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## Sound Practice No.10

### General Program to Strengthen Bogotá's Response Capacity to a Major Seismic Event (2005-2007)

#### 1 Overview

The Direction for the Prevention and Attention of Emergencies (DPAE) together with the United Nations Development Program (PNUD) is currently extending the *General Program to Strengthen Bogotá's Response Capacity to a Major Seismic Event* which aims to fortify the city's capacity to respond in case of a major scale earthquake.

The practice aims to develop strategies and actions which intervene in the operational, organizational, legal, educational, financial, and logistic processes involved in a major emergency crisis. The end objective is to strengthen Bogotá's capacity to respond and recover in case of a major seismic event. The practice contemplates the preparation of the different institutional and community actors which would have to act in such event. It also involves the strengthening of the System for the Prevention and Attention of Emergencies (SDPAE) by clarifying cooperation agreements with the departmental, national and international systems and with the community itself. All the agreements and educative workshops involved in this practice are directed to stimulate a prevention culture among citizens and the capacity to respond to emergencies.

The *General Program to Strengthen Bogotá's Response Capacity to a Major Seismic Event* has four objectives: strengthening of emergency actions, support of emergency actions, development of responses among citizens, and recuperation plans. Each objective is treated as part of a complex structure which may not be reduced to a single product but, on the contrary, it must generate a clear dialogue amongst the different fields involved in emergency response and risk management. In other words, the implementation of this practice contributes to the evaluation of emergency administration from different angles such as damage scenarios, organizational systems, logistic systems, institutional and citizen training policies, citizen awareness, information and communication systems, the formulation of rehabilitation and sustainable development plans, legal procedures, financial strategies, and inter-institutional agency.

#### 2 Significant Background Information

##### Seismic Risk in Bogotá

The city of Bogotá is located in a complex seismic landscape, as it is in the vicinity to several fault systems like Borde Llanero, Romeral and Salinas Suárez among others. Following the General Study on Seismic Hazard in Colombia (INGEOMINAS, AIS, 1997) Bogotá is considered as an intermediate hazard zone.

As established in the Seismic Damage Scenario (Universidad de Los Andes, 2005) for a

seismic event originated in the Eastern mountain chain fault, the damages caused could be in the order 6,700 casualties, 12,500 injured persons, 60,000 families would be left out without homes, and 4,000 shelters would suffer damages of the order of 45%.

Given the high vulnerability of the city, seismic risk is considered to have the highest political, social, environmental and economic costs. This risk not only affects Bogotá, but also many other municipalities in the metropolitan area. It constitutes a national concern since Bogotá hosts the national government in a highly centralized political system, which makes the regular functioning of the country a vulnerable factor.

### **The City's Present Political Commitment to Risk Management Actions**

For more than a decade, since the creation of Bogotá's Fund for the Prevention and Attention of Emergencies (FOPAE) in 1987, the city has been taking important steps in risk prevention, mitigation, and emergency preparedness. As a result, Bogotá has accomplished great advances in institutional, organizational, technical, and legal development. Important results have been achieved on risk knowledge, territorial ordering, mitigation works, relocation of families living on high-risk zones, structural reinforcement, education, participation, and institutional capacity building for the System for the Prevention and Attention of Emergencies (SDPAE).

The city's Development Plan: Bogotá Without Indifference (2004-2008) in its attempt to build a more inclusive and participative city, has given special relevance to risk reduction and emergency preparedness policies based on the fact that the most vulnerable communities, regarding risk and disasters, are usually exposed and affected by profound economical, social and cultural dangers as well.

Even though the present administration has kept important programs on risk analysis, risk reduction and emergency preparedness, it has also promoted new macro programs like the Local Risk Management Strategy and the Implementation of the Earthquake Response Plan in Bogotá.

The city has conceived risk reduction actions as essential aspects in the creation of a more modern and humane city. This is why for the period of 2004-2008 the District's administration has invested 3.2 million dollars in the Fund for the Prevention and Attention of Emergencies in order to strengthen the relation between risk management and the development policy within its 20 localities.

