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Regional workshop on Disaster Risk Reduction and Climate Change Adaptation in Urban Settings: From theory to practice

Proceedings elaborated by Dr. Fernando Aragón-Durand

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KEY MESSAGES

Urban governability is central to the social and political viability for risk management actions in terms of acknowledging the inequalities in distribution of power amongst the social groups, the state, and the conflict of interests.

Acknowledging risk transfer and benefits in decision-making between all different groups must be a component part of governability construction oriented towards climate change adaptation.

In general there were acknowledgements about limits and lack of capacity to reduce disaster risk, and the impact of climatic dangers upon the majority of Central American urban settlements. This may be due to the lack of correspondence between the magnitude of the problem, available resources and capacities, and weak public institutionalism to drive urban governability.

A challenge regarding governability is identifying structures that are able to link management strategies with local actions. Governability for climate change adaptation must consider, or create innovative, transparent, and flexible mechanisms for land and urban planning.

In order to improve central and local governments' adaptive capacities together with those of vulnerable groups, it is necessary to create and reinforce mechanisms to overcome the institutional fragmentation and isolation, thus guaranteeing sustainability of land and urban planning.

With regard to risk management and climate change adaptation there has to be an integrated approach that encompasses all from strategies and policy down to its application at local areas.

The suggestion to integrate demographic dynamics was made in regards to drawing up adaptation measures with the purpose of estimating growth projections and the distribution of population within territories. As so, to propose concrete actions in order to reduce human settlements' vulnerability under any adverse climate change impacts and climate variability.

The suggestion to prioritize actions with political impact, social pressure and accountability so that public and private decision-makers assume their leaderships and responsibilities in generation of politics and disaster risk management strategies and climate change adaptation.

REGIONAL WORKSHOP ON
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IN URBAN SETTINGS: FROM THEORY TO PRACTICE
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I. INTRODUCTION

The global concerns in regards to climate change, and hydro-meteorological disasters has risen, among other reasons, due to devastating consequences over massive floods around he world over the past few years, particularly in Asia and Latin America. These concerns could be due to the growing influence that rhetoric is having in the design and implementation of national development policies, and the difficulties faced by governments to prevent disasters, mitigating consequences and damage restoration. This way, national governments, and to a less extent local ones, have built capacities to reinforce civic protection systems with the intention of transforming them into real prevention systems, and which would have the reduction of risks as an objective on one hand, and on another hand, having designs and strategies for climate change under programs as well as mitigation and adaptation actions.

In spite of having scientific communities and decision-makers reaching agreements about the importance of binding disaster risk management (BRM) agendas together with climate change adaptation (CCA), both agendas continue to be unattached. Part of an explanation rises from the technical-conceptual differences that both the risk management and the climate change adaptation communities have in regards to natural hazards, risk, and vulnerability. In the words of Aragón (2011:133), these communities differ over what type of problems, and what type of knowledge needs to be addressed to solve them. Therefore, the measures and political reaction consequently do not necessarily converge nor even complement, in common objectives. In a few words, BRM and the CCA have different public policy values.

This lack of interrelation exists, in spite of what Helmer and Hilhorst point out (2006, quoted in Aragon, 2011), as seeming an obvious relationship between both public policy communities, when considering the way in which climate change is modifying the disaster risk; additionally, to how reducing the risk could contribute favorably to the CCA. Concerning this, human settlements represent a great opportunity to engage both public policy communities; because within these settlements on a daily basis, and in the face of hydro-meteorological hazards that place further risks onto cities' governability. The role played by the national and local governments, as well as the non-governmental and humanitarian organizations is crucial in contributing to the preparation of human groups, as much as to the reinforcement of the institutions dedicated to the prevention of disasters.

II. BACKROUND

The regional meeting "Risk Management And Climate Change Adaptation In Urban Settings: From Theory To Practice" that was carried out in the City of Tegucigalpa, Honduras during October 18th to 20th 2011, stretched bonds between different public institutions, non-governmental organizations, and experts working in Latin America on disaster risk management and humanitarian assistance, with the purpose of finding key elements taken up as a basis to build an adaptive capacity towards climate change. Establishing programs, and joint cooperation actions, which may affect to improve practices, within public policy as much as in local management has helped to achieve this capacity building effort.

