

1. Project Data:		Date Posted : 05/19/2014	
Country:	Honduras		
Project ID:	P064913	Appraisal	Actual
Project Name :	Natural Disaster Mitigation	Project Costs (US\$M):	21.00 22.04
L/C Number:	C3361	Loan/Credit (US\$M):	19.82 19.86
Sector Board :	Urban Development	Cofinancing (US\$M):	
Cofinanciers :		Board Approval Date :	05/30/2000
		Closing Date :	04/15/2005 12/30/2010
Sector(s):	Sub-national government administration (51%); Central government administration (49%)		
Theme(s):	Natural disaster management (29% - P); Administrative and civil service reform (29% - P); Municipal governance and institution building (28% - P); Land administration and management (14% - S)		
Prepared by :	Reviewed by :	ICR Review Coordinator :	Group:
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2. Project Objectives and Components:

a. Objectives:

Original Project Development Objective (stated identically in the Credit Agreement and the Project Appraisal Document or PAD)

"To improve the capacity to reduce vulnerability to natural disasters at the municipal level . "

Following the mid-term review, the Bank and the Government decided to restructure the project in 2004. This was done to strengthen the sustainability of project outcomes by balancing local capacity building with the institutionalization of Disaster Risk Management (DRM) at the national level. The restructuring required approval by the Bank's Board because of the proposed changes to the project development objective and outcome indicators, and the change of the project's environmental safeguards category (from C to B) which resulted in the triggering of two safeguards policies, Environmental Assessment and Cultural Property. This involved a major change with national capacity strengthening being added to the original PDO and the project cost and financing almost doubling as discussed in section 2d below, and responsibility for implementation was transferred to the Interior Ministry from COPECO (Honduran Disaster Emergency Preparedness and Response Agency), the original lead agency.

Revised Project Development Objective (as approved by the original approving authority)

"To improve the national capacity of the country to reduce its vulnerability to natural disasters at the municipal level. "

b. Were the project objectives/key associated outcome targets revised during implementation?

Yes

If yes, did the Board approve the revised objectives /key associated outcome targets?

Yes

Date of Board Approval: 06/18/2004

c. Components:

Original Components

A. Monitoring, Forecasting, Early Warning and Geographic Information System (GIS)-based Information Management (At Appraisal: US\$ 4.84 million). This component would assist the Ministry of Natural Resources and Environment to develop capacity for hydrological, meteorological and geophysical monitoring, as well as for forecasting floods and landslide hazards. Main activities included the design and implementation of an improved National Flood Forecasting and Decision Support System, a study of the changes in fluvial geomorphology caused by Hurricane Mitch, establishment of community-based flood early warning systems, development of database management and GIS, and preparation of maps.

B. Strengthening of National Capacity to Support Emergency Response at Municipal Level (At Appraisal: US\$ 2.14 million). Under this component, the Project would strengthen the emergency preparedness and response capacity of participating municipalities and COPECO so that it could assist these municipalities effectively. Main activities included the identification of equipment needed for local emergency response, design of a National Plan for Disaster Awareness and implementation of a municipal disaster awareness campaign, training in disaster risk management, design and implementation of an emergency assistance management information system, and review of a draft building code and improvement of capacity to monitor and mitigate seismic risk.

C. Building Capacity in Disaster Mitigation at the Local Government Level (At Appraisal: US\$ 4.00 million). This component was the core program for the selected municipalities. It was to be implemented by the Association of Honduran Municipalities (AMHON) and included key activities such as development of a local vulnerability management database, disaster risk and vulnerability analyses, "preventive" planning, and feasibility and engineering studies and final design of mitigation works.

D. Project Management (At Appraisal: US\$ 1.02 million). This component would strengthen GAAEX (Support Group for External Assistance) to fulfill its role as the Project's fiduciary unit.

Revised Components

While the four components were maintained throughout Project implementation, the 2004 restructuring and 2007 additional financing (AF) introduced the following changes to each of them:

A. Monitoring, Forecasting, Early Warning and GIS based Information Management (US\$ 0.72 million under the additional finance (AF), for a total of \$5.56 million; at completion: US\$3.87 million). After the 2004 Project restructuring, the original study on the changes of fluvial geomorphology caused by Hurricane Mitch was replaced by support to drought management. The Government considered the latter a priority, while experts confirmed that a study of this nature was no longer relevant, especially since localized analyses had been carried out with other donors' support. Under the 2007 additional finance (AF), the development of database management and GIS was replaced by specific support to updating disaster risk information in a more comprehensive National Territorial Information System (SINIT).

B. Strengthening of National Capacity to Support Emergency Response at the Municipal Level (US\$ 0.81 million under the additional finance (AF), for a total of \$2.95 million; at completion: US\$2.09 million). As a result of the 2004 restructuring, activities related to seismic risk were dropped, and support to the design and implementation of the national system for disaster risk management was added. Complementing original training and awareness raising activities, the additional finance (AF) introduced the identification and acquisition of the equipment needed for the establishment of a national emergency communications system and for emergency response by municipalities and volunteer groups.

C. Building Capacity in Disaster Mitigation at the Municipal Level (US\$ 6.57 million under the additional finance (AF), for a total of US\$10.57 million; at completion US\$11.50 million). The Project restructuring incorporated the financing of small mitigation works (subprojects) in participating municipalities. This change was further emphasized in 2007 by allocating over 50 percent of the additional finance (AF) credit funds to mitigation works.