### **Risk Management: A Global Concern**

Risk reduction is a global and local challenge. On one hand, it is increasingly important because the losses resulting from a major event would postpone social investment and strategies to attack poverty, hunger, basic sanitary programs, and alphabetization. Also, it would also postpone actions for the protection of the environment and employment generation, not only due to the general crisis, but because of the damages in infrastructure and basic living conditions. On the other hand, we must recognize that

risk is the result of inappropriate development measures which are now being revised. The recent development policies and the Objectives for the Millennium are vehicles to reduce vulnerability and promote risk mitigation.

The Declaration of Hyogo was adopted in the frame of the Global Conference for Risk Reduction which took place in January 2005. This declaration recognizes and emphasizes that disasters seriously undermine development investment in short term lapses and, therefore, they still represent a meaningful obstacle for sustainable development and poverty eradication. All nations are summoned to reduce vulnerability of societies in order to alleviate the suffering caused by hazards. In this sense a prevention and resilience culture in what regards disasters is considered a sound investment and should be promoted at all levels. Risk reduction policies should be integrated to programs for sustainable development and poverty reduction. In Hyogo's framework (2005-2015) substantial risk reduction is expected in terms of life protection, social, economical, and cultural resources in all communities and countries.

The *General Program to Strengthen Bogotá's Response Capacity to a Major Seismic Event* adheres to the strategic goals of Hyogo since it aims to strengthen Bogotá's resilience capacity in face of a major seismic event by preparing the response of different communitarian, institutional, and political actors at local, district, national, and international levels. The program includes strategies to protect the life and properties of citizens and to guarantee governability in case of a major crisis. The goal is to minimize vulnerability in the SDPAE by enhancing the citizen's capacity of self-protection and by the unification of all possible actors in a spirit of cooperation. It also promotes policies for recuperation and reconstruction in order to integrate risk reduction parameters in the process.

### **National Commitment**

Since the district and national governments reside in Bogotá, the articulation and harmonization of discussion is a great challenge. A major seismic event in Bogotá is also a political threat. Consequently, the program recognizes local and national responsibility. The National Plan for Prevention and Attention of Disasters in Colombia (PNPAD) sets decentralization as a fundamental principle. This means that territorial entities become responsible in risk reduction policies leaving the general definition and coordination actions a commitment of the National government. Nevertheless, the PNPAD calls for the harmony, consistency, and coherence among all the territorial entities involved.

According to the PNPAD, the District is in charge of the development of risk reduction policies within the city such as institutional preparation and the promotion of citizen awareness. In case of a major event the District has to coordinate technical, operative, and political actions with the national ones in order to control the crisis and to prosecute recovery and reconstruction processes.

The *General Program to Strengthen Bogotá's Response Capacity to a Major Seismic*

*Event* forms part of the Institutional Development Strengthening Program established in the PNPAD. It is part of the District responsibility but aims to standardize processes and procedures to articulate all the territorial instances and guarantee an effective response in light of the principles of coincidence, complementariness, and subsidization.

### **The Strengthening of the System for Prevention and Attention of Emergencies**

After the disasters in Popayán (1983) and Armero (1985), and in accordance with a World-wide dynamic, the Colombian State is currently developing a process which aims to gradually modify the conception of risk and risk management. The process largely expresses itself in the normative field and institutional organization which now counts with the National System for Prevention and Attention of Disasters (SNPAD) and the National Plan for Prevention and Attention of Disasters (PNPAD). This last one is in charge of giving the general outlines in risk agencies within the country.

The SNPAD is formed by public and private agencies responsible for the prevention, mitigation, and attention of disasters, as well as of the rehabilitation of zones affected by natural or non-intentional human disasters. Its prime characteristic is decentralization which is made of local organizations responsible for carrying out risk management actions, and regional and national organizations are responsible for providing subsidiary support.

In Bogotá, the organization of risk management is divided in the FOPAE as a fund for resources and DPAE as a coordination entity which unites and articulates public, private, and community actors. This organization already has solid connections with local committees and private organizations in the city. With this program, the DPAE acts to strengthen links with the SNPAD, CREPAD, and CLOPAD. At the end, this program should allow a flexible adjustment between all instances in order to adopt an appropriate strategy for the city.