Some initiatives about the urban risk management carried out in this region left us with a bundle of lessons, and good technical practice tools that have been considered by several actors, which provide with Regional assistance on this issue to the Central American countries, such as the "Radius" —UN Department of Human Affairs, during 1996 to 1999—; the Earthquake Megacities Initiative (EMI)

in 1998; the United Nations International Seminar on Integrated Risk and Vulnerability Management Within Latin American Municipalities For Disaster Reduction (ISDR)/CRID/UN-Habitat / IDRC, 2007; The Andean Cities' Risk Reduction Project UNDP/DIPECHO 2006-2007, the DIPECHO Project by the UNDP (2007-2008) and the OCHA/CRID (2008-2010) on experiences systematizing, and disaster preparedness tools in Central America, and the Regional Urban Risk Reduction Program by the UNDP together with the CEPREDENAC during 2008-2010.

In addition, a wide official call for participation as a first session's product was made by the March 2009, Regional Disaster Risk Reduction Platform For the Americas (in Panama) aimed at local governments, institutions, organizations and individuals to present technical articles regarding the disaster risk management in the Latin American Cities. Upon it, the aimed goals were: a) To acknowledge and publicize current practices, experiences, and research related to disaster risk management for the cities in this region; b) To broaden the actors' network which are interested in participating and make in depth analysis about the disaster risk in urban settings by means of the Urban Risk Topic Platform, and c) identifying current opportunities in city's risk management which could benefit from synergies and alliances together with other regional and global actors. One of the main products of this official call has been the compounded publication of 13 selected articles, presented by university representatives, research centers, NGO's and management consultancy experts from eight countries in this region, specifically, Mexico, Guatemala, Salvador, Colombia, Venezuela, Peru, Uruguay, and Bolivia. [1] Upon this *Urban Risk Topic Platform*, bound to ISDR, set forth by the *Global Platform*, there is a foreseeable reinforcement to local governments' capacity building of the Latin American and Caribbean Region. This support will incorporate disaster risk management into urban settings' development processes; also provide means of accessing and participating in the regional dialogue, that will

[1] See http://www.eird.org/plataforma-tematica-riesgo-urbano/recopilacion-de-articulos/index.html

facilitate common issue analysis, and experience and knowledge exchanges; together with the reinforcement of their own risk management processes and further driving cooperation initiatives among cities, and other strategic actors, as well as bringing about practices in risk reduction by way of applying the Hyogo 2005-2015 Action Framework, and other sustainable development policies. This includes the Integrated Risk Management Policy in Central America.

The 2010-2011 International Disaster Risk Reduction Campaign named "Developing Resilient Cities" which deals with topics like local governability and urban risk, based on the campaigns on risk reduction in schools and hospitals, as well as on sustainable development principles included in the UN-HABITAT Urban World Campaign, which intends to articulate efforts in the region to generate a common agenda, which would allow to reduce risks and empower the local authorities towards leading these processes.

The regional workshops on urban risk management carried out during June and August 2011, in Haiti under the coordination of the Red Cross International Federation in the frame of its DIPECHO VII Regional Project, have contributed with learned lessons, and recommendations by all societies with the Red Cross, agencies in the UN, and NGO's that have been working on this topic for some years now. The *Virtual Forum on Urban Risk Management*, supported by the Red Cross International Federation and the UNDP from June until September 2011, has dealt with discussion topics about key aspect in urban setting risk management.

In contrast with the urban risk management, in which several experiences and actions are set forth, there is lack of initiatives for climate change adaptation started by city governments in Latin America; i.e. Mexico City and Sao Paulo. There is an incipient component belonging to climate change adaptation in cities, and frequently this refers to actions to reduce the hydro-meteorological risk, which

has been used to reach the rhetorical intention, meaning, “something is being done”.

In 2010, Honduras was one of the two countries, together with Senegal which, accounting for financial support from the UNFCCC Adaptation Fund; the support aimed at implementing a project on adaptation to climate change focused on water resources and urban settings. Such project started activities in mid 2011 taking up previous project’s actions to boost; that is, cross-implementation on planning process for climate change. Even though these actions are still in a level of pilot-project actions, there is ongoing work with the Planning Ministry (SEPLAN), in order to reinforce institutional capacity, and have risk management included in all planning processes, and considering climate change adaptations measures.

Even though we could now have existing spontaneous adaptation elements in the region’s urban settings, there has to be adaptation in a cross-implementation process while planning, within which there are converging sector measures. A first step in design and promotion of climate change actions in cities is binding both agendas: the disaster risk management, and that of the climate change adaptation; these, can be implemented by risk management. There are however, changes in methodological aspects, information administration, and planning that are necessary in order for climate change adaptation to become a key value for urban policy making. The relevance this takes is that more Central American people have become vulnerable to climate change effects.