D. Project Management (US\$ 0.90 million under the additional finance (AF), for a total of US\$1.92 million; at completion: US\$4.58 million). The additional finance (AF) included project management costs for COPECO as the new implementing agency.

The project restructuring in 2004 expanded the project's original scope beyond technical assistance to include financing of small structural and non-structural mitigation works (e.g., retaining walls, storm drainage systems, and reforestation). This change responded to a request from the Government at the appraisal stage, for the Bank to consider within two years of project implementation. This related to financing of mitigation works through either the project or a follow-on operation, in case funds from other sources could not be found. Moreover, many municipalities were facing a critical situation due to the lingering effects of Hurricane Mitch, due to which even normal rains were causing damaging floods and landslides. According to the task team, the project restructuring helped to formalize what was already evolving in respect of municipality vis -à-vis national coordination for disaster risk mitigation.

d. Comments on Project Cost, Financing, Borrower Contribution, and Dates:

Costs, Financing and Borrower's Contribution: At appraisal the project cost was estimated at US\$ 12.00 million with a planned Bank contribution of US\$ 10.82 million. In 2007, the Bank approved Additional Finance (AF) credit of US\$9.0 million raising the project cost and Bank contribution to US\$ 21.00 million and US\$19.82 million respectively. At completion, the actual project cost of US\$22.04 million and the Bank's contribution of US\$19.86 million were marginally higher than the planned amounts.

Component D showed a large increase in actual costs viz . US\$4.58 million at completion compared to US\$1.92 million including additional financing. This was due to the additional costs for capacity building of the Ministry of Interior and COPECO which were in turn designated as the implementing agency, the first after the mid-term review in 2003.

Tegucigalpa, Honduras' highly vulnerable capital city, was included in the scope of the project in 2004, with the help of a US\$1.95 million grant from the Japan Social Development Fund (JSDF). This was in addition to the project cost figures mentioned in the above paras. The task team ascribes this delay partly to the difficulties in bringing together a multiplicity of agencies involved in DRM under one umbrella agency and a lack of follow-through by some donors to initial promises of assistance.

Two reallocations were approved under the original Credit. First, as part of the 2004 restructuring, a reallocation of SDR 750,000 was made to establish a new category (subprojects) to allow for the financing of mitigation works. These funds were taken mostly from the Unallocated Category. A second, minor reallocation of SDR 53,700 (from Goods to Consultant Services) was approved by the Country Director in June 2005.

Borrower Contribution: The actual Borrower contribution at US\$2.18 million was approximately twice the planned amount of US\$1.18 million, and approximately 10 percent of the final project cost.

Dates: The project was completed in December 2010, nearly five and a half years after the original closing date. In the initial years, the project experienced delays due to changes in the government, reallocation of institutional responsibilities and inadequate capacity. Beginning April 2005, after project restructuring, there were three extensions of the original credit and one exceptional extension of the additional finance (AF) credit: *first*, after restructuring, from April 2005 to January 2007; *second*, in December 2006 and March 2007 to April and September 2007 to allow for the preparation of the additional finance (AF) credit and an orderly closing of the original credit; *third*, to September 2010; and *lastly*, an extension to December 2010 was approved on an exceptional basis by the Regional Vice-President to give the Project an opportunity to recover from the effects of the political crisis experienced by Honduras during the second half of 2009.

3. Relevance of Objectives & Design:

a. Relevance of Objectives:

Original PDO

Honduras' growth and poverty reduction efforts have been hindered by natural disasters, especially hurricanes and tropical storms. Hurricane Mitch (October 1988), is considered to be the worst natural disaster experienced by Honduras in recent years resulting in large scale loss of life displacement of people, agricultural losses, and overall damage amounting to nearly 40 percent of the country's GDP. Environmental degradation, rapid population growth, inadequate infrastructure, and high poverty levels made the country particularly vulnerable to Mitch's effects.

Hurricane Mitch showed the need to strengthen the country's disaster risk management (DRM) capacity. At the same time, Mitch highlighted the important role in DRM of local governments and communities, which proved pivotal in responding rapidly to the catastrophe. Accordingly, the government's request to the Consultative Group of International Donors - established after Mitch to coordinate recovery assistance - emphasized support for local disaster mitigation and prevention, in addition to emergency management, monitoring for early warning, risk and vulnerability mapping, flood mitigation works, and long term watershed management.

The original Project Development Objective focused mainly on an outcome (increased capacity for disaster vulnerability reduction in selected municipalities) that seemed achievable in a five year period. The strategic choice made by the project was to focus on disaster risk reduction instead of post-disaster reconstruction, and to mainstream this into a regular technical assistance operation. The objective was clear and important for the country as indicated by the Government to the donors and in the Bank's country assistance Strategy (CAS) 1999, which was reformulated to emphasize DRM strengthening and specifying this project as the main instrument to start supporting this effort.

The project complemented other efforts of the Bank to assist Honduras after Hurricane Mitch, which included emergency financing through the quick disbursing Hurricane Emergency Project (P064083, US\$200 million); the Bank-administered Central America Emergency Trust Fund (CAETF) established to support Honduras and other affected countries cover multilateral debt service payments; inclusion of Honduras in the Highly Indebted Poor Country (HIPC) initiative; restructuring of the Bank portfolio and processing of supplemental financing totaling US\$110 million

The focus on supporting local capacity development arose from the perceived Bank's competitive advantage in this respect and other donors' plans to assist central DRM agencies. However, in retrospect, the original project objective did not sufficiently account for the need to complement capacity-building at the local level with relevant capacity at the national level. The latter would provide greater coordination across local governments, and have the ability to provide common knowledge and other services and resources in a more efficient manner.

