



**Organización de los Estados Americanos**  
**Organização dos Estados Americanos**  
**Organization des États Américains**  
**Organization of American States**

**Project “Applying Information and Communication Technology for Disaster Mitigation in  
the Central American Isthmus”**

**PROGRESS REPORT**

First Progress Technical and Financial Report  
Inception to March 31, 2009.

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## 1. Synthesis

This technical and financial progress report is being submitted pursuant to the Cooperation Agreement signed between the International Development Research Centre of Canada<sup>1</sup> (IDRC), through the Institute for Connectivity in the Americas (ICA), and the General Secretariat of the Organization of American States<sup>2</sup>, through its Department of Sustainable Development (OAS/DSD), for the execution of the Project: “Applying Information and Communication Technology for Disaster Mitigation in the Central American Isthmus.” The report covers the first year of execution. The main purpose of this report is to provide ICA/IDRC with an assessment of progress, highlighting some key milestones and pitfalls and challenges encountered during the first twelve months.

All activities described below were undertaken in coordination with the National Operational Focal Points of the OAS/DSD’s Inter-American Network for Disaster Mitigation<sup>3</sup> (INDM), the Regional Unit for the Americas of the Secretariat of the United Nations International Strategy for Disaster Reduction<sup>4</sup> (UN/ISDR Americas) and other partners from the UN System, as well as with the Central American Center for Natural Disaster Prevention<sup>5</sup> (CEPREDENAC).

## 2. The research problem

Natural hazards vulnerability reduction, preparedness and contingency plans for natural events and natural disasters mitigation demand good governance as to coordinate efforts among a wide range of governmental and non-governmental organizations, the private sector and the civil society as a whole, including community members. In turn, this requires a wide range of information that goes from hazard and vulnerability maps, damage assessments, scientific data and knowledge –including ancestral, of natural phenomena, such as El Niño Southern Oscillation (ENSO) phenomena and Climate Change scenarios, to early warnings, preparedness and contingency planning. With the advancement of Information and Communication Technologies (ICT), a great deal of information and knowledge, including satellite and other remote sensing information, collected and produced by government agencies, private data providers and others, have become available.

The use of ICT for disaster mitigation responds to the following needs: (a) data delivery and accessibility, addressed by institutional strengthening, capacity building, public awareness and education, public involvement, and inter-institutional coordination; (b) exploring innovative approaches to improve local preparedness and response mechanisms to decrease vulnerability to floods and droughts, which is an issue of high developmental impact; (c) The availability of timely information regarding the occurrence of meteorological phenomena helping people in rural communities to become more adequately prepared to confront these types of events.

The proposed project will make available innovative ICT applications and expert criteria for its replication or adaptation, contributing to closing the gap between data providers and most vulnerable local communities. This in turn will contribute to increasing the resilience of local communities to natural hazards.

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<sup>1</sup> International Development Research Centre of Canada Website: <http://www.idrc.ca>

<sup>2</sup> General Secretariat of the Organization of American States Website: <http://www.oas.org>

<sup>3</sup> Inter-American Network for Disaster Mitigation Website: <http://www.rimd.org>

<sup>4</sup> Regional Unit for the Americas of the Secretariat of the United Nations International Strategy for Disaster Reduction Website: <http://www.eird.org>

<sup>5</sup> Central American Center for Natural Disaster Prevention Website: <http://www.cepredenac.org>

### **3. Research findings**

In the region, the increasing interest and use of conventional ICTs (phones, cell phones, satellite, Internet, local radio, communication radios, variety of remote sensing, computer services, etc.), have demonstrated to be a fundamental tool for disaster mitigation. More specifically, their use is more often seen in the implementation of early warning systems, and in the development of training and information activities. In this regard, the main challenge is to incorporate its use systematically within the risk management and planning process for the most vulnerable communities, and to promoting its ownership and sustainability.

It is important to note that the relevant information on ICTs applied to disaster prevention and mitigation is used only by particular institutions and sectors. In addition, the information that is available online through the Website of these institutions is in most cases partial, it is geared to promote their own activities and services, and target a specialized and limited public.

Existing information is not properly systematized and is difficult to use in sharing experiences and lessons learned with the main objective to find solutions in the most vulnerable communities in each country.

Central America is quite advanced in the area of data collection and data analysis for disaster prevention and mitigation. There are several research centers coordinated by universities and public institutions, such as Geosciences Institutes, institutions as the National Service for Territorial Studies of El Salvador<sup>6</sup> (SNET) or the Nicaraguan Institute of Territorial Studies<sup>7</sup> (INETER) In addition, ICTs are applied on data and information production, providing an important value to education and training on prevention and preparedness for emergencies. However, the challenge to integrate and facilitate its use for decision making and sharing of lessons learned and good practices to find solutions to vulnerable populations needs is still great.

### **4. Project Implementation and Management**

All the activities described below were carried out according to the methodology proposed on the project profile, using a combination of methods and techniques, including desk-research, surveys, and interviews and public consultations, incorporating the suggestions from the members of the Steering Committee and members of each National Working Group.

While the execution of the Project has experienced a significant delay during this first year, the methodology proposed proved to be effective in building ownership at the national and regional level, and in convening institutions across all sectors. Lack of inter-institutional coordination at the national level and limited funding for travel were the main responsible factors for this delay. As the National Working Groups consolidate and claim ownership of the Project, it is expected that the incoming months will make up for the delays. Another contributing factor was the wide range of perceptions and understanding that stakeholders have regarding to ICTs. Coming down with a definition of ICTs has already been a challenge and it will certainly become one of the main outcomes of the Project.

