common areas of interest of European and Central American research themes. Understandings of similar problems yet different perception of various concepts emerged throughout the whole exercise.

The main impact generated by ENLACE is the identification of common gaps, needs and future views on the S&T dialogue experienced through the ENLACE project:

Data analysis

- Facilitating access to information - Sharing information, data collection and data strategy access is lacking in CAC region. Significant amount of hard socio-economic and environmental analyses plus multidisciplinary approaches are needed to better argue benefits to the EU-LAC Knowledge Area from the traditional research models;
- Redefining objectives and empowering communities - Construction of S&T research lines is very locality specific and thus, taking account of local communities on the research processes is essential. Reviewing the economic structure by integrating aspects such as the socio economic impact and understanding the real complexity of the themes beyond the traditional factors has to be included;

Research indicators

- Pointing innovative products, evaluating infrastructure issues, creating focal points in the region that can take in the information, analyse and process them to finally make it available to policy and agencies, business and researchers for relevant use can be considered as a strategic approach.

Private Sector

- Disconnection between research centres and enterprises as private sector is largely national in most research themes. Gaps in the connection should be filled in order to pave common strategies both covering demands and offers;
- LAC region represents many opportune conditions for research development. Engaging the private sector & public agencies to join to formulate thematic research strategies and connecting “niche sectors” in the region is a must Human Resources and Regional Capacities;
- The CAC area endeavours privileged position with regards to terrestrial and marine biodiversity, as well as the availability for bio-based strategies and specific geothermal and biomass energy resource research. Spotting the regional research competitive advantages towards EU can be a starting point for future win-win collaboration;
- A dedicated effort to understand the link between CAC and EU but also the need to decouple the relation between urban constructions and preservation. E.g. sustainable energy related to the green economy and industry as an established link within the three regions;
- Capacity building and mobility of scientists must be taken into consideration (training and advising PhD and Masters). One of the major remarks from CAC researchers has been their low participating rate, as universities typically focus on education for professionalization rather than pure research. Hence, there is a very low international visibility of researchers not only internationally but at the regional level. The need to construct data bases on these two regions has confirmed the key importance of both ENLACE and EUCARINET online data bases for an efficient cooperation among researchers and networks of researchers;
- Tackling scientific Diaspora and brain drain in both regions should be a substantial part of this capacity building strategy.

Sustainability measures

- Exploring the added value of the CAC research. In order to be sustainable, economic growth combined with the exploration of the research potential CAC countries can provide is necessary. Discovering different types of innovative products in the CAC region, evaluating infrastructure issues,



ENLACE FINAL REPORT

- creating 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 is necessary;
- Creating research networks in the region able to share updated information. This can push forward specific research lines, thus building a significant pole of top research in the field available to the wider LAC region. The question whether it is time to construct open access through ICT becomes more relevant than ever;
 - Thematic research plans are to be developed based on a sustainable use, holistic, multidisciplinary and integrated approaches Strategies for ways forward;
 - Enhance CAC-EU cooperation research with a long term vision in order to collect substantial data for analysis. Including a wider audience to the research activities should be highly considered;
 - A Thematic Observatory in the LAC region may be a first step in informing and diffusing of appropriate information in different levels to research communities, policy makers and private stakeholders;
 - The Observatory can also help create synergies with past and current cooperation projects in order to continue building, evaluating and monitoring what has been done. Avoiding overlapping and double efforts is necessary to be cost-effective;
 - Provision of training programmes in countries of the CAC region as well as the need to have local students and scientists trained at the same level should also needs to be taken into the equation.



ENLACE FINAL REPORT

Public website address and contact details

<http://www.enlace-project.eu>

Coordinator: Diassina Di Maggio (dimaggio@apre.it)
APRE
Via Cavour 71 - 00184 Rome (Italy)
Tel +39 06 48939993

List of all beneficiaries

Number	Partner	Contact Person(s)	E-mail
1	APRE	Diassina Di Maggio Monique Bossi	dimaggio@apre.it bossi@apre.it
3	UPC	Ulises Cortes Soraya Hidalgo	ia@lsi.upc.edu shidalgo@ctt.upc.edu
4	HELP-FORWARD	Epaminondas Christofilopoulos Vassiliki Kalodimou Constantine Vaistas Vangelis Argoudelis	epaminondas@help-forward.gr vkalodimou@help-forward.gr vaistas@help-forward.gr vangelis@help-forward.gr
5	LAI	Claudia del Castillo Stefanie Reinberg	claudia.delcastillo@lai.at stefanie.reinberg@lai.at
6	MENON	Fabio Nascimbeni Beatrice Niyibigira Jimena Arango	fabio.nascimbeni@menon.org beatrice.niyibigira@menon.org jimena.arango@menon.org
7	TETALAP	Klaudia Klára Tvergyák	klaudia.tvergyak@bayzoltan.hu
8	UCR	Filiberto Vega Alice L. Perez Henning Jensen Pennington	FILIBERTO.VEGA@ucr.ac.cr ALICE.PEREZ@ucr.ac.cr hjensen@ice.co.cr
9	CONICYT	Guadalupe Martinez	guadalupe.martinez@conicyt.gob.ni
10	USAC	Jorge Luis De León Arana Bessie Ororzco	jorgeluis.deleonarana@gmail.com orozco.ba@gmail.com
11	UPNFM	Yenny Eguigure Elma Barahona	yennyeguigure@gmail.com yennyeguigure@gmail.com
12	UNACHI	Rosa Elena Caballero Clothilde Arrocha V.	rosae01@gmail.com clotilde@cwpanama.net
13	ECOSUR	Efrain Aguirre Cortes Jorge Mendoza Vega	eaguirre@ecosur.mx jmendoza@ecosur.mx



ENLACE FINAL REPORT

14	CSUCA	Francisco Alarcón Raul Salguero Julio Luna Walkiria Hernández	falarcon@csuca.org rasg2032@yahoo.es jluna@csuca.org whernandez@csuca.org
15	FECAICA	Carlos E. Rivera Ortiz Francisco Valencia	fecaica@gmail.com ; cero@riverayasociados.com francisco.valencia@riverayasociados.com