Overall, the relevance of the original objective is rated *substantial*.

Revised PDO

The Mid-Term Review (MTR) showed the need to expand the PDO to ensure further the sustainability of Project activities by focusing simultaneously on institutionalizing DRM capacity at the national level while reducing local disaster vulnerability. The revised Project Development Objective (PDO) therefore additionally addressed national capacity of the country to reduce its vulnerability to natural disasters at the municipal level. The revised objective remains consistent with the current Bank strategy and national development plan. The FY2007-2010 CAS - which included a specific pillar on environmental protection and risk management and an annex on disaster risks and DRM needs - and the FY11 Interim Strategy Note acknowledge the continued importance of investing in risk reduction by improving capacity at all levels of administration. Honduras's National Vision 2010-2038 and National Plan 2010-2022 include disaster risk management as a key objective within the framework of environmental management and climate change mitigation and adaptation.

The relevance of the revised objective is rated *high*

b. Relevance of Design:

Original Design

The project's objective of improving the country's capacity to reduce vulnerability to natural disasters was linked to (a) supporting local capacity development taking into account the Bank's competitive advantage and other donors' plans to assist central DRM agencies; (b) assisting a selected number of vulnerable municipalities, especially those that Hurricane Mitch had left most at risk rather than assuming a general program (while also excluding the two largest cities); and (c) relying on existing agencies in a post-disaster situation rather than creating new ones under the Project.

Expected outcomes included increased DRM capacity and coordination from the central to the local levels; improved forecasting capacity and disaster risk knowledge; and better dissemination of information and early warnings. All these would help to consolidate a culture of prevention in Honduras. At the municipal level, it was expected that "preventive" planning would be institutionalized and that preparedness and response capacity would increase.

The relevance of the original design is rated *substantial*

Revised Design

The original PDO focused on improving capacity for reducing local disaster vulnerability . Following the mid-term review, the need for complementing capacity at the local level with capacity at the national level came to the fore. The project design was expanded to accommodate two complementary outcomes : (a) improving national capacity for disaster risk management, and (b) reducing local disaster vulnerability . The revised objective stayed focused on improving capacity for DRM, while reflecting a stronger emphasis on the need to develop capacity at the local and central levels simultaneously .

The relevance of the revised design is rated *high*

4. Achievement of Objectives (Efficacy):

The original PDO focused on improving capacity for reducing local disaster vulnerability . With the 2004 restructuring, the PDO was expanded to specify more clearly two complementary outcomes : (a) improving national capacity for disaster risk management, and (b) reducing local disaster vulnerability . The ICR states that, rather than being a major change, this decision reflects a stronger emphasis on the need to develop capacities at the local and central levels simultaneously .

Original PDO. To improve the capacity to reduce vulnerability to natural disasters at the municipal level . Rated *Modest*.

Outputs

Training and capacity-building activities were carried out for key agencies such as COPECO and the Ministry of Natural Resources and Environment, and participating municipalities . COPECO's organizational structure has been decentralized to seven regional offices under the project, complemented at the central level with a new Directorate for Prevention . In addition to the improved flood forecasting network, the Ministry of Natural Resources and Environment's staff has been provided training in flood risk assessments and hydrologic simulation modeling . At the same time, participating municipalities have been given better tools and capacities to deal with local DRM issues in partnership with local communities .

According to the mid-term review after three years of implementation, key project results, such as completion of risk and vulnerability analyses and mitigation action plans, were evident in 15 of the 60 participating municipalities . On the other hand, although several major studies were underway, key terms of reference and technical specifications had not been finalized, and some training activities were delayed .

Outcomes

The project contributed to the institutionalization of a DRM system in the country . The project was a vehicle for several innovations which have now become common practice in DRM efforts, notably (a) a methodology for risk and vulnerability analysis and preventive planning that dynamically integrates complex technical and scientific expertise with community knowledge through an educational and awareness raising process for all participants; and (b) a bottom up approach that balances municipal and local communities ' roles and capacity with central coordination and support .

A beneficiary survey that was conducted as part of the final socio -economic assessment of the project indicates that beneficiaries were satisfied with their experience in the project, and a majority of them (94% of respondents) consider that the project helped to reduce disaster vulnerability in their municipality . Respondents were aware of many of the project results . For instance, almost 70% knew of the early warning system and over 98% that emergency committees have been organized and trained in their municipality . Beneficiaries also have a positive view of the impact of mitigation works, and were aware that maintenance was being provided to these works .

The ICR states that after overcoming initial challenges, the project helped to reduce disaster vulnerability at the local level through improved understanding of disaster risk and vulnerability, institutionalization of "preventive planning," better emergency preparedness and response, and identification of mitigation priorities, including the design and implementation of selected works . However, no specific evidence is provided in this regard .

The project covered risk and vulnerability analyses, municipal risk management plans (PMGRs), municipal territorial development plans (PMOTs), and identification and prioritization of mitigation measures that have benefited the population of 81 municipalities (about a third of all municipalities of Honduras) . This methodology was adapted to a large urban setting, benefiting communities in marginal neighborhoods in Tegucigalpa .