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<sup>6</sup>National Service for Territorial Studies of El Salvador Website: <http://www.snet.gob.sv>

<sup>7</sup>Nicaragua Institute of Territorial Studies Website: <http://www.ineter.gob.ni>

Under the cooperation agreement the main activities undertaken during the executing period were:

#### 4.1. *Steering Committee Meetings:*

A Steering Committee was established for the purpose of decision making related to the Project. The committee is formed by the following members: UN/ISDR Americas, CEPREDENAC, the Regional Center for Disaster Information<sup>8</sup> (CRID), the INDM National Operational Focal Points of the eight participating countries, and the OAS/DSD.

All the organizations and institutions that were invited to be part of the Steering Committee are working on natural disasters mitigation in the region, where the project is being developed. Furthermore, these institutions and organizations are working on initiatives directly related to the use of ICTs, such as CRID's Web Portal and UNISDR's magazine and ISDR Informs – The Americas as well.

The establishment of a Steering Committee seeks to identify the main priorities, plans and needs of the participating countries, as well as individual initiatives in the region in order to promote synergies and opportunities for collaboration. Likewise, members of the Steering Committee work jointly with the Project's Coordination on reviewing the work plan, budget, and the methodological process.

Finally, working under the recommendations from a Steering Committee will contribute to the accomplishment of the objectives of the UNISDR-OAS Regional Platform for Disaster Risk Reduction for the Americas. This Regional Platform represents the main regional forum for all parties involved in disaster risk reduction, including regional inter-governmental bodies, civil society, United Nations specialized agencies, international financial institutions, the private sector, and the scientific and academic communities.

During this year of project execution two *Meetings of the Steering Committee were held.*

##### 4.1.1. *First Steering Committee Meeting:*

The First Steering Committee Meeting<sup>9</sup> was held on April 24<sup>th</sup>, 2008. This meeting was attended by representatives for the Central American Isthmus members of the Steering Committee and the National Civil Protection System<sup>10</sup> (SINAPROC) from Panama, in representation of the NDM National Operational Focal Points. In addition, representatives from the Pan-American Health Organization<sup>11</sup> (PAHO), the United Nations Office for the Coordination of Humanitarian Affairs<sup>12</sup> (OCHA), and the United Nations Environment Programme Regional Office for the Americas and the Caribbean<sup>13</sup> (UNEP- ROLAC) attended.

The preparation of this Steering Committee Meeting was the first activity carried out during the reporting period. This activity involved selecting special invitees, drafting letters of invitations,

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<sup>8</sup> Regional Center for Disaster Information Website <http://www.crid.or.cr>

<sup>9</sup> The costs incurred for the First Meeting of the Steering Committee were not charged to the ICA/IDRC contribution, and instead were covered by OAS/DSD.

<sup>10</sup> National Civil Protection System Website: <http://www.sinaproc.gob.pa>

<sup>11</sup> Pan-American Health Organization Website: <http://www.paho.org>

<sup>12</sup> United Nations Office for the Coordination of Humanitarian Affairs Website; <http://www.ochaonline.un.org>

<sup>13</sup> United Nations Office for the Coordination of Humanitarian Affairs Website: <http://www.unep.org/>

meeting agenda and background documents. The terms of reference for the Principal Researcher and Project Coordinator (Annex I) were also drafted during this period and presented at the Meeting for discussion.

Several relevant agreements and decisions were made at the meeting:

- (1) The Steering Committee agreed to recruit Mr. Federico Armién as the Principal Researcher and Project Coordinator. Mr. Armién was selected due to his vast experience within SINAPROC and his technical background. All members of the Steering Committee expressed their support for his appointment. The Project's headquarters was also set at the offices of the OAS Representation in Panamá, in the City of Knowledge. This provides for logistical support from the OAS, as well as easy access to UN agencies and other relevant organizations –providers of information on ICTs, located in the area;
- (2) The Steering Committee also agreed to develop the Web portal in close coordination with CRID, as to capitalize on the institutional arrangements already in place and its technological platform.
- (3) Perhaps the single most important decision made at the Meeting was to establish National Working Groups in the eight (8) participating countries.

#### 4.1.2. *Second Steering Committee Meeting:*

This meeting was carried out in the framework of the first Regional Workshop, which was held between February 18<sup>th</sup> and 19<sup>th</sup>, 2009 in Managua, Nicaragua. The Meeting took place the last day of that Workshop and included the participation of representatives from the Office of the Director of the OAS/DSD, four (4) INDM National Operational Focal Points (NOFP) – the National Emergency Commission of Costa Rica<sup>14</sup> (CNE), National Coordinator for Disaster Reduction of Guatemala (CONRED), the Permanent Contingency Commission of Honduras<sup>15</sup> (COPECO), and the National Emergency Commission of Dominican Republic (CNE), as well as the Executive Secretariat of CEPREDENAC.

During the meeting, several issues from the Workshop were discussed, obtaining the following results:

- (1) The sustainability of each output of the Project was one of the main items discussed, especially, the online catalog, the institutional database and the Website. Hence, it was agreed that the Central American Integration System<sup>16</sup> (SICA) offers the best option to ensure such sustainability, through CEPREDENAC and the Supreme Council of Central American Universities<sup>17</sup> (CSUCA in its Spanish acronym) as the specialized institutions in the region on this matter;
- (2) The catalog, database and website will be hosted on the server of CEPREDENAC through the SICA. A technical analysis will be conducted seeking to establish the parameters for integration and harmonization to the Websites of these institutions and the mechanisms to articulate it with the CRID;

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<sup>14</sup> National Emergency Commission of Costa Rica Website: <http://www.cne.go.cr>

<sup>15</sup> Permanent Contingency Commission of Honduras Website: <http://www.copeco.gob.hn>

<sup>16</sup> Central American Integration System Website: <http://www.sica.int>

<sup>17</sup> Supreme Council of Central American Universities Website: <http://www.csuca.org>

#### *4.2. Reports of the Steering Committee Meetings:*

OAS/DSD prepared the reports of the Meetings of the Steering Committee, which describes the agreements reached at each meeting, the planned activities and the most important issues that were discussed. A detailed methodology document was also drafted by OAS/DSD and shared with all members of the Steering Committee. This document included detailed milestones and human resources to be utilized. See documents annexed to this report (Annex II and III - Steering Committee Meetings Report).