Just as mentioned by Guzman, et. al. (2009:4), the urban settings do not only concentrate a great proportion of population growth and activities that contribute to climate change but also people and activities that must adapt to their consequences. For example, the climatic risks to which some populations are exposed to in dry plains, or on coastal settlements.

The collection of documents produced on learned lessons about risk management processes and on climate change adaptation will be applied to make a “halt on the road” to reflect on what our nation’s development processes requires to go “from the lessons to the actions”, to be precise, what is required to join both agendas. This meeting was a shared participation process among the associates of the DIPECHO Program in Central America; specifically the UNDP office in Honduras within the frame of the “Seismic and Landslide Risk Reduction” Project, and the Adaptation Fund “Honduras Water Resources In Face of Climate Risks: Resilience Increasing and Vulnerability Reducing in Urban Poverty Areas” implemented by the UNDP and put in practice by the Natural Resources Ministry (SERNA).

III. OBJECTIVES

1. To share knowledge, technical tools and the region’s developed experiences by organizations that are linked within the topics issues.
2. To document the recommendations about how to move from “the lessons to the actions” on the risk management and climate change adaptation processes in urban contexts.
3. To contribute with elements bringing “from theory to practice” to join both topics issues risk management and climate change adaptation in urban contexts.

IV. GROUP DYNAMICS IN HE MEETING

This meeting was carried out throughout four separate stages: 1) Meeting introduction and framework for discussions on risk reduction and climate change adaptation; 2) Three panel discussions: a) *Governability and development planning*, b) *Risk reduction measures and climate change adaptation*; c) *Post-disaster recovery*; 3) A field visit to the landslide risk areas in Tegucigalpa City; 4) Three topic round-tables on experiences and lessons which correspond to three discussion panel, in addition to general conclusions.

First Stage

Manuel Lopez Luna from Natural Resources and Environment Ministry was in charge of the inauguration of the meeting, who also represented the Adaptation Fund "Honduras Water Resources In Face of Climate Risks: Increasing Resilience, and Reducing Vulnerability in Urban Poverty Areas". Dennis Funes, the Project Coordinator of the "Seismic and Landslide Risk Reduction" Project in the Tegucigalpa UNDP Program, gave inauguration words. Also, he opened with a general introduction to this meeting, stressing the importance about articulating the disaster risk management together with the climate change adaptation for urban settings. Later, he presented the theoretical fundamentals behind risk management, particularly those for the Central American Region. He alluded to the structuralism perspective for disasters, for which he defines the term disaster as the materialization of risk, that as a result of the production of vulnerability to natural phenomena within society's sectors. In regards to it, disaster risk management must foresee all aspects from local actions that react towards key vulnerabilities all the way to an institutional response, which promote the reduction of social poverty and marginality and in actions brought to fruition reducing the environmentally unsafe conditions.

Likewise the Mexican risk, vulnerability and urban adaptation to climate change expert Dr. Fernando Aragon, presented a few theoretical elements on adaptation to climate change to enclose discussions at the meeting by including this event's principal assumption:

> *Adaptation to climate change in the cities*
> *is an achievement that can be reached by means of*
> *disaster risk reduction and vice versa.*

Second Stage

Subsequently, there were three panel discussion meetings to address the binomial key aspects risk reduction, and climate change adaptation:

1. *Governability and development planning;*
2. *Risk reduction measures and adaptation to climate change, and;*
3. *Post-disaster recovery.*

In each panel two groups of elements were included:

a) Perspective and the expert's theoretical framework; b) Technical tools and learned lessons through concrete actions on risk management and climate change adaptation in urban settings on behalf of associates DIPECHO, SE-CEPREDENAC and other organizations in this region. This later part was illustrated by the Uruguay, Honduras, Nicaragua and Peru cases.

Third Stage

During the last day's morning, a visit was made to the sites exposed to landslide and flooding risks in Tegucigalpa to make appraisal of the physical and social-economic processes contributing to such risks. The visit covered the districts Altos de Loarque, Ulloa, Kasandra and Barrio El Chile. During the afternoon that same day, there was a topic-block on post-disaster recovery through the same discussion format.

Fourth Stage

On the third day, there were three round-tables intending to document discussions to build proposals expressing how to transit "from the lessons to the actions" and "from theory to practice" in terms of risk management and climate change adaption in urban settings. All three round-tables had previous topics from both two-day former discussions as per this later day's agenda on discussions. The panel discussion on learned lessons regarded the collected experiences in UNDP as a

leadership figure for an Immediate Recovery Cluster. There was also a presentation on the progress made by the Tegucigalpa on the 10 essential international campaign points about disaster reduction, as well as a press conference about this regional meeting's conclusions. This presented additionally, several options over information broadcasting coverage and management on risk and climate change adaptation, plus having the presentation on progress made by Honduras in regards to analysis of vulnerability and climate change impacts.