The ICR reports that Local officials and communities gained improved disaster risk and vulnerability knowledge

through their participation in the completion of the risk and vulnerability analyses . At the end of the project, the PMGRs based on these analyses were under implementation in 61 participating municipalities. Specific drought management plans were also under implementation in 8 additional municipalities. A relatively simple GIS-based information package (known as integrated system for municipal risk management or SIGRM) has been prepared for each participating municipality, which could be used for the implementation of new projects and future updating.

The ICR states that as a result of the project's support to municipalities, there has been increased demand for mitigation investments; better understanding of the importance of territorial planning, particularly with reference to the challenge of controlling growth in high risk areas; increased interest in, and in some municipalities use of geospatial information for fiscal cadastres that are likely to help increase municipal revenue . These outcomes have been enhanced by the complementary efforts of the Bank -financed Land Administration Program (PATH) in 11 of the municipalities that participated in the project .

Several of the outcomes presented for the revised objective are in the nature of assertions . To be more convincing, there could have been a greater attempt to provide some specific evidence and counterfactual situations. For instance, there needs to be more substantive backing for statements relating to increased demand for mitigation investments, use of geospatial information etc . In view of this the outcome for the original objective is rated *modest*.

Revised PDO. To improve the national capacity of the country to reduce its vulnerability to natural disasters at the municipal level. Rated *Substantial*.

Outputs

Most of the planned outputs were achieved to a large extent . A hydro-meteorological network (including 60 telemetric stations) is fully operational across the national territory . Five community-based early warning systems have been established as planned and are operating with support from the communities and the municipal emergency committees. Eighty-one municipal emergency plans were prepared (against a target of 75) - these municipalities include an estimated population of 5 million people or about 60 percent of the country's population. Ninety-five municipal Disaster Emergency Committees (also against a target of 75) were organized, equipped and trained. A diagnostic of emergency and communications equipment needs was finalized as planned. In coordination with the Bank-financed Land Administration Program (PATH) and the Forest and Rural Productivity Project (PBPR), a wireless network was established for Tegucigalpa's metropolitan area that facilitated inter-connection of key DMR agencies and data transmission . Over 3,500 sheets of geospatial information produced through the project had been provided to the Project Coordination Unit (PCU) of the Land Administration Program (PATH). A program for raising disaster awareness was implemented in 60 municipalities as planned, including in the capital A National Plan for Disaster Awareness Raising was prepared as planned, including the design of radio and TV spots, posters and other materials . city. Vulnerability analyses and priority mitigation measures were identified for 81 municipalities as planned. A total of 155 designs were completed for 61 municipalities (target 66); and 59 mitigation works completed in 57 municipalities (target 53). Drought mitigation measures implemented in 8 municipalities in Choluteca department against a target of 15.

The project supported the preparation and consultation process that led to the approval of the 2009 SINAGER Law that formally established the national system for risk management . The Law's approval is the culmination of a concerted effort whose building blocks include, inter alia, the 2003 Territorial Planning Law - which the project helped to promote in selected municipalities - and the 2005 adoption of the recommendations of the strategic objectives and priority actions of the 2005-2015 Hyogo Framework for Action (HFA).

Some planned outputs were not fully achieved or were not able to move to the implementation stage . Seven early warning systems for landslides were completed (against a target of 8); and Monitoring System for droughts were designed for 25 municipalities (against a target of 18), but their implementation has not yet started .

Outcomes/Intermediate Outcomes

The ICR states that the project contributed to stronger institutional capacity and coordination, better forecasting accuracy and timeliness, increased information and knowledge, and better preparedness . These results are expected to have facilitated the shift towards a culture of prevention in the country, as corroborated by interviews and field visits in 2010 across a sample of participating municipalities . Institutionalization of DRM capacity is evidenced by COPECO's improved performance and its expanded mandate beyond emergency response, and by the stronger risk monitoring capacity of the Ministry of Natural Resources and Environment .

Improved forecasting accuracy and timeliness has resulted from the integrated national monitoring, forecasting and decision support system developed by the project . Presently, due to the improved early warning system,

vulnerable populations, businesses and rural producers within four of the main watershed systems of the country (Ulúa, Chamelecón, Choluteca and Aguán) can be informed of hydro-meteorological events in a timely and reliable manner. Effectiveness of the system, which has been demonstrated during recent events such as Tropical Depression 16 and Tropical Storm Agatha, is supported by technological and scientific improvements, better collaboration across key agencies, and better defined protocols for data sharing and dissemination of warning messages. Flood forecasting capacity has been expanded through community-based early warning systems in five additional smaller watersheds. Furthermore, initial efforts to monitor selected areas susceptible to landslides and of drought conditions in the southwest have increased early warning capacity while bringing benefits to additional communities.

Improved information and knowledge has resulted from the project-sponsored national campaign led by COPECO - centered on the notion of "to prevent is to live" (prevenir es vivir). This helped improve the understanding of risk and vulnerability among the public. Although the impact of mainstreaming prevention into the primary education curriculum was not formally evaluated, there is field evidence that teachers in public schools, including in Tegucigalpa, have been using the guides and other materials prepared under the Project.

Emergency response can currently be activated effectively from the central level (through the National Emergency Response Center COEN) to the emergency committees (CODEMs) in most of the 298 municipalities of Honduras and many local committees (CODELs) within each municipality. Although difficult to evaluate since it is not possible to compare disasters of different magnitude and effects, an initial analysis shows that capacity to evacuate and to shelter affected population has improved. Willingness to evacuate, at the same time, reflects increased disaster risk awareness among the population. While the speed of emergency response among population in target municipalities was not measured as planned, (target was to increase speed by 75% and mistakes decrease by 50%), responses provided during recent disaster events indicate improvements in emergency response capacity. The ICR states that these results are likely to have contributed to saving lives in recent disasters.