#### *4.3. Data collection and preliminary information analysis:*

The research process – information and data collection and analysis were developed based on the proposed methodology, emphasizing desktop research, development of technical templates and questionnaires, telephone and e-mail communications, and personal interviews. The main objective of this activity, besides identifying Information and Communication Technologies that are being used within the region, was to define a country strategy that would promote the participation of all sectors directly and indirectly involved in the Project, in cooperation with the public and private sectors at different levels. In this regard, experts, institutions and initiatives related to the Project have been identified in each country; survey questionnaires were developed and sent out to the members of the National Working Groups for wider distribution.

#### *4.4. Design of the database structure and website:*

Following up on the decisions made at the First Meeting of the Steering Committee, OAS/DSD drafted the terms of reference for the design and implementation of the Web site and on-line database. At a meeting held with CRID, in San Jose, Costa Rica, on September 23, 2008, documents were shared and discussed. As a result of these discussions, CRID resolved to step aside and declined to undertake the task on the basis they did not have enough experience in the field and human resources to develop these products.

As an alternative for the development of these products, it was proposed to establish a cooperation agreement between the University of Panama<sup>18</sup>, through its Research Vice Rector and Graduate Studies, and the General Secretariat of the Organization of American States (Annex IV).

The database architecture –including data dictionary and structure, as well as the Web site design resulted from the preliminary inventory of ICTs, identified and classified during the preliminary data analysis (Annex V).

##### *4.4.1 Development of the database architecture*

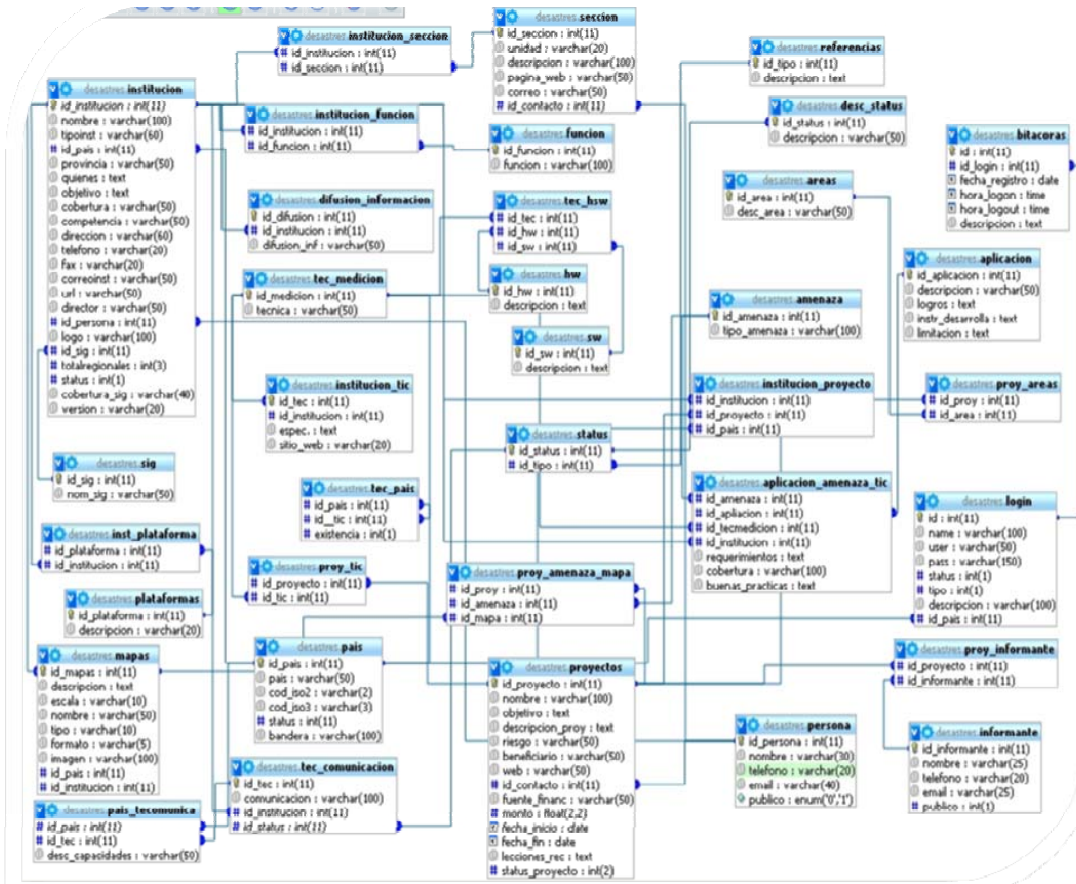
The architecture of the database was designed during the months of January and February 2009. At the first Regional Workshop the preliminary design was presented for comments and suggestions from each participant. Figure 1 shows the database architecture, the Entity-Relationship Diagrams. The Data Dictionary contains 36 inter-linked tables, including data tables, look-up tables and linking tables.

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<sup>18</sup> University of Panama Website: <http://www.up.ac.pa>



FIG. 1 ENTITY RELATIONSHIP DIAGRAM



#### 4.5. Population of the database

The Project has established a close coordination with CSUCA. This Council is part of the Central American Integration System (SICA) and has established a network of universities with Web nodes dedicated to various critical issues for the region. One of these nodes is dedicated to Natural Disasters. OAS/DSD and CSUCA signed a Cooperation Agreement for populating the on-line Geo-referenced Catalogue and Institutional Mapping of the Project (see Annex VI);

The use of national universities as leading research institutions, instead of the originally planned national consultants, is expected to increase the potential to reach out to a wider range of users and providers of ICTs, while it offers a process-driven approach, as opposed to a driven project one. This process-driven approach, in turn, should result in a more refined and complete inventory, as it provides for a validation and a continuing process. In addition, it will increase the sustainability of the Project's results.