### **Background Information**

The first efforts to define the procedures for the awareness of earthquakes in Bogotá took place in 2002 with the elaboration of the Response to an Earthquake Emergency Plan in Bogotá. This program had twelve response functions, which identified the specific duties to execute and the responsible agencies and support entities. Some districtal entities such as the IDU, UESP, ETB, and CODENSA began to implement the institutional plans. Nevertheless, the attack against the Social Club El Nogal in February 2003 evidenced a series of weaknesses in the districtal organization to respond to emergencies. Unfortunately, disorganization and the absence of clarity in operative procedures, command, and decision making characterized the response.

As consequence, the DPAE forwarded a districtal Simulacrum for Response to Collapsed Structures in October 17, 18, and 19, 2003 in Bogotá. Rescuers, which amounted to 267 local, national, and international, rehearsed their response capacity in 25 realistic scenarios for 50 consecutive hours. Training processes, knowledge about

hazards, scenario evaluation, operative procedures, logistic and coordination aspects were analyzed under controlled circumstances which simulated a major seismic event or multiple and simultaneous emergency situations.

After an exhaustive evaluation in association with the group INSARAG they subscribed to the Humanitarian Affairs Coordination Office (OCHA) of the United Nations. Critical aspects in communications, logistics, and institutional coordination were identified and analyzed in order to improve the city's response to a major calamity.

The main conclusion of the exercise was that a major seismic event would leave the city in a critical situation which would only be attended properly if there is collaboration between public and private, institutional and community, local, district, national, and international levels. Therefore, the district administration needs to pay special attention to the coordination of processes, should find sufficient resources, and standardize processes. Only in this way, the life and property protection as well as national governability may be secured.

Even if the advancements in 2002 are valuable, the exercise demonstrated that to respond properly in case of a major crisis an integral strengthening plan in the fields of organization, logistics, information, communication and normative development, among others, is required.

### **3 Sound Practice Details**

#### **Formulation Process**

The formulation process of the *General Program to Strengthen Bogotá's Response Capacity to a Major Seismic Event* is a very fertile practice which can provide many teachings. These kinds of processes in Latin America have always been supported and sponsored by international organizations. One of the most interesting achievements is that the practice managed to place the local entities as key actors without excluding international support and feedback. In Bogotá, this strategy was formulated by the SDPAE with the coordination of the DPAE which forwarded cooperation agreements with entities such as PNUD (United Nations Development Program).

All in all, international counseling was acknowledged but the final document was fully decided by district organizations. The cooperation is consigned in the Cooperation Agreement between the FOPAE and the PNUD. The PNUD is an organization that has been sponsoring projects for institutional strengthening, environmental agency, transportation, regional planning, and coexistence in Colombia. After the large scale representation and recognizing the conclusions concerning Bogotá's response capacity both entities have agreed to forward the Preparatory Assistance Project (October 8, 2004) which prepares the organizations for the effective design of a response plan. The end was to prepare the ground for a strong response plan in the city by achieving a sound description of the problem, the formulation of specific activities, duration, total budget, financial contributions, expected results, and other specifications for the project.

The first step towards the formulation of the project was to determine the problem in order to clarify specific objectives. In this sense, two aspects were considered important: an insightful analysis of historical background and a process of imagining the future of the city that is desired. The project aims to alleviate present vulnerabilities but also needs to integrate itself into the city's development plan. Accordingly, the analysis phase aimed to answer the following questions: Where have we been? What has produced sound results? What procedures have not been successful? On the other hand, it had the challenge to adapt the response proposals to a document that considers the local, national, and international experience designs for the ideal future city in realistic political and economic scenarios. These questions were discussed in the series of workshops that form the Preparatory Assistance Project.

The objectives for the formulation process include a process of articulation with the current plans and programs. For this end a series of workshops to promote retrofitting were set forth:

- The Preparatory Assistance Workshop was given to 130 local, national, and international entities that would be involved in Bogotá's response to a major seismic event. This workshop revised the response functions.
- Temporary Shelters Workshop. This was considered an important theme due to the small amount of experience of emergency management agencies in this area.
- Communication Management in Crisis Scenario. This workshop was given to SDPAE journalists and other communication media representatives.
- Integration Workshop for Political Actors. This workshop was directed to the Chamber representatives and constitutes the first example of a political observatory in the theme of risk management in Colombia.