Institutionalization of preventive planning has occurred through the PMOTs developed under the project that are being applied in most of the participating municipalities, including land use guidelines that take into account disaster risk. Further, PMOT guidelines have increasingly been taken into account in the decisions in these municipalities related to the location of private and public investments. This was the case, for instance, in Choluteca in 2008 regarding the location of new maquilas in the southern part of the municipality, which are critical for the economic future of the area; in Trinidad regarding the location of a new health center, middle-school and a housing development; and Santa Rosa de Copan regarding a new housing development.

All participating municipalities were integrated into the national emergency response network through the emergency committees (CODEMs) and local committees (CODELs) established by the project. Overall, it is estimated that close to 10,000 people were trained on DRM at the local level. The ICR states that the impact of the training and equipment provided to emergency committees has been made evident by the effective response seen in some of the target municipalities and communities during recent events, though no evidence is offered in this regard. Some of the mitigation works such as improved drainage systems and small bridges financed under the Project have also helped to improve evacuation routes.

As during the period before restructuring, some of the outcomes presented for the revised objective are in the nature of assertions. While relatively more evidence and examples are presented, there could have been greater clarity of baseline data where it was feasible and a more concrete measurements of incremental results that can be more firmly attributed to the project's interventions. While it is noted that results from interviews and field visits were used to strengthen evidence, there is little focus on the counterfactual to strengthen the attribution to the project.

5. Efficiency:

Original objective: The ICR notes that the Project efficiency could be clearly ascertained due to lack of a specific ex-ante analysis, because of the emergency nature of the project. This does not seem very convincing because the Some initial indication of the project benefits related to mitigation works is deduced from the per capita investment per direct beneficiary, which was about US\$ 48.81 - relatively low in light of the potential savings in loss of life and property. The project was completed in December 2010, nearly five and a half years after the original closing date which can be partly attributed to events that were prominent until project restructuring, including changes in the government, reallocation of institutional responsibilities and inadequate capacity. Efficiency for the original objective is rated *modest*.

Revised objective: As detailed in Annex 3 of the ICR, an independent ex-post economic analysis was

conducted to evaluate the economic efficiency of a sample of 21 structural mitigation works, or 35 percent of the total financed under the project. This economic analysis provides indications of positive economic efficiency derived from these investments, with an average economic rate of return of 50.68 percent. The economic benefit stream was calculated through the avoided damage cost method assessed as the cost of direct damage likely to be caused by the disaster event that the mitigation work would help avoid within its area of influence. Beginning April 2005, after project restructuring, there were three extensions of the original credit and one exceptional extension of the AF credit: *first*, after restructuring, from April 2005 to January 2007; *second*, till September 2007 to allow for the preparation of the AF credit and an orderly closing of the original credit; *third*, to September 2010; and *lastly*, an extension to December 2010 was approved on an exceptional basis by the Regional Vice-President to give the Project an opportunity to recover from the effects of the political crisis experienced by Honduras during the second half of 2009. Efficiency for the revised objective is rated *modest*.

a. If available, enter the Economic Rate of Return (ERR)/Financial Rate of Return (FRR) at appraisal and the re-estimated value at evaluation :

	Rate Available?	Point Value	Coverage/Scope*
Appraisal		%	%
ICR estimate	Yes	50.68%	0%

* Refers to percent of total project cost for which ERR/FRR was calculated.

6. Outcome:

The relevance of the original project objective is rated *substantial*. After being revised to address DRM at the national level and linking it to that at the local level, the project objective became more comprehensive and its relevance is rated *high*. Original project design is rated *substantial* while the revised design incorporating national level agencies is rated *high*. Efficacy is rated *modest* before restructuring and *substantial* after restructuring based on evidence presented for gains in DRM capacity from the local to the national level and reduction in local vulnerability. Efficiency is rated *modest* both before and after restructuring, given the delays in project implementation which were at least partly under the borrower's control. On the basis of these ratings, project development outcome is rated *moderately unsatisfactory* before, and *moderately satisfactory* after restructuring of the project.

Under the Bank's harmonized guidelines for restructured projects, the overall outcome is assessed considering separate ratings for the original and revised objective, and weighting each rating in proportion to the share of actual credit funds disbursed before and after the approval of the restructuring. Based on the disbursement shares before and after restructuring, the weights used are 22% and 78% respectively. On a scale of 1 to 6, moderately unsatisfactory is 3 and moderately satisfactory is 4. The weighted rating is 3.74, which after rounding yields 4 or *moderately satisfactory* overall.

a. Outcome Rating : Moderately Satisfactory

7. Rationale for Risk to Development Outcome Rating:

There is strong local ownership of project investments and demands from a more engaged and educated population. Integration of DRM issues into municipal planning processes and increased awareness of the consequences of climate change will also contribute to continuity of the efforts started under the project. Development outcome, however, faces several internal and external risks, but with mitigating factors /actions to different extents.

Internal Risks: (a) Insufficient budget for COPECO compared with its expanded mandate for mitigation and prevention makes it difficult to implement the plan of permanently integrating TCU and the Support Group for External Assistance (GAAEX) staff into the agency. The government is considering options to establish a DRM fund but external resources will continue to be needed. For now, several TCU members have been hired under the Inter-American Development Bank-financed operation which will ensure continuity of approach and technical capacity; (b) Staff turnover following changes in government makes it difficult to sustain technical capacities at the local level. The project has sensitized local authorities to the need for recruiting and maintaining qualified technical staff. (c) Ensuring O&M of key investments, including (i) mitigation works, (ii) the hydro-meteorological

network and (iii) community-based early warning systems.