This document includes, also the analysis by topic, the proposals and recommendations presented in following sections. These recommendations will be brought to the attention of some of the regional programs and organizations that are promoting these issues around the region's countries, such as the DIPECHO, COSUDE, ISDR and multilateral project-grant providers. Throughout the following sections 5, 6, and 7 each of the round-tables' issue-topics will be presented in terms of key concepts, questions, learned lessons, recommendations, and challenges. The summary in section 7 presents conclusions and tasks to be performed on behalf of the participants.

V. GOVERNABILITY AND DEVELOPMENT PLANNING

5.1 Concepts, inquiries and learned lessons

Dr. Fernando Aragon, in his presentation on the perspective and theoretical framework, stated the importance in reviewing the roles and responsibilities that municipal governments have in reference to urban disaster risks, and the vulnerability to climate change. The discussions on urban governability are central to find the social and political viability of risk management tools and actions, while acknowledging the unequal distribution of resources and power between the social groups, the state, and the conflict of interests. A component that must be considered in the construction of an urban governability towards climate change adaptation is the acknowledgement on the transference in decision-making risks

and benefits that different groups have. In regards to it, an invitation must be brought up for participants to respond to the questions:

- ⇒ How is urban governability addressing to climate change in the context of chronic urban risks?
- ⇒ Do Central American cities have an existing capacity to confront direct and indirect impacts by climate change, as well as to promote adaptation?
- ⇒ What are the capacities that need to be built in order to promote climate change adaptation?

In general, there were acknowledgements on limitations, and this considered the lack of capacities to reduce disaster risks and dangers from climate change impacts for the majority of Central American urban settings; i.e. Tegucigalpa, San Pedro Sula, Managua, San Salvador, Guatemala City. This is likely due to, among other things, the lack of correspondence between the magnitude of the problem, the resources, available capacities, and public institutions' feebleness in light of necessary promotion of urban governability. Among identified factors setting limitations and do restrict an adequate governability there are three: 1) The small or null availability or existence of trained capacity human resources face the cities' social and environmental complexities; 2) The lack of clear and integrated understanding about local environmental changes, and their connection to the global ones, and; 3) A limited institutional capacity to develop, begin and implement public policy which furbish a sustainable development, that is sensible to climate change.

Among the main challenges in regards to governability is the identification of structures that are able to connect the management public policy strategies conjoined with local action; another one is the way in which adequate regulations on the land-use match with the local projects promoted by the humanitarian organizations; also, to find what is the extent to which the relocation to less insecure, and safer areas is a process of encouragement or discouragement by

land use regulations. In this sense likewise, there was an acknowledgement for the 'soft' adaptation in its key role through which to reduce risks. An example is the reinforcement and relaxation of information flows in reference to social and growing climate uncertainty scenarios, in which there are operations carried out on the Immediate Alert System for areas with social insecurity, and as a way to improve the preparedness in face of extreme hydro-meteorological events.

Ethel Badin, official from Canelones Municipality, from the Montevideo Metropolitan Area, presented the project "Local Development Resilience to Climate Change, Low Carbon Emissions in Canelones and San José Departments." Its main purpose is creating more resilient territories, and with lower green house gas emissions by a participative and systematic elaboration of strategies and measures for adaptation and mitigation. This is a pilot initiative as a part of the ART/PNUD Program, and is linked to the Territorial Adaptation to Climate Change Program, within the UNDP's "Towards Less GHG's Emission and More Climate Change Resilient Territories" Program. Within the adaptation strategies, Badin emphasized the following points as those which can contribute in the risk reduction-adaptation: a) Reinforcement in the emergency information management; b) Reinforcement in the institutional coordination in face of emergencies; c) Safe urbanization development in face of emergencies, d) Forest fire prevention, and; e) An implementation of Immediate Alert System for a variety of hydro-meteorological risks. In regards to coastal-lines four main strategic guidelines were made: sustainable urbanization of coastal areas; resilient coastal tourism; protection to coastal morphology and protection for biodiversity and hydrologic systems on the coastal areas. Finally the sector in regards to Buildings' Habitat and Health, Badin emphasized the implementation of alternative sustainable sanitizing in urban areas without sanitizing; additionally, the integrated sustainability of the urban hydrologic cycle, and reinforcing local capacities for human health assistance.