The execution of this agreement will last three (3) months from its signing by both parties. The official launch of the Web site and on-line database is expected to take place on the first week of May. However, CSUCA has already assigned specialists from each of the universities, which at the same time have already begun the process of gathering information and populating the database.

National Universities have the responsibility and task of populating the database, under the overall supervision of CSUCA within the framework of the cooperation Agreement signed by CSUCA and OAS/DSD. Likewise, this activity is being coordinated by the University of Panama and the Project's Principal Researcher based in Panama.

In the future, the on-line database will be populated remotely by different data suppliers, who will be responsible for the data they provide and entered into the database. To that end, two on-line templates were developed, as well as approval-tools so that the corresponding national university can validate and approve the entry.

In addition, OAS/DSD and CSUCA are exploring various mechanisms to provide continuity in the database population and maintenance and for quality control. These mechanisms will include a strategy to integrate this activity in the Graduate Academics Research Programs of the universities that are participating in the project through the Cooperation Agreement signed between OAS and CSUCA.

Form F-01 was developed to enter data about institutions working on disaster mitigation in Central America and Dominican Republic, which may develop or use ICTs. While Form F-02 was developed to collect specific information on the ICTs so as to characterize them based on various criteria (i.e. Application, Type, etc.). Form F-02 was divided into three sections, F02A, F-02B and F-02C.

Form F-02 Sections:

Form F-02A: to collect information relative to observation and monitoring technologies and the natural threat, to which are applied.

Form F-02B: to collect information relative to projects that develop or use the ICT, including contacts, who can serve as reference for evaluating the application and performance of the ICT.

Form F-03C: to collect available geo-referenced data –whether in digital media or physical maps. This information can be classified as public or private. In the last case, the database provides contact information and metadata describing the map and contained information.

Forms are available in print version and on-line at the Web site <http://www.redsalud.up.ac.pa/geocatalogo/>. The design and programming of the on-line forms were performed according to the present and future needs, and as part of the maintenance module, which is currently under development.

Currently, the data or information obtained by universities and partners in each country can be immediately entered to the database and reports can be generated. Guidelines were developed to allow the institutions to complete the forms accurately and easily. The guidelines also aid the data collection and population of the databases, through the on-line forms.

At the end of January, the tools were validated preliminarily by four institutions of the Republic of Panama, the Electric Transmission Company<sup>19</sup> (ETESA), the Ministry of Education<sup>20</sup>

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<sup>19</sup> Electric Transmission Company Website: <http://www.etsa.com.pa>

<sup>20</sup>Ministry of Education of Panama Website: <http://www.meduca.gob.pa>



(MEDUCA), the General Accounting Office, and University of Panama. The recommendations and adjustments to this preliminary validation were included and discussed in the First Regional Workshop.

#### *4.6. Establishment of the National Working Groups*

In accordance with the methodological approach agreed at the First Meeting of the Steering Committee, National Working Groups were established in all eight participating countries with the participation of governmental and non governmental organizations, universities, NGOs and other relevant institutions.

The purpose of the National Working Groups is to share information related to the issue among organizations; standardize and validate the collected data before is made available on-line. Most of the information collected up to date has been provided by these organizations.

National Working Groups' main communication means consist on e-mail exchanges, and on-site meetings.

National Working Group meetings were planned and held with the aim of analyzing the results systematized and the information gathered through the preliminary research phase. The First Meeting of the National Working Groups of the Project for Costa Rica, Dominican Republic, El Salvador, Honduras, Nicaragua, and Panama were convened through the INDM National Operational Focal Points in each country. These first meetings provided for the establishment of the respective National Working Groups. In addition to the First Regional Workshop, two (2) meetings were carried out in Belize and Dominican Republic.

Each National Working Group has drafted a work plan to articulate their efforts on the application of ICTs to Natural Disasters Mitigation. These work plans are being reviewed and coordinated by OAS/DSD and CSUCA. Furthermore, a strategy to maintain the exchange of information and to cooperate with the Universities, which will be in charge of the data collection and database population processes, will be drafted as well.

#### *4.7. First Regional Workshop, February 18-20, 2009, Managua, Nicaragua*

The First Regional Workshop was held between the 18<sup>th</sup> and 20<sup>th</sup> of February 2009, at the Crowne Plaza Hotel, in Managua, Nicaragua. The event included the participation of 42 representatives from each of the eight (8) participating countries from public institutions as well as research and academic institutions, who are also part of the National Working Groups (Annex VII).

As part of the activities of the workshop, it was necessary to identify the participants, the venue, and make all lodging and travel arrangements. Likewise, for the workshop agenda, program, methodology and invitations were drafted and sent out.

The main objective of the workshop was to validate the preliminary inventory, and present the ideas of the first on-line database, including its architecture and user functions and tools.

The workshop was developed in a participatory and interactive manner, based on presentations about the progress and needs of each country. Participants were asked to come to the event ready to describe the state-of-the-art in the application of ICTs to disaster mitigation in their countries.

#### 4.8. Preparation for the needs assessment

One of the issues raised during the First Meeting of the Steering Committee was related to the pilot sites to conduct the needs assessments. It was then agreed that both, the San Juan River (Costa Rica and Nicaragua) and the Negro River (Honduras and Nicaragua) basins, were suitable, given its transboundary nature, increasing climate variability and consequent vulnerability exacerbated by climate change, and the socio-economic conditions. However, it was also agreed that progress should be made in the consultations and survey data without prejudice, and the pilot places should be selected through this process and not be imposed from the beginning.