For mitigation works, the first round of mitigation in 2006 has been carried out well, and local authorities and communities are fully engaged in the process. Moreover, most works are small, with low budget maintenance demands. These factors, together with community awareness should help promote adequate O&M. (ii) For the hydro-geological network, the Ministry of Natural Resources and Environment will assume responsibility, but the entity has not always managed to allocate sufficient human and financial resources for this task or for the required training in the past. (iii) For community-based flood early warning systems, COPECO 's continuous engagement and renewal of basic equipment will be required in close partnership with local municipalities and communities

External risks: The hydro-meteorological system is not immune to damage from a major catastrophic event. The impacts of the project's mitigation investments could be overwhelmed by environmental degradation and the substantial and increasing number of population living in high risk locations. In particular, voluntary relocation to safer places and minimizing resettlement of freed up high risk locations represent a major social and economic challenge.

However, focus on disaster risk reduction will continue through regional initiatives and specific country efforts financed by other agencies and potentially the Bank (including the Bank-supported Central American Probabilistic Risk Assessment (CAPRA) platform) and the strengthening of the Central American Coordination Center for Natural Disaster Prevention (CEPREDENAC). New operations for DRM have been started or are under consideration including the IDB-financed Disaster Risk Prevention and Mitigation Project (US\$19 million) being implemented by COPECO, which is part of a US\$74 million conditional credit line to consolidate disaster management in Honduras.

a. Risk to Development Outcome Rating : Significant

8. Assessment of Bank Performance:

a. Quality at entry:

The Project was prepared following an intensive consultation process with national and local stakeholders and in coordination with donors. There was close collaboration between Bank and Borrower during project preparation. While other donors were already providing support to the definition and strengthening of the national institutional framework necessary for a disaster management system, the Bank initially supported the national institutions only in specific tasks which complement other donors' assistance and concentrated on disaster mitigation at the local level.

At appraisal, the Bank had substantial experience in financing post-disaster recovery operations, but investing in mitigation and prevention was not yet central to development policy and strategy. The Bank had established a central Disaster Management Facility and in early 2000 launched a major global consortium (ProVention) towards this end. This project provided an opportunity for the Bank to support for the first time efforts focusing exclusively on DRM, along with the Nicaragua Natural Disaster Vulnerability Reduction Project (P064916, US\$16.05 million; 2001-2009).

Project design benefited from studies of the social, economic and environmental consequences of Hurricane Mitch and underlying factors contributing to the country's vulnerability. Project design also benefited from specific institutional, economic and gender analyses, and early drafting of local risk assessment methods. Importantly, an assessment was carried out to develop the list of eligible municipalities. Project design was flexible, allowing for adjustments to reflect emerging good practices relating to institutional strengthening and engagement of local governments and communities, as well as inclusion of financing of mitigation works and drought management when it became clear that these were important issues. The set of natural hazards initially considered - floods and landslides - was also broadened to include droughts and forest fires as they emerged as critical issues in certain municipalities.

In retrospect, the project design seems to have underestimated the challenges of the project related to the critical Post-Mitch situation and existing institutional weaknesses. But this is to be viewed in the context of the difficult post-Mitch situation and the complex institutional disaster management setting that existed in the country at that time. Several risks identified at appraisal materialized at some point during project implementation. The capacity of some of the implementing agencies were overestimated. The risk of coordination problems between implementing agencies under a decentralized arrangement - and rated as moderate, came about early in the project. The mitigation measure included in the project design of

establishing a high level Inter-institutional Coordination Group proved ineffective until a better option was found. Another risk that proved difficult to mitigate and that affected especially the capacity building activities was the turnover of staff in some of the implementing agencies and municipalities due to government changes after elections.

Quality-at-Entry Rating : Moderately Satisfactory

b. Quality of supervision:

The Bank's Quality Assurance Group (QAG) rated initial supervision as satisfactory. The ICR states that in general supervision missions were timely and solution oriented. Procurement and financial management were also well supervised. Supervision of safeguard issues was relatively weak, but the Bank conducted compliance assessments and confirmed that no negative social or environmental impacts were identified as a result of project activities. Mitigation works were of a small scale and reflected the requirements of the agreed negative list. Supervision missions should have, however, followed up closer on the economic analysis and evaluation arrangements (especially after the additional financing).

The mid-term review - conducted in June 2003 - noted weaknesses in project management, lack of coordination between implementing agencies, and insufficient progress in project implementation. The ICR states that mid-term review ultimately resulted in effective decisions and agreements (through a major project restructuring), and handling critical issues affecting project implementation, including bringing in additional international expertise with trust fund resources. While the ICR notes that the project extensions granted by the Bank were a sign of flexibility, they might also have indicated continuing lack of clarity of intended project outputs and outcomes.

Quality of Supervision Rating : Moderately Satisfactory

Overall Bank Performance Rating : Moderately Satisfactory

9. Assessment of Borrower Performance:

a. Government Performance:

The ICR states that government showed sustained commitment to the project development objective, including especially the concerted effort to consolidate the legal and institutional framework for DRM in the country while strengthening key agencies and local governments. Given the inter-sectoral nature of the project, coordination issues were expected to arise. Nevertheless, the priority given to the project by successive governments, which consistently provided an enabling environment for project implementation, facilitated the resolution of critical constraints. At times the project experienced delays due to government changes after elections, but for the most part staff in the TCU and the Support Group for External Assistance (GAAEX) were retained throughout implementation. Local governments also performed satisfactorily despite changes in administration.

