

In 2012, the City of Lima successfully launched an integrated DRM strategy, creating a budget of US\$ 200 million for specific DRM actions benefiting 3.5 million of its most vulnerable inhabitants.

# PUSHING THROUGH REFORM: LIMA'S DISASTER RISK MANAGEMENT STRATEGY



### **SUMMARY**

In recent years, there have been a number of important actions at the institutional level for promoting disaster risk management (DRM) in developing countries. Yet securing a city-level political commitment that ensures the required investment and specific action plans in big cities has remained a pending challenge. This Brief describes how the Municipality of Lima designed and implemented its Disaster Risk Management Strategy, in particular analysing how disaster risk management was successfully positioned through advocacy and communications efforts. This case highlights some particularly interesting DRM issues in cities: the relationship between city and national level governments; the use of communications to convince citizens to want to prioritise DRM public works and the resulting political will this builds; and finally, the context of the integrated, systems-approach to disaster risk management strategies that is becoming increasingly characteristic of the region. In telling the story of Lima's strategy, the Brief also highlights the role of key actors, initial results achieved, the contextual factors enabling the process, and some interesting lessons that could prove useful for city-level DRM efforts in other contexts.

# THE IMPORTANCE OF POLITICAL WILL FOR DRM

Various developing countries have developed regulatory frameworks for mainstreaming DRM in institutional policies. As part of this process, city officials also need to make a firm commitment and allocate funds for DRM actions, which is the objective and spirit of the <u>Making Cities Resilient</u> campaign promoted by the United Nations.

City governments should implement policies and programmes to ensure that new public works and development interventions do not create new disaster risks, while also developing better territorial planning, sound environmental policies to maintain ecosystem buffers, appropriate building practices and a culture of prevention. DRM experts across the world now tend to agree that such risk mitigation efforts bring the largest long-term return on development investment. To this end, getting



political momentum behind risk reduction is one of the most important enabling factors for improving disaster resilience. Particularly where substantial changes to the political status quo are necessary, political will is vital in order to introduce new, progressive risk reduction practices and policies.<sup>1</sup>

The key challenge in generating political will, however, is that the intangible benefit of avoided loss can make these efforts politically less attractive and thus more difficult to mainstream in development planning.<sup>2</sup> Could DRM become politically 'profitable'? How should DRM be approached so that investment in risk reduction can compete with other more 'visible' development priorities?<sup>3</sup> The story of the city of Lima offers some possible answers.<sup>4</sup>

# MAINSTREAMING DRM IN THE MANAGEMENT OF LIMA: AN OVERVIEW

Lima, the capital of Peru, has a total estimated population of about 8.5 million people. Lima is the political, administrative and financial centre of the country, where 50% of the national GDP is concentrated. Between 1940 and 2007, the population of Lima increased twelve-fold. In large part due to this exponential growth, the city suffers from often informal land-use processes and inadequate construction practices which result in high risks and vulnerability for the populations that migrated from the provinces and settled on marginal areas, slopes and river shores, often in shanty towns (see Picture 1). Due to its location on a fault line and on the coast of the Pacific Ocean, the possibility for risks from earthquakes and tsunamis is very high, as

its geological structure and history of the occurance of these disasters underscores.<sup>5</sup> Intense rains, floods and landslides are also a serious threat, particularly for those living in the informal settlements on the outskirts of the city.



Picture 1: A view of Pamplona Alta, one of the informal settlements or shanty towns (*pueblos iovenes*) that have emerged on the outskirts of the city, where populations typically settle on high-risk sloping areas with little urban landuse planning. Source: Herr Schuessler

After the earthquake that devastated the city of Pisco in 2007,<sup>6</sup> many technical public sector agencies, along with donors and the international development community, became increasingly concerned about the impact of a potential earthquake and subsequent tsunami in the city of Lima. A number of important studies and projects were conducted, such as:

- In 2009, the Civil Defence Body (INDECI), with the support of the Swiss Agency for Development and Cooperation, conducted a series of studies to establish the potential scenarios of the impact of an earthquake of great magnitude in Lima
- In 2010-2011, INDECI, with the support of UNDP and the European Commission's European Community Humanitarian Office (ECHO) designed an operations plan as part of the project titled 'Disaster preparedness in the face of an earthquake and/or tsunami, and early recovery'

<sup>1</sup> UNISDR. 2012. <u>Making Cities Resilient Report 2012. My City is Getting Ready! A Global Snapshot of How Local Governments Reduce</u> Disaster Risk. UNISDR Secretariat, Geneva. This publication provides evidence of the importance of political will and leadership for DRM, and describes key trends in building resilient cities and how local governments are going about it.

<sup>&</sup>lt;sup>6</sup> At 18:41, on August 15, 2007, a large earthquake hit the central part of Peru's coast, some 150 km south of Lima. The earthquake tragically resulted in 519 deaths, 1,291 injured, and more than 650,000 affected peopled. In total about 80,000 dwellings and buildings were damaged or completely destroyed in the regions of Ica, Lima, Huancavelica, Ayacucho and Junín. See, for example: Johansson, J. et al. 2007. A Reconnaissance Report on the Pisco, Peru Earthquake of August 15, 2007. JSCE, JAEE, UT, Tokyo.



<sup>&</sup>lt;sup>2</sup>World Bank. 2012. The Sendai Report: Managing Disaster Risks for a Resilient Future. World Bank, Washington, DC.

<sup>&</sup>lt;sup>3</sup> This case study contains elements of the debate about the political economy of disaster risk reduction. See, for example: Williams, G. 2011. Study on Disaster Risk Reduction, Decentralization and Political Economy. ISDR, Geneva. To see how the question of political will and political economy has played out in terms of pushing forward climate change adaptation strategies, see the ELLA Case Study: City-Level Climate Adaptation Strategies: The Case of Quito, Ecuador.

<sup>&</sup>lt;sup>4</sup> The authors of this case study, researchers from <u>Practical Action's Latin America Regional Office (Soluciones Prácticas