Planning Ministry officials Mr. Quiñonez Zepeda and Mr. Guardiola, presented the 'Unified Model' that incorporates disaster risk management criteria, climate change

and immediate recovery within development planning in the Honduras case. This model consists of six phases that encompass, from the organization of teamwork and the management structure up to institutionalizing the plan, and including by the way, elaboration of multi-dimension integrated diagnostics, prospective on territory, and policy design. By virtue of this model, it presents itself as a tool for planning which intends to incorporate actors and several institutions with a broad range of steps from design up to implementation under a major premise: that risk reduction is susceptible of being cross-implemented and help to reinforce the institutional character in development sectors in face of climate change. The inconvenience foreseen in this institutional figure is having “climate change” in building of scenarios and hypothetical tendencies stages included as just another variable.

To create governability with the help of urban planning was exemplified upon GOAL under DIPECHO-VII in the UNDP by means of concrete management tools which may be adopted by two different levels in society: communities and family. GOAL presented two Methodological Tools For The Elaboration of Risk Management Planning and For Family Risk Management. The basic assumption of these instruments is that the risk reduction planning must include the ways in which people’s everyday knowledge define risks they are exposed to; and allowing to do this from the point of view of their ways of life, and their material and intangible needs. This proposal intends to be considered as in recovery post-disaster tasks, and not only as for risk reduction actions *ex-ante*. Outstandingly, these planning processes begin with a starting reflection as a group dynamic with the main participating community organizations on what is the state of governability, conflict of power between all considered organizations’ population and their levels of security and participation. Provided this information helps to define what is the best intervention strategy for each one of the barrios.

The Communitarian Planning Guidelines for Risk Managements is a facilitator’s tool to lead the participation process of planning with local emergency comities CODEL; while the Risk Management Community Plan (RMCP) is a tool in hands of

the CODEL member used to elaborate the Community Plan. This provides an greater appropriation of processes by each participant. Among the friendly aspects the following are enumerated: 1) Each one of the CODEL members has access to the RMPC; 2) It facilitates updating information; 3) Youths can participate in the process and make contributions to it, and; 4) Allusion to images may facilitate understanding for those participants whom don't read and write. In regards to the content of the Family Risk Management Plan, its starting point is local management on behalf of the family members as a basis to determine the level of disaster risks levels with day-to-day activities and vulnerabilities as the starting point. The goal is to generate concepts about what to do in case of an emergency, by being better trained to recover in case of a disaster event.

To finish this block the Cooperazione Internazionale (COOPI) organization presented its project, which provides experiences with youths living in an urban poverty and insecure context due to crime rates, and being exposed to major earthquakes in the areas of El Agustin, Cercado Municipality del Peru. The challenge has been to create a waking reaction in youths' interests in tasks for the preparedness to better face earthquakes. This has been possible through arts (rap music, and graffiti), together with the collaboration of the municipality, church, sport clubs, music centers, among others. As a central part of this, once having caught-up in youths' interest, then there was a risk management workshop to have them engage in the issue-topic. This communitarian development project was inscribed for its most part in the field of earthquake preparedness and as an incipient process in risk reduction, which begins with increasing the perception, and therefore, triggering behavior changes in participating youths.

5.2.Challenges and recommendations

- Governability for climate change adaptation must account for, or create the, flexible innovative and transparent territorial management mechanisms. This is not to suppose to only have incorporation of GHG emissions scenarios

and climate variability, but to also have the social-economic changes and adequate political factors for development planning. In this, there is a central role for the information management in order to communicate the climate risks.

- To improve the adaptive capacities of central and local governments, and the local groups vulnerable to climate change creating and reinforcing mechanisms is necessary to solve the fragmentation and institutional isolation, as well as guaranteeing urban management's sustainability.

- Funding for adaptation projects may focus on those local settings that have already put risk management into action. This could bring benefits in terms of opening cross institution work among communities with Disaster Risk Management (DRM) and Climate Change Adaptation (CCA), as well as the identification of future projects that foresee a change in social-economic conditions *vis a vis* occurring hydro-meteorological phenomena. For example, the Inter-Institutional Committee on Climate Change coordinates the Adaptation Fund Project. The ongoing DRM could actually be boosted conjointly with the Climate Change Adaptation Technical Committee, while effectively proving sustainability in face of climate change effects.