Following project restructuring in 2004 and till 2007, implementation was centralized under the Ministry of Interior to improve management effectiveness and to reflect the Government's decision to establish a multi-project coordination unit that could promote synergies across three related, cross-sectoral Bank-financed operations. The Ministry of Interior did not consistently provide adequate follow-up to project issues, especially after the large TCU was dismantled.

Government Performance Rating Moderately Unsatisfactory

b. Implementing Agency Performance:

Implementation arrangements experienced three significant changes over the project period, reflecting the evolution of the country's institutional framework for DRM, government priorities, and efforts to strengthen implementation arrangements:

In the first stage - which covered about one third of total project period - implementation was decentralized, with each component under the purview of a different agency (the Ministry of Natural Resources and Environment, COPECO and the Association of Honduran Municipalities, AMHON). These agencies operated under a high level Inter-Agency Coordinating Group (GIC), with a Technical Coordination Unit (TCU) for promoting the project among municipalities and for day-to-day coordination. Procurement and financial management was assigned to the Support Group for External Assistance (GAAEX). The three decentralized implementing agencies did not perform as expected in part due to complex institutional arrangements that led to a lack of project leadership and slow decision making .

With the approval of the additional financing Credit in 2007, the government institutionalized project activities within COPECO in order to consolidate further the country's DRM system. The TCU was integrated into COPECO's organizational structure. The Support Group for External Assistance (GAAEX) was transferred to COPECO and remained as the fiduciary unit to the end of the Project . COPECO demonstrated commitment to the project, ensured continuity of TCU and the Support Group for External Assistance (GAAEX) staff, integrated TCU staff within its organizational structure, and provided close attention to critical implementation issues. For instance, during the political crisis in 2009 COPECO proactively advanced key bidding processes and had many of the contracts for mitigation works ready for signature when the Bank re-started its activities in the country.

Implementing Agency Performance Rating : Moderately Satisfactory

Overall Borrower Performance Rating : Moderately Satisfactory

10. M&E Design, Implementation, & Utilization:

a. M&E Design:

The indicators in the original project results matrix were in the nature of output /intermediate outcomes that covered participation by municipalities in major project activities, and were defined too broadly . The main indicators were: participation of at least 60 Municipalities in vulnerability reduction programs; prevention and mitigation themes mainstreamed into national primary education curriculum; increase in speed of emergency response among population in target municipalities (target: 75%) through simulation of hydro-meteorological emergencies, and decrease in mistakes (target: 50%); national Flood Forecasting System functioning adequately; National building code revised to include seismic and wind hazards . Specific definitions and methodological precision were lacking in the Operational Manual .

Following restructuring, two indicators were revised, a new one was added, and one was eliminated, but all of them were also in the nature of output/intermediate outcomes:

- At least 81 municipalities have participated in vulnerability reduction programs (including production of vulnerability maps, and prioritization of mitigation measures), and further, at least 60 have introduced "preventive" municipal planning based on the vulnerability reduction programs into municipal development ordinances (Revised)
- National Flood Forecasting System and community-based early warning systems established under the Project functioning adequately (Revised)
- National Information Territorial System (SINIT) fully operational for disaster-related information (New)
- National building code revised to include seismic and wind hazards . (Eliminated)

The ICR states that it was challenging to identify suitable outcome indicators given the "innovative" nature of project design and the critical Post-Mitch situation still prevalent during preparation . Establishment of baselines, in particular, could have been costly and time consuming . Nonetheless, development of a practical methodology and baseline survey to measure some of the key economic, environmental, social, and gender impacts identified in the PAD should have been attempted, more so at the time of project restructuring and especially for the additional financing.

b. M&E Implementation:

Despite methodological limitations, an M&E system was implemented and progress reports sent to the Bank as

required. Measurement of two outcome indicators, however, was not as adequate, (a) *improvement in hydro-meteorological emergency response capacity at the community level*: this which required comparing emergency response before and after participation in controlled simulation exercises; a simulation exercise was carried out, but although effective for training it was not useful to measure this outcome; and (b) *establishment of an adequate national flood forecasting and early warning system*: reporting was based mainly on the progress on equipment installed and publication of information, while timeliness and accuracy of the information was not assessed over time.

c. M&E Utilization:

M&E utilization was limited to the use of periodic monitoring of project progress to adjust activities, budget and procurement plans.

M&E Quality Rating : Modest

11. Other Issues

a. Safeguards:

The original Project focused on technical assistance and was placed in Category "C" under the Bank's environmental and social safeguards policies. At project restructuring in 2004, which added small mitigation works, the project was re-categorized from "C" to "B" and additional safeguard policies for Cultural Property and Indigenous Peoples were triggered. As required, an environmental assessment (EA) and an Indigenous Peoples Planning Framework (IPPF) were prepared and publicly disclosed.

In the initial stages, all relevant measures that were identified in the EA were not fully integrated into the preparation and execution cycle of the mitigation works; and supervision of these works by the implementing agency and the municipalities did not always focus on environmental aspects. Some 25 mitigation works were started even as written clearances from FHIS on environmental soundness were yet to be obtained. This was done to prevent further delays in implementation of mitigation measure that had already been delayed by the political crisis.