A work plan was established at the First Regional Workshop to discuss the details for this activity, obtaining as one of the main results the ratification of the San Juan River basin and the Negro River as the pilot sites for the needs assessments. The work plan establishes the municipalities of San Carlos, Upala and Malacatoya in the San Juan River Basin, the municipalities Cinco Pinos, Somotillo and Concepción de María in the Negro River, as specific sites for the development of this activity. Likewise, it states that the National Emergency Commission of Costa Rica (CNE) and the National System for Prevention, Mitigation and Attention of Disasters of Nicaragua (SINAPRED), both will support technically and logistically the implementation of this activity.

To this end OAS/DSD has drafted the terms of reference for the two consultants who will lead these assessments. The National Working Groups of Costa Rica and Nicaragua will prepare a short-list with candidates for the position. OAS/DSD will make the final selection. This activity is expected to begin in May 2009.

Fig 1. Localization of the municipalities in the Negro River Basin for the Needs Assessments.



Fig 1. Localization of the municipalities in the San Juan River Basin for the Needs Assessments.



## 5. Project outputs and dissemination

The main outputs achieved during the reporting period are as follows:

- a. A preliminary inventory of ICT Applications on natural disaster mitigation in the Central American Isthmus;
- b. A Web site prototype;
- c. A Web site Technical Report f;
- d. An on-line database Technical Report ;
- e. On-line Forms F-01, F-02 / F02A, B-02-F and F-02C for data collection and database population;
- f. First Regional Workshop for the Validation of the Preliminary Inventory;
- g. Report of the First Regional Workshop;
- h. Cooperation Agreement between CSUCA and OAS/DSD for populating the on-line Geo-referenced Catalogue and Institutional Mapping of the Project;
- i. Cooperation Agreement between the SG/OAS and the University of Panama for the Design of an on-line Geo-referenced Catalogue and a Mapping Institutional;
- j. National plans for the collection and analysis of information to be entered in the on-line database; and
- k. Terms of Reference for the leading consultant for the needs assessments.

The main expected outputs for the next reporting period are as follows:

- a. Final Regional Workshop for the presentation of results;

- b. Report of the Final Workshop (English and Spanish versions);
- c. A needs assessment on the identification and implementation of Information and Communication Technologies (ICTs) applied to the mitigation of disasters, emphasizing the areas of agriculture, services and water supply and sanitation, in the municipalities of San Carlos, Upala and Malacatoya, located in the San Juan River Basin in Costa Rica and Nicaragua;
- d. A needs assessment on the identification and implementation of Information and Communication Technologies (ICTs) applied to the mitigation of disasters, emphasizing the areas of agriculture, services and water supply and sanitation, in the municipalities of Cinco Pinos, Somotillo and Concepción de María, located in the Negro River Basin in Honduras and Nicaragua;
- e. A local workshops on risk reduction at community level focusing on the use, identification and application of ICTs in each of the selected municipalities. These workshops will be prepared in coordination with the National Emergency Commission of Costa Rica (CNE) and the National System for Prevention, Mitigation and Disaster Attention of Nicaragua (SINAPRED).
- f. A set of guidelines that include social, economic, institutional and physical criteria for the identification and selection of technologies and applications more feasible to respond to floods and droughts, in local communities in areas at risk of extreme hydrological events (Spanish version and English);
- g. A policy document with recommendations for the Regional Plan for Natural Disaster Reduction that includes "good" practices for the use and application of ICTs to disaster mitigation in the Central American Isthmus (Spanish and English version); and
- h. A strategy for including the operation and maintenance of the on-line database and Web site within the academic programs for each of the participating universities.

OAS/DSD drafted and published press releases, which were circulated throughout the Department of Press of the SG/OAS, promoting the Project and main events. These press releases are sent to more than 2,000 contact points of that Department throughout the Hemisphere, including Government organizations, private sector, social society, and the national press organization in each country (Annex III).

## **6. Capacity-building**

One of the main issues addressed by the project to ensure the operation and updating of the Web site is the integration of these products into the SICA's agenda, through CEPREDENAC and CSUCA, as specialized institutions, which promote their links with other regional bodies such as CRID.

CSUCA has been identified as a potential hub, responsible for updating and maintaining the on-line catalogue, the Web site and the database, using its capacity located at the Program for Research Capacity Development for Disaster Prevention and Mitigation in Central America (DIPREDCA) and the Research University Network for Disaster Risk Reduction in Central America (RUNIRED). To this end, currently, institutional mechanisms for coordination among participating institutions are being explored. These mechanisms include the integration of this responsibilities as part of the academic and research programs that are currently being developed.

The implementation of the Cooperation Agreement between the OAS/DSD and CSUCA will help build research capabilities in Central America and the Dominican Republic for the generation and use of knowledge, focusing on disaster reduction in the context of sustainable development in the region, and based on national and regional priorities of the Central American countries. CSUCA is currently running the Program for Research Capacity Development for Disaster Prevention and Mitigation in Central America (DIPREDCA), which has shaped the University Network for Research on Risk Reduction Disaster in Central America (RUNIREN), integrating the Vice rector and/or Research Institutes, researchers and academic leadership of the 19 public universities that make up the CSUCA.

## **7. Impact**

The establishment of the National Working Groups helps strengthen the National Platforms of the UN/ISDR Hyogo Framework for Action (HFA) in the area of ICTs applied to Disaster Mitigation, and provides long-term sustainability to the Project and its outputs. Particularly, the on-line Inventory and Dynamic Institutional Mapping Tool. In the short-run, the National Working Groups will provide transparency to the process and opportunities for a more inclusive participation of all stakeholders, segments of the society and levels of government; with special emphasis in the academic sector lead by key universities.