### **Bogotá's Earthquake Response Plan Implementation Program**

On November 2002, the Earthquake Response Plan for Bogotá was adopted by the Mayor's Directive 008. This plan contemplated 12 response functions, identifying specific tasks to acknowledge and carry out in case a seismic emergency in Bogotá. Nevertheless, in the framework of the Search and Rescue Practical Exercise that took place in Bogotá on October 2003, which involved local, national and international rescue groups and organizations, some communications, logistics, and institutional coordination weaknesses were identified in the city's response capacity. The conclusions of this simulation revealed that a seismic event will not only surmount the current capacity but could destabilize the country. The SDPAE experienced the vital necessity to clarify and divulge sound procedures, to determine specific functions, and redefine the tasks and responsibilities of each actor. Consequently, the *General Program to Strengthen Bogotá's Response Capacity to a Major Seismic Event* was formulated and implemented.

The general objective of the program is to develop strategies and intervention actions in the organizational, operative, normative, logistic, education, and financial fields, in order to strengthen Bogotá's response and rehabilitation capacity in case of a major seismic event. The program expects to address not only the public sector but to incorporate, in a very active way, the private sector and the community in hope to articulate the local, national, and international actors and organizations involved in managing an emergency after a seismic event in Bogotá.

The program identified several specific aspects required to design a proper and integral response to a major emergency such as a) possible damage scenarios b) organizational models, protocols, and procedures c) logistics d) interagency, private, and community training in operative aspects e) public information and community resilience f) emergency information systems and communication systems g) rehabilitation and sustainable development plans h) legal aspects i) financial aspects j) inter-agency coordination.

All of the aspects mentioned above were integrated and adapted in four immediate objectives in order to make the implementation viable. These four main areas or immediate objectives were: 1) operation 2) operation support activities 3) community resilience 4) recuperation, rehabilitation, and sustainable development.

Within the **OPERATION** realm, direct response actions are considered. These actions embrace the preservation of life and wealth measures. It also refers to guaranteeing governability conditions (crisis control). In this sense, the OPERATIONS area comprehends organizational, logistical, communicational aspects and operative and community training. The expected results are:

#### *Emergency organization*

- Districtal Emergency Plan. The levels of emergencies and correspondent organizations, response functions, and institutional responsibilities should achieve an official status.
- 23 Institutional Emergency Plans.
- Emergency Response Fast-Training Kits for Relevant Political Actors at local, regional, and national levels.
- Formal cooperation agreements with the regional, national, private, and the international community.

#### *Logistics*

- District's Logistics Plan adopted by SDPAE and its surroundings.
- Institutional Logistics Plan.
- Cooperation Agreements with the region and the nation.
- Cooperation Agreements with the private sector.
- Cooperation Agreements with the International Community.

*Communications*

- Wave propagation studies in order to strengthen emergency communications in Bogotá.
- Communication Contingency Plan.
- Organization Activation Protocols.
- Emergency Communication Net Strengthening.
- Citizen Emergency Communication Net.

*Operative training*

- Emergency Response Training Plan (operative, tactic and strategic)
- New Emergency Response Courses in needed topics (heavy-weight USAR, HAZMAT technical level, trench rescue, water rescue, emergency logistics management, emergency communications, among others)
- Training Plan Implementation
- Operative Groups International Certification
- Teacher's trainings
- Citizen Emergency Response Corps.
- Simulations and practical exercises

**OPERATION SUPPORT** refers to aspects that even though do not correspond directly to the crisis control, are essential for the effective response to an emergency. This area contemplates the capacity to assess the situation and some damage assumptions for response, relief and recuperation planning purposes. It also promotes information technologies and models for the decision making processes, the clarity and formalization of institutional responsibilities (in local, regional and national levels), legal, and financial considerations.