This situation was satisfactorily resolved and all mitigation works had their environmental clearances and /or licenses before the end of the Project. The project did not result in any negative environmental impacts, as corroborated by field visits carried out in 2010. On the other hand, mitigation works - which were of a small scale - have had positive environmental impacts. The Project strengthened environmental management through local preventive planning and non-structural mitigation works, and assistance to the Ministry of Natural Resources and Environment and municipal environmental units (UMAs).

The ICR states that a social safeguard mission in 2010 confirmed that indigenous and Afro-Honduran peoples were appropriately consulted and, consequently, project activities took into account their social organization and culture. No specific Indigenous Peoples' Plans (IPPs) were prepared, given that most mitigation works were of a minor and localized nature and that the project included a variety of consultation mechanisms and participatory methodologies. The ICR states that at least eight mitigation works directly benefited indigenous communities, four benefited urban neighborhoods with indigenous communities, and that indigenous communities were generally satisfied with the project's consultation and decision making process.

Also, given its experience and performance at the time, collaboration of the Honduran Fund for Social Investment (FHIS) was added to the project to ensure adequate construction of the mitigation works and environmental safeguard compliance. The team confirms that the project was in compliance with the Bank's environmental and social safeguards policies.

b. Fiduciary Compliance:

Financial management and procurement for this project was consistently satisfactory despite systemic fiduciary issues across the country portfolio. No major fiduciary issues requiring Government or Bank attention emerged throughout the project implementation period, as corroborated by audit reports and procurement post-reviews. The project team confirms that there were no qualified audits. Satisfactory performance was helped by strengthening and maintaining the same fiduciary unit (the Support Group for External Assistance (GAAEX)) for the project despite changes in implementation arrangements; and by the relative autonomy of GAAEX and the continuity and commitment of its team. Fiduciary capacity also contributed to the approval of additional grant

funding (such as JSDF and PHRDs) for the project.

c. Unintended Impacts (positive or negative):

The experience from project design, approaches and methodologies from this project were taken into account by other Bank-financed operations in Honduras, such as the Forest and Rural Productivity Project (PBPR, P064914, 2004-2010); or the Colombia Disaster Vulnerability Reduction Program (P082429, Phase I approved in 2005).

d. Other:

The gender approach mainstreamed into project design facilitated women's participation and access to information. According to interviews in selected communities, female beneficiaries were generally satisfied with their engagement in project activities. This is an important result since women tend to have more limited literacy levels and time availability to participate in meetings due to socially and culturally assigned gender roles. The Project also worked with men to promote a gender approach that attempted to balance their assumed role as "protectors" - which has often resulted in higher mortality among males as was the case during Hurricane Mitch - and the building of community wide support systems more inclusive of women.

12. Ratings:	ICR	IEG Review	Reason for Disagreement / Comments
Outcome:	Satisfactory	Moderately Satisfactory	Insufficient evidence for several outcomes including capacity to evacuate and speed of emergency response
Risk to Development Outcome:	Moderate	Significant	Prospect of insufficient budget for COPECO; staff turnover; uncertainties in ensuring O&M of key investments; possible impact of environmental degradation and from population in high risk locations
Bank Performance:	Satisfactory	Moderately Satisfactory	Weaknesses in supervision of safeguard issues; insufficient follow-up on economic analysis and evaluation arrangements
Borrower Performance:	Satisfactory	Moderately Satisfactory	Initial shortcomings in decision-making of project leadership from complex institutional arrangements; delays due to government changes
Quality of ICR:		Satisfactory	

NOTES:

- When insufficient information is provided by the Bank for IEG to arrive at a clear rating, IEG will downgrade the relevant ratings as warranted beginning July 1, 2006.
- The "Reason for Disagreement/Comments" column could cross-reference other sections of the ICR Review, as appropriate.

13. Lessons:

The ICR provides several lessons, of which four are adapted and highlighted here.

The subject matter of a disaster risk management project can span several sectors, and the project's impact can be enhanced by coordination with other relevant Bank projects or national programs. This project introduced organizational changes that promoted coordination and integration with other national initiatives in land administration, land-use planning, and sustainable natural resource management.

By implementing processes for consulting with local organizations, a disaster risk management project can improve its relevance and effectiveness, particularly in social development aspects . This project's experience showed that local organizations generally have a better knowledge of the geography of the area, understanding of the population's mindset, contacts with the local authorities, and a good grasp of the needs of the population. In most cases, the local organizations showed a remarkable sense of commitment toward the most vulnerable and poor .

Crises provide opportunities to promote change, even if the environment for coordination and implementation is challenging. In this project, the post-Mitch situation - though an unfortunate event - focused the attention and improved the commitment of the the government and population to address organization changes and facilitate the improvement of the country's disaster vulnerability and and disaster risk management capacity .

14. Assessment Recommended? Yes No

Why? Yes. As a pioneering project for disaster mitigation, it will be very instructive to assess the extent to which the project's achievements have been sustained given the complex institutional environment under which they were implemented. This experience will be of particular interest to other disaster -prone countries in the LAC region and elsewhere.

15. Comments on Quality of ICR:

The ICR is written in a very clear, thoughtful and analytical manner . The document has made a strong attempt to provide evidence of outputs and outcomes . The lessons are well-grounded in the project's institutional and implementation experience. The core portion of the document is concise, and extensive and relevant information is provided in annexes.

a.Quality of ICR Rating : Satisfactory