Finally, throughout this first year of project execution, all stakeholders have stressed the catalytic nature and the opportunity that this Project provides to systematize all existing ICT applications to natural disaster mitigation in the region. They also welcome the opportunity that the Project provides for strengthening on-going initiatives, such as the Regional Center for Disaster Information, CRID –sponsored by the PAHO, UNDP and UN/ISDR Americas, among others. They also recognized OAS/DSD efforts in Early Warning Systems (EWS) for Floods, and the synergies between these two initiatives, since the first contributes with ICTs applied to Floods EWS.

## **8. Recommendations**

The establishment of the National Working Groups proved to be a tedious and encumbered task. However, the OAS/DSD Project Team believes it will pay off by expediting the data collection and validation processes, while it will provide for a more transparent and inclusive process, forging ownership of all involved. In addition to on-site data collection and consultation, mentioned in section 3, the OAS/DSD Project Team is using more Internet means for collecting data and coordinating with the National Working Groups. Hence, responses vary according to the relative development of each of the eight (8) participating countries, and their human and financial resources that they can make available for this effort. One must recognize that in some of the countries of the region, pressing social and economic issues are serious constraints that hold down their engagement throughout the life of the Project and beyond. Despite of that, it is still necessary to allocate funds for trips to each country in order to mobilize the National Working Groups and complete the proposed activities.

The OAS /DSD Project Team estimates that two additional trips could boost up its ability to successfully complete the activities. One of them –to all eight participating countries, would support the preparation of the Final Regional Workshop; while the other one would be to Guatemala in order to ultimate coordination arrangements between CEPREDENAC and CSUCA for the standardization of technical parameters and the integration of the on-line database and

Web site to their Web sites and Internet-based platforms. The cost of these trips –not included in the original budget, amounts to a total of US\$16,700.00 according the following break-down:

|                                     |                      |
|-------------------------------------|----------------------|
| Tickets:                            | US\$9,000.00         |
| Per-Diem                            | US\$5,700.00         |
| Terminal expenses                   | US\$1,000.00         |
| Miscellaneous (conference services) | US\$1,000.00         |
| <b>GRAND TOTAL</b>                  | <b>US\$16,700.00</b> |

It is proposed to reallocate the unspent US\$9,588.69 originally allocated to the First Regional Workshop, in order to cover for these additional proposed trips.

Due to delays in Project implementation described above, a two-month extension is required to complete all activities and deliver all products. It is then requested to move the originally established completion date, August 2009, to October 2009.

A complete work plan is attached to this report (Annex IX).

**Annexes**

- I. Terms of reference for the Principal Researcher and Project Coordinator;
- II. First Steering Committee Meeting Report;
- III. Second Steering Committee Meeting Report;
- IV. Cooperation Agreement between the General Secretariat of the Organization of American States and the University of Panama;
- V. Preliminary inventory;
- VI. Cooperation Agreement between the General Secretariat of the Organization of American States and the Supreme Council of Central American Universities; and
- VII. First regional workshop report
- VIII. Press release – First Regional Workshop
- IX. Work plan

**9. Financial Execution**

The first disbursement issued in March 2008 amounted to US\$150,151.62. Hence, the Project Budget –included in Attachment C of the Memorandum of Grant Conditions, totals US\$152,490.00 for the first year. The difference of US\$2,338.38 is due to the exchange rate between Canadian and US Dollars, and it’s been applied as follows: US\$2,108.27 to task 3.1, Research Expenses/ First Workshop; and US\$230.11 to ICR.

The cost incurred for the First Meeting of the Steering Committee –travel expenses for the representatives of CEPREDENAC and CRID, and two (2) delegates from the OAS/DSD, were not charged to the ICA/IDRC contribution, and instead were covered by OAS/DSD in the amount of US\$4,060.02. The coordination mission held during the current month in Panama between the OAS/DSD Project Leader and the Principal Researcher –Project Coordinator in Panama was also covered by OAS/DSD with a total cost of US\$1,963.30. The total OAS/DSD’s cash contribution amounts then to US\$6,023.32.



The unspent balance of the Task 3.1- First Workshop is US\$9,588.69 resulted from combining this activity with activities of the Project "Regional Platform for Early Warning and Reduction Program for Flood Vulnerability in Central America." The later covered total costs of US\$4,183.42, including the costs of lodging and food for 15 participants, the conferences services for the event, and airfares for three (3) OAS/DSD specialists and one (1) participant from Costa Rica who attended the First Regional Workshop, in Managua, Nicaragua.

OAS/DSD assigned a junior specialist for supporting the day-to-day coordination of the Project from Washington DC, under the direct supervision the OAS/DSD Project Leader. The junior specialist cost is being funded by OAS/DSD, and represents a contribution of US\$19,200.00, bringing the total OAS/DSD contribution to the Project for the reporting period to US\$29,406.74.

The actual cost associated to the trips for establishing the National Working Groups was higher than the cost originally budgeted. Hence, the budget lines for travel expenses, tasks 1.2, 2.2 and 2.3, were combined to overcome this deficit. See a detail of actual expenditures, commitments and budgeted lines in the table below.

The unspent balance as of March 31<sup>st</sup>, 2009, amounts to US\$52,543.45, with a total execution (including actual expenditures and commitments) of US\$97,608.17 or 65.01% of the first disbursement (US\$150,151.62).

Delays in implementing the budget obey to the preparation of cooperation agreements signed with the University of Panama and CSUCA, and the fact that the needs assessments were postponed to begin in May 2009, instead of January, 2009, as originally programmed.