- Another challenge is having the national institutions that are elaborating territory planning to integrate local issues and analysis from the perspective of hydrographic basin. This is to suppose an integration of academics, the national public sector together with local governments. The Uruguay experience is proof of promotion in local appropriation and empowerment by actors and municipal institutions. SEPLAN-Honduras agrees with this working condition, because decision-making happens at local level.

- On different lines, in order to put planning into practice at municipal level it is necessary to build a 'culture' upon fiscal and financial mechanisms. By the

same token, creating incentives to allow for administrative and political innovation contributing to governability and accountability by institutions working on development planning, the DRM and the CCA.

- There is a need to set forth a permanent capacity building process for municipalities; a budget allocation must integrate the communities' participation, according to their needs; that is, participative budget allocation.

6. RISK REDUCTION MEASURES AND CLIMATE CHANGE ADAPTATION

6.1 Concepts, inquiries and learned lessons

More often than not, urban risk management has focused on planning and land regulation and promotion of change in peoples' behavior to evacuate insecure areas or preparation for the impacting dangers. In this sense, this part presents two concrete tools for Disaster Risk Reduction (DRR) upon successful outcomes in Honduras. One of these has to do with risk communication aimed to mobilizing exposed groups to landslides. Another is the incorporation of the cost-benefit analysis into the risk reduction measures projects providing them with a shield against future climate change effects and by that guaranteeing their sustainability.

The Tegucigalpa Immediate Landslide Alert System presented by the Vice-Manager for the Tegucigalpa Municipal Emergency Committee, Julio Quiñonez, as a system monitoring soil saturation points in hillsides that show fragility due to heavy rains; and as a function of determination in threshold alerts, provide a communication about risks to the population exposed to landslides to alert for evacuation. The CODELES and the institutions making part of CODEM use this information. Through this system we have identified the neighborhoods, barrios, and families, which are exposed to landslide risk; this allowed improving reactions

to emergencies. The landslide risk information and communication is a step to improve reactions in time and manner.

UNDP official Orlando Lara Pineda, exposed an economic tool to protect risk management as: “Project Armor-Plate” Project armoring is a method to evaluate vulnerability reduction measures for social and productive infrastructure projects. This tool’s purpose is, on one hand, to improve the standards for investment in social and productive infrastructure projects by making estimates in effects of risk reduction activities, and those investment and maintenance costs. On another hand, to contribute to reduce their vulnerability in face of several threatening natural, social and productive phenomena. This tool is aimed at local facilitators in such way to review the content of new project proposals, or ongoing DRR projects.

This tool considers the future climate change impacts and focuses on reducing vulnerabilities on which we can influence and control. Mainly, the physical and environmental vulnerabilities are evaluated at each site. There are experiences in reference to this, which can be evaluated in terms of cost-benefit and cost-effectiveness; ie., in the local shrimp production sector, construction work addressing disaster risk reduction as with roads, housing, drinking-water system, schools and some other new and existent infrastructure. A remarkable fact to mention here is that the General Division on Public Investments in the Government of Honduras has incorporated these tools as part of the Pre-Investment Guidelines.

6.2 Challenges and Recommendations

- In the risk management and climate change there must be an integrated perspective, which foresees a range of aspects from policies and strategies to their implementation in the local field. Climate change adaptation as much as disaster risk management must be handled by the local field, in such way that national strategies become general guidelines for local action projects.

- Planning development supported on micro climatic scenarios and territory organization that additionally incorporates social-economic scenarios which vary from one region to another. Assuming available information climate change for the 2010-2020 period, over updated GHG inventories, and changes in social-economic projections for all primordial scenarios and models.

- Having information, education, spreading, and communication allowing to sensitize, raise awareness, and learn about the issue and in-depth alternatives with an improved use of mass media and social networks. The disaster communication in Central America of risks generates successful outcomes to make actions more efficient and socially sensible. In contrast, climate risk communication assumes challenges that are related with sensitizing the population on future dangers associated to climate change and climate variability. This education process places new challenges in terms of what type of information is more meaningful for vulnerable groups, identifying information and technical barriers and overcoming them in such way that actors are able to implement planned adaptation to concrete extreme hydro-meteorological phenomena, as drought, heavy rain, and potentially dangerous climate.

- To integrate the current risk management capacities with long-term perspectives, increase preparedness capacities, alert and response in face of adverse climate change consequences. This should happen under a single national structure, such as the National Climatic Action Program, or the National Risk Management Program; that would depend on each of the country's decision.