*Possible damage scenario*

- Possible damage scenario actualization
- Dynamic damage scenario calculating system

*Information system*

- Revision and adjustment of the city's basic information
- Revision and adjustment of the city's risk information
- Large- Scale Emergency Information Management module
- Technological upgrade

*Legal aspects*

- Compilation, analysis, and harmonization of the applicable norms within the different levels of the Colombian legal system.
- Legal reforms or development based on the advances of the program.
- Instructive, models, and prototypes to speed up the administrative procedures during the emergency in conformity with the current norms.

*Inter-agency coordination*

- Dissemination of the strategy
- Cooperation agreements with the national level
- Cooperation agreements with international agencies
- Cooperation agreements with the private sector

**PUBLIC INFORMATION AND COMMUNITY RESILIENCE** intends to promote a more effective integration of prevention and self protection practices in the cultural setting of Bogotá, developing and strengthening the capacities at the community level. This area will address the NGO sector, education sector, industries, media, public sector and local administrations of the 20 localities in Bogotá.

- Authorities, schools and communities engaged on the promotion and supervision of school emergency plans.
- SDPAE organization committed to the elaboration of emergency plans
- Industries, businesses and different economic sectors with emergency plans in operation
- Risk Management Plans operating in the 20 localities in Bogotá.

Finally, for the first time in the District and in the Nation itself, **RECUPERATION, REHABILITATION, AND SUSTAINABLE DEVELOPMENT** after a seismic event will be planned prior to the disaster. Within this area, Bogotá will generate a recuperation model that guarantees a planned intervention after the disaster, in accordance to the city's long term urban and development policies.

- Rehabilitation Model Plan for Bogotá after a Seismic Event.
- Testing and formal adoption of the model Plan.

In determining appropriate action to achieve the expected outcome and immediate objectives, the System for the Prevention and Attention of Emergencies reaffirms that the following cross cutting aspects will be attended and strengthened:

1. The System for the Prevention and Attention of Emergencies response capacity
2. The interrelation between disaster preparedness activities and the activities related to risk prevention and mitigation in Bogotá.
3. The relation between Bogotá's System for the Prevention and Attention of Emergencies with the Regional and National Systems.
4. The links between the Bogotá's System for the Prevention and Attention of Emergencies, the United Nations and other international organizations that will intervene on the attention of a major emergency in Bogotá.
5. The relation between Bogotá's System for the Prevention and Attention of Emergencies, the private sector and the community in general.
6. Community's seismic risk knowledge and general awareness.

## Key players, roles and responsibilities

The formulation of the *General Program to Strengthen Bogotá's Response Capacity to a Major Seismic Event* included the counseling of six international experts from the United States, Spain, Canada, and United Nations, as well as five national experts which accompanied the DPAE team.

According to the designed strategy, these are the functions of each actor:

- The Mayor of Bogotá should develop the political agenda for the implementation of the strategy.
- The Districtal Committee for the Prevention and Attention of Emergencies should implement the specific programs and internal policies of the strategy according to the responsibilities and projects of each member institution of the SDPAE.
- The Districtal Committee Commissions: The five commissions established in Decree 332, 2004 are responsible of the different action lines of the strategy.

**Technical Committee:** This committee is integrated by the leaders of each line of action and coordinates the operational strategies in each line of the project. It is directed by the Emergency Coordinator.

**Strategic Committee:** This committee is integrated by the coordinator of each area in the DPAE and follows the development of the project's objectives. It plans inter-institutional participation which will then be coordinated by the Districtal Committee.

**Districtal Committee:** It is lead by the city Mayor and outlines the general strategy for the implementation of the Project. They are in charge of following the accomplishments of the general objectives and the specific responsibilities of each entity that forms part of the SDPAE.

- The FOPAE must develop the financial strategy by administrating the resources necessary for the implementation of the strategy.
- The DPAE is in charge of the technical coordination for the implementation of the strategy.
- The local mayors and emergency local committees of each of the 20 localities of the Capital Districty are responsible for the local implementation of the strategy.

## Beneficiaries

This project sets forth actions to strengthen the Capital District's capacity to respond to major disasters and protect the life and commodities of approximately 6,800,000 inhabitants. This practice also aims to educate and promote a culture aware of risks in the city. The direct beneficiaries are the institutions that form part of the SPDPAE and Bogotá's population. On the other hand, since this project also points towards guaranteeing districtal, departmental, and national gobernability in case of a large scale

seismic event it benefits the whole country but specially municipalities in the metropolitan area (La Calera, Chía, Cota, Funza, Madrid, Facatativa, Mosquera, and Soacha), CREPAD Cundinamarca, and SNPAD.

## **Results**

Some of the results already achieved by this program are the following:

- Some studies in the Universidad de los Andes were undertaken to simulate damage scenarios and, therefore, to approach these scientific results with the operative actions. The strategy was based upon the projection of a 6.8 magnitude seismic event in the Eastern Fault, which has a 250 year frequency. As a conclusion, geographical references constitute different risks in each scenario, and the response for each scenario is different in terms of equipment and personnel training. This is a challenge that has not been done before in the field of emergency management.
- The emergency operative field had an insightful revision of the functions established in the “Response to an Earthquake Emergency in Bogotá” from the year 2002. In this revision 33 functions were identified and grouped in the following areas: 1) Social Stabilization 2) Public services and Environment 3) Emergency Services 4) Health 5) Emergency Administration 6) Gobernability.
- A new logistics inter-institutional board was launched formed by entities in the field of order at a district, national, and international level. The end is to guide the implementation of the project in Bogotá and to design a conceptual model which helps to alleviate logistic problems and to find the resources required to attend each damage scenario.
- In regards to the training of citizens, the campaign “Bogotá: Feet on Land” was designed and implemented. This campaign counts with an agreement of cooperation with Casa Editorial El Tiempo and with commercial promotion in mass media channels such as El Tiempo, Portafolio, City T.V. and the broadcasting station Caracol. It was also diffused in local media. The campaign reached 3,907,800 people that represent 75% of the population which has access to mass communication media.
- In the field of rehabilitation and post-seismic reconstruction, The Rehabilitation, Reconstruction and Sustainable Development Plan for Bogotá formulated the objectives, principles, policies, and components of this objective.

## **Resources**

The present strategy will be implemented throughout December 2007 but there are some activities planned to continue until 2011. The city of Bogotá will provide around 60% of the necessary budget through FOPAE (30%), other institutions of the SDPAE,

and Local Development Plan from the 20 localities that constitute the city (33%). Bogotá expects to involve the private sector with 20% of the budget and the nation (2%) and international community (15%) for the remaining resources. The total cost of the project is approximately seven million dollars.

OBJECTIVES	GENERAL RESULTS	BUDGET	
OPERATION	ORGANIZATIONAL SYTEM	309.000	<b>3.473.000</b>
	LOGISTICS	980.000	
	COMMUNICATIONS	464.000	
	OPERATIVE TRAINING	1.720.000	
OPERATION SUPPORT	DAMAGE SCENARIO	280.000	<b>1.202.000</b>
	INFORMATION SYSTEM	792.000	
	INTER-AGENCY COORDINATION	30.000	
	LEGAL ASPECTS	100.000	
COMMUNITY RESILIENCE AND CAPACITY BUILDING	COMMUNITY RESILIENCE AND CAPACITY BUILDING	1.995.000	<b>1.995.000</b>
RECUPERATION	REHABILITATION, RECUPERATION AND SUSTAINABLE DEVELOPMENT	390.000	<b>390.000</b>
<b>TOTAL</b>			<b>7.060.000</b>

The implementation of the project in a city with the characteristics of Bogotá implies a great political and financial effort. In the political frame the theme of risk management has been a preoccupation for the Capital District since 1987. In the present government the theme has a special importance and the general policy Development Plan: Bogotá without Indifference, a Commitment against Poverty and Exclusion (2004-2008) includes the program Bogotá: Less Vulnerable to Critical Events which counts with a specific amount in the city's budget.

In the current period USD 10,300,000 have been assigned for the Attention of Emergencies; USD 3,600,000 for preparative actions for emergencies; USD 11,200,000 for the strengthening of the Official Fire Brigade and USD 2,700,000 for the implementation of the Earthquake response plan. The investment sums up to USD 27,800,000.