The table below shows the inputs and expenditures for the reporting period.

| TASK  | BUDGET            |                  | Cash / First disbursement | EXP/COM          | BALANCE          |                  |
|---|-------------------|------------------|---------------------------|------------------|------------------|------------------|
|   | Total             | YEAR 1           |                           |                  | Budget (year 1)  | Budget (cash)    |
| <b>1 CONSULTANTS</b>  | <b>126,110.00</b> | <b>91,724.00</b> | <b>91,724.00</b>          | <b>51,045.14</b> | <b>40,678.86</b> | <b>40,678.86</b> |
| <b>1.1 Principal Consultant Fees</b>  | <b>40,000.00</b>  | <b>30,000.00</b> | <b>30,000.00</b>          | <b>30,000.00</b> | -                | -                |
| <b>1.2 Principal Consultant Travel Cost</b>   | <b>7,602.00</b>   | <b>4,862.00</b>  | <b>4,862.00</b>           | <b>4,862.00</b>  | -                | -                |
| airfares for Preliminary Inventory of ICT Applications to seven (7) countries               |                   | 2,450.00         | 2,450.00                  | -                |                  |                  |
| twelve (12) days per diem for Preliminary Inventory of ICT Applications (@165 USD per day)  |                   | 1,980.00         | 1,980.00                  | -                |                  |                  |
| en route/in transit expenses for Preliminary Inventory of ICT Applications                  |                   | 432.00           | 432.00                    | -                |                  |                  |
| airfares for Needs Assessments trip to Nicaragua and Honduras                               |                   |                  |                           |                  |                  |                  |
| six (6) days per diem for Needs Assessments trip in Honduras (@146 USD per day)             |                   |                  |                           |                  |                  |                  |
| six (6) days per diem for Needs Assessments trip in Nicaragua (@154 USD per day)            |                   |                  |                           |                  |                  |                  |
| en route/in transit expenses for Needs Assessments in Honduras and Nicaragua                |                   |                  |                           |                  |                  |                  |
| <b>1.3 National Consultants Fees</b>  | <b>20,000.00</b>  | <b>8,000.00</b>  | <b>8,000.00</b>           | -                | <b>8,000.00</b>  | <b>8,000.00</b>  |
| Two (2) National Consultants Fees for five (5) months (@2,000 USD per month per consultant) |                   |                  |                           | -                | -                |                  |
| <b>1.4 Principal Consultant Fees GIS</b>  | <b>12,000.00</b>  | <b>12,000.00</b> | <b>12,000.00</b>          | <b>12,000.00</b> | -                | -                |
| GIS-Principal Consultant Fees for six (6) months (@ 2,000 USD per month)                    |                   |                  |                           | -                | -                |                  |
| <b>1.5 Principal Consultant Travel Cost (GIS)</b>   | <b>4,862.00</b>   | <b>4,862.00</b>  | <b>4,862.00</b>           | <b>2,183.14</b>  | <b>2,678.86</b>  | <b>2,678.86</b>  |
| airfares for 2 week field trip to seven (7) countries                                       |                   | 2,450.00         | 2,450.00                  | -                |                  |                  |
| (12) days per diem (@165 USD per day)   |                   | 1,980.00         | 1,980.00                  | -                |                  |                  |
| en route/in transit expenses for two (2) field trip (@165 USD per day)                      |                   | 432.00           | 432.00                    | -                |                  |                  |
| <b>1.6 National Consultant Fees (GIS)</b>   | <b>24,000.00</b>  | <b>24,000.00</b> | <b>24,000.00</b>          | -                | <b>24,000.00</b> | <b>24,000.00</b> |
| Eight (8) GIS-national Consultants Fees for 2 month (@1,500 USD per month per consultant)   |                   |                  |                           | -                | -                |                  |
| <b>1.7 Internet and Software Developer Fees</b>   | <b>16,000.00</b>  | <b>8,000.00</b>  | <b>8,000.00</b>           | <b>2,000.00</b>  | <b>6,000.00</b>  | <b>6,000.00</b>  |
| <b>1.8 Software Developer Travel</b>  | <b>1,646.00</b>   | -                | -                         | -                | -                | -                |
| Internet and Software Developer airfare to panama   |                   | -                | -                         | -                | -                | -                |
| Internet and Software Developer six (6) days per diem in Panama (@171 USD per day)          |                   | -                | -                         | -                | -                | -                |
| Internet and Software Developer en route/in transit expenses for trip to Panama             |                   | -                | -                         | -                | -                | -                |
| <b>2 TRAVEL (STAFF)</b>   | <b>15,293.00</b>  | <b>9,696.00</b>  | <b>9,696.00</b>           | <b>9,696.00</b>  | -                | -                |
| <b>2.1 Travel Chief, DSD-RISK-MACC</b>  | <b>9,447.00</b>   | <b>5,886.00</b>  | <b>5,886.00</b>           | <b>5,886.00</b>  | -                | -                |
| airfare to Panama   |                   | 500.00           | 500.00                    | -                |                  |                  |
| six (6) days per diem in Panama (@171 USD per day)  |                   | 1,026.00         | 1,026.00                  | -                |                  |                  |
| en route/in transit expenses for trip to Panama   |                   | 120.00           | 120.00                    | -                |                  |                  |
| airfare to Nicaragua  |                   | 1,024.00         | 1,024.00                  | -                |                  |                  |
| six (6) days per diem in Nicaragua (@154 USD per day)                                       |                   | 924.00           | 924.00                    | -                |                  |                  |
| en route/in transit expenses for trip to Nicaragua  |                   | 216.00           | 216.00                    | -                |                  |                  |
| airfares to Nicaragua and Honduras  |                   | -                | -                         | -                |                  |                  |
| two (2) days per diem in Honduras (@146 USD per day)  |                   | -                | -                         | -                |                  |                  |
| two (2) days per diem in Nicaragua (@154 USD per day)                                       |                   | -                | -                         | -                |                  |                  |
| en route/in transit expenses for trip to Honduras and Nicaragua                             |                   | -                | -                         | -                |                  |                  |