- To integrate the demographic dynamics in the formulation of adaptation measures in order to make estimates population growth and distribution projections about the territory and make concrete proposals on actions to

reduce vulnerability of human settlements in face of adverse climatic variability and climate change. Inversely, to promote the integration of prevention criteria for disasters and long term climate change adaptation within demographic policy and to reduce risks exposure; particularly in the case of extreme hydro-meteorological events.

- In the urban field it is difficult to address this collectively, due to the fact that there is a great heterogeneity in the income sources of families, even when belonging to a same barrio. In this same way, solutions stated by families are quite different in respect to expectations and opportunities in their lives. In this sense the urban cases were individually addressed mainly by visiting homes to analyze loss, and to appraise solutions they brought about. Homogenizing the population must be avoided as it hinders acknowledgement of differentiated issues to given differentiated solutions. Evidently these types of assessments require a certain time and there has to be sensitizing among decision-makers.

- Prioritizing the actions by policy impact, social pressure and accountability in both directions so that decision makers assume their responsibility in the generation of policy and disaster risk management strategies and climate change adaptation.

- Promoting the role of private sector in climate change adaptation, for example, in relation to tourism, commercial and productive infrastructure. The insurance coverage schemes in respect to the private's as well as public's sectors transference of risks.

7. POST-DISASTER IMMEDIATE RECOVERY

The UNDP in Honduras and GOAL presented the project "Immediate Recovery For Families in Urban Area High Risk Carried Out in Four Barrio Locations: Guillen,

Los Pinos, Campo Cielo, and Villeda Morales," and this is an example of what needs to be done after a disaster. The objectives are, reducing the possible loss of human lives, and of families living in high risk areas facilitating housing on an arrangement for a temporary solution established through leasing, habilitation, or terms of housing construction for these families. As a part of a fieldwork methodology a survey was applied over 14 barrios, on a sample with 1340 surveyed individuals who provided data for a good diagnostic on the risk situation.

Orlando Lara Pineda presented the *Emergency Job Creating Manual for Communitarian Project Profile Standard Formulation*. The objective is to transfer resources through job creation —that is difficult to find in areas after disasters— to contribute in setting basis for families' recovery, and simultaneously foster the circuits of cash flow within local economies. The projects are to be considered under this arrangement must generate benefits to the most disaster affected families for their availability of labor force at recovery works. In other words, to those who are more exposed to disasters, and most vulnerable —weaknesses in terms of income, and those who have family members in age and capacity for labor. Ideally, through this kind of project, a contribution is made to the recovery of all economic infrastructure and key services which are necessary to the community in general and specially for groups (strata) of families and most vulnerable people that were affected by disaster in the short term.

Additionally, recovery should decisively contribute to the mid-term, and long-term development of the community. Among the types of projects, we have those in the field of family scales, such as housing improvement, basic sanitation, individual terraces, family irrigation systems, orchard-garden, minor species. There are other recovery works for public spaces, goods and services, such as: street cleaning; garbage collection; road improvements; public water facilities' cleaning; water outlet protection; repair, maintenance, and expansion of drinking water installations, improvement or installation of other public services. One of the main characteristics of this project stands at local level; that is, emergency job creating

projects are chosen to support families in poverty, exclusion and vulnerability whom would most be affected by disaster. Therefore, the starting premise would be that they do not account for means material, or in cash, to match granted resources. On the contrary, they are further in debt and striving to survive. In this sense, their contributions as counterpart might stand in the form of: 1) Regular assistance of children at health centers, enrolling and attending the school systems; 2) Collaboration in recovery works together with community neighbors through training, and; 3) Support to some recovery works.

Juan Carlos Murillo, a World Society for the Protection of Animals official, addressed the survival means and domestic-farm animal management issue under the post-disaster recovery situation. In recovery situations the protection and survival means for recovery topic is a fundamental one for communities and thus, a new priority at the DIPECHO Program. Within the urban settings, animal farms are an alternative to economic activities, in fact to ensure healthy means for families' nutrition while under crisis periods. This does not account for emotional value of animals as pets for the owners. In these areas there is greater risk of zoonosis, which complicates logistics in case a probable animal evacuation. Therefore, it is essential to promote adequate veterinary treatments to reduce zoonosis during a disaster and to have evacuation plans that foresee the animal evacuation logistics, especially in case of apartment buildings, where challenges are greater.

7.2 Challenges and recommendations

This round-table's guiding inquire was: "In what way does post-disaster recovery contribute to climate change adaptation?" The challenges and recommendations were grouped in topics: housing and relocations, communitarian empowerment in recovering survival means, education, information, vital infrastructure, psychosocial aspects, and the domestic animal handling.