Nevertheless, these resources are not sufficient. Therefore, the active participation of the different levels is necessary and each institution is called to contribute according to its specific objectives and mission in the development of the Strategy. The project has been included in the 2006, 2007, 2008 budgets of the DPAAE, Local Development Funds and other district public entities. Agreements are being forwarded with national and international entities in order to make this unprecedented practice possible.

## **4 Relevance to Megacities**

### **Universality**

Even if the products of the strategy are intimately associated to institutional, financial, legal, and cultural elements in Bogotá, this practice offers general guidelines to have in mind in order to formulate and implement a sound response plan for any megacity. It also provides a conceptual framework for emergency preparedness which results from permanent dialogues between local, national and international experts which suggests it incorporates an open visualization of the problems and solutions which may be illustrative for other megacities.

This practice emphasizes on inter-institutional coordination and promotion of agreements as a means to provide efficient interaction among diverse territorial entities. This procedure expands a local interest beyond its own territorial interests and allows the district entities in emergencies capable of collaborating with other megacity cases.

Bogotá's Rehabilitation, Reconstruction, and Sustainable Development Plan is an example of prevention and planning which demonstrates the Bogotá's commitment to a safe urbanization process. This Plan and its formulation process may be used as a model for other megacities in seismic zones.

### **Applicability**

This practice emphasizes that it is important to strengthen the institutions in risk management and to have clear procedures and actions to coordinate different actors. This is a world-wide necessity. The strengthening of institutions is seen in this practice as a permanent dialogue within all the instances involved and the clear definition of roles and responsibilities.

### **Expandability**

This is a large scale practice which may be applied in other megacities located in seismic areas. One of the conditions for expanding this practice relies on the openness of all the instances involved and the fluent interaction of technical, political, and financial entities. That is, the expandability requires the setting of common goals and unification of efforts within the specific projects and field of each entity.

### **Orientation/ Focus**

The practice aims to strengthen the following aspects:

- 1 The System for the Prevention and Attention of Emergencies response capacity
- 2 The interrelation between disaster preparedness activities and the activities related to risk prevention and mitigation in Bogotá.

- 3 The relation between Bogotá's System for the Prevention and Attention of Emergencies with the Regional and National Systems.
- 4 The links between the Bogotá's System for the Prevention and Attention of Emergencies, the United Nations and other international organizations that will intervene on the attention of a major emergency in Bogotá.
- 5 The relation between Bogotá's System for the Prevention and Attention of Emergencies, the private sector, and the community in general.
- 6 Community's seismic risk knowledge and general awareness.

### **Assimilation / Integration**

This program is being incorporated to the inter-institutional agendas of the eight territorial scenarios of Bogotá. It is also a strategic objective in emergencies preparation in the District Plan for Prevention and Attention of Emergencies. (PDPAE). This means that it has already reached an official status in the city.

### **Impact/Effectiveness**

The implementation period extends up to 2007 with continuity actions up to 2011. Each product and result is being evaluated with indicators for the current major's government period ends (2007) but all the results are expected to come out by 2011.

Since many of the products must be issued and adopted by Districtal Decrees, there will be a compulsory agreement in order not to stop the products of this strategy. Besides, Bogotá's FOPAE will guarantee the availability of funds to implement this practice which at least covers 60% of the total costs and maintenance.

On the other hand, it is important to emphasize that the practice contemplates the divulgation of the measures to all the community. In the case of the campaign "Bogotá: Feet on Land" this publication has reached already a large portion of citizens.

## **5 Supporting Documentation**

DPAD – Mininterior  
Protocolos Nacionales

Sistema Distrital de Prevención y Atención de Emergencias  
-SDPAE- Alcaldía Mayor de Bogotá  
Plan de Respuesta a Emergencia por Terremoto, noviembre 2002  
Organización y Funciones para la Respuesta

Anderson, W.A. 1969. Disaster warning and communication processes in two communities. *Journal of communication* 19, no. 2: 92 – 104

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