|   |                   |                   |                   |                  |                  |                  |
|---|-------------------|-------------------|-------------------|------------------|------------------|------------------|
| airfare to GIS-Based Information Meeting  |                   | 1,200.00          | 1,200.00          | -                |                  |                  |
| four (4) days per diem for GIS-Based Information Meeting (@165 USD per day)             |                   | 660.00            | 660.00            | -                |                  |                  |
| en route/in transit expenses for trip to GIS-Based Information Meeting                  |                   | 216.00            | 216.00            | -                |                  |                  |
| airfare to Panama   |                   | -                 | -                 | -                |                  |                  |
| Four (4) days per diem in Panama (@171 USD per day)                                     |                   | -                 | -                 | -                |                  |                  |
| en route/in transit expenses for trip to Panama   |                   |                   |                   | -                |                  |                  |
| <b>2.2 Travel Project Coordinator</b>   | <b>1,646.00</b>   | <b>1,646.00</b>   | <b>1,646.00</b>   | <b>1,646.00</b>  | -                | -                |
| airfare to Panama   |                   | 500.00            | 500.00            | -                |                  |                  |
| six (6) days per diem in Panama (@171 USD per day)                                      |                   | 1,026.00          | 1,026.00          | -                |                  |                  |
| en route/in transit expenses for trip to Panama   |                   | 120.00            | 120.00            | -                |                  |                  |
| <b>2.3 Travel Natural Hazard Specialist ("2 Specialists)</b>                            | <b>4,200.00</b>   | <b>2,164.00</b>   | <b>2,164.00</b>   | <b>2,164.00</b>  | -                | -                |
| airfare to Nicaragua (@500 USD per ticket)  |                   | 1,000.00          | 1,000.00          | -                |                  |                  |
| en route to/in transit expenses for trip to Nicaragua (@120 USD per Specialist          |                   | 240.00            | 240.00            | -                |                  |                  |
| per diem in Nicaragua (@154 USD x person per day for 3 days                             |                   | 924.00            | 924.00            | -                |                  |                  |
| airfare to Honduras (@500 USD per ticket)   |                   | -                 | -                 | -                |                  |                  |
| en route to/in transit expenses for trip to Honduras (@80 USD per Specialist            |                   | -                 | -                 | -                |                  |                  |
| per diem in Honduras (@146 USD x person per day for 3 days                              |                   |                   |                   | -                |                  |                  |
| <b>3 RESEARCH EXPENSES</b>  | <b>86,250.00</b>  | <b>35,960.00</b>  | <b>33,851.73</b>  | <b>21,987.14</b> | <b>13,972.86</b> | <b>11,864.59</b> |
| <b>3.1 First Workshop</b>   | <b>32,460.00</b>  | <b>32,460.00</b>  | <b>30,351.73</b>  | <b>20,763.04</b> | <b>11,696.96</b> | <b>9,588.69</b>  |
| Airfares for 30 participants (@500USD per airfare)                                      |                   | 15,000.00         | 14,175.73         | -                |                  |                  |
| En route/in transit expenses for 30 participants (@120 USD per participant)             |                   | 3,600.00          | 3,240.00          | -                |                  |                  |
| Three (3) days per diem expenses for 30 participants (@154 USD per day per participant) |                   | 13,860.00         | 12,936.00         | -                |                  |                  |
| <b>3.2 Final Workshop</b>   | <b>30,540.00</b>  | -                 | -                 | -                | -                | -                |
| Airfares for 30 participants (@500USD per airfare)                                      |                   | -                 | -                 | -                | -                | -                |
| En route/in transit expenses for 30 participants (@80 USD per participant)              |                   | -                 | -                 | -                | -                | -                |
| Three (3) days per diem expenses for 30 participants (@146 USD per day per participant) |                   | -                 | -                 | -                | -                | -                |
| <b>3.4 Printing &amp; Publications &amp; Communications</b>                             | <b>19,250.00</b>  | <b>1,500.00</b>   | <b>1,500.00</b>   | <b>417.15</b>    | <b>1,082.85</b>  | <b>1,082.85</b>  |
| Translations of Criteria for Application of ICTs "Good Practices"                       |                   | -                 | -                 | -                |                  |                  |
| Translation of Policy Paper   |                   | -                 | -                 | -                |                  |                  |
| translation of Workshop report  |                   | -                 | -                 | -                |                  |                  |
| Application of ICTs - design, printing and multimedia inventory                         |                   | -                 | -                 | -                |                  |                  |
| Communication & printing cost for the Inventory of ICT Applications to Disasters        |                   | 1,500.00          | 1,500.00          | -                |                  |                  |
| Communication & printing cost for Vulnerability Assessments                             |                   | -                 | -                 | -                |                  |                  |
| Printing cost of Policy Recommendations Final Report                                    |                   | -                 | -                 | -                |                  |                  |
| <b>3.5 Conference services for Workshops</b>  | <b>4,000.00</b>   | <b>2,000.00</b>   | <b>2,000.00</b>   | <b>806.95</b>    | <b>1,193.05</b>  | <b>1,193.05</b>  |
| <b>ICR 11%</b>  | <b>25,040.00</b>  | <b>15,110.00</b>  | <b>14,879.89</b>  | <b>14,879.89</b> | <b>230.11</b>    | <b>-</b>         |
| <b>TOTAL</b>  | <b>252,693.00</b> | <b>152,490.00</b> | <b>150,151.62</b> | <b>97,608.17</b> | <b>54,881.83</b> | <b>52,543.45</b> |
| <b>INTERESTS ACCRUED</b>  | <b>2,767.00</b>   |                   |                   |                  |                  |                  |