Housing and Relocation

- The risks were rebuilt when communities were rebuilt at the same sites that are exposed to danger, and increasing vulnerability to climate change. It is fundamental to evaluate where to locate sites for relocation and for reconstruction; in regards to this, a regulating legal framework is necessary to forbid human settlements in areas with exposure to extreme natural threats. To this aim, the observance and abidance to laws on settlements, territorial regulation, and the SINAGER Law, are necessary. The engagement by disaster survivors in the relocating processes, is inherent to have them be part of the solution.

- Until this day, housing solutions, relocations and temporary leasing are carried out in homogeneous manner and particular needs or plans for family recovery are not evaluated. In regards to this the challenge is to relocate in personalized manner as a function of individual's needs in each family.

Communitarian empowerment via temporary jobs as means for survival recovery

- Cash for work, to promote self-sufficiency. It is necessary to find quite ingenious alternatives for money earned as a job to be applied in urban contexts. Some options were proposed like recycling garbage recollection; organizing cooperatives or other kinds of organizations that would drive an improved relationship between garbage collectors and recycling coops, seeking common interests that would benefit both sides of the relation.

Education and trainings

- Little is known inside the communities about how they can recover after a disaster event and much less about how to develop climate change adaptation strategies. Creating education programs for communities who dwell in threatened areas, in order to understand what could be done in these areas in case of disasters.

- To sensitize every stratum in these population, men, women, boys, and girls, across differentiated ways during the post-disaster recovery process. Alternately, sensitize about prevention against disasters and climate change adaptation.

- Sensitize teachers, communitarian facilitators, and household heads; so they are able to replicate prevention, reduction, recovery and climate change adaptation measures.

- To use communitarian organizing, trusts, 'codeles' and commonwealth that are able to support municipalities which do not have enough capacities. Designing and spreading family communitarian plans, school emergency plans to engage in issues related risk management and climate change adaptation. Creating social weave —communitarian networks sharing experiences and lessons learned among CODELES and the CODEM.

Information

- There is scarce information about the risk studies done by a variety of institutions; in particular about projects, housing data and individuals and families exposed to risks. For this reason, it is necessary to make information available; publicizing it and socializing secondary information in database to obtain maps and statistics about families, housing, damage

evaluation and needs in disaster affected areas. Likewise, it is crucial to have inventories in databases about goods, resources, needs, as well as about what number of ‘codeles’ personnel, households and habitants there are.

Roadway Infrastructure

- There were health, education, and communitarian centers, built and rebuilt in risk areas, and so after an emergency it is hard to recover their services-providing normally. For this reason, the suggestion to implement risk analysis on basic infrastructure was made, in order to know which to reinforce or, relocate according to the SINAGER regulations. Also, it is important to regulate individuals hosted to relocate at the EC the least time possible during natural disaster events to study the possibilities for relocation survivors in homes with solidarity families, instead of putting them in shelter.

Psychosocial Aspects

- Post-disaster assistance was not undertaken; it is necessary to promote engagement of specialists and psychology students, and social workers to provide with assistance to survivors; specially children, in support of their needs to overcome psychological traumas. Assist their state of mind, and moods generated by disasters.

Domestic animal handling

- The issue with domestic animals is unattached from emergency post-disaster management. It is important to organize the community members so that they are able to gather the animals of their property —controlling

epidemics or disease controls; There must be specific places where to lodge domestic animals.

Another issue in respect to the GOAL Honduras, that is part of UNDP Project, is mentioning the conclusions to which we arrived: 1) Engagement by community leaders is key for identifying and establishing work in the field with the beneficiary families; 2) It is crucial to ensure that the participation process is only voluntary work; 3) Establishing commitments on paper written by project; 4) Families must engage during the entire process with the purpose of spreading trust, and socialize the project among the community; 5) On relocation sites there must be a risks evaluation and access to basic services appraisal made for the beneficiary families, and; 6) Establishing an agreement with each municipality's head-officials.

Climate change adaptation could be an opportunity generator for investments in immediate recovery and in recovery planning. However, there is a risk of accounting only for vulnerability and just focusing on threat analysis. In this sense it is important to elaborate methodologies that under the adaptation's planning umbrella, at local and municipal levels there are incorporations on immediate recovery and risk reduction with a great emphasis on vulnerability.

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ANNEX 2

PICTURES


Encuentro Regional sobre Gestión de Riesgos y
Adaptación al Cambio Climático en Entornos Urbano
¡Mi ciudad se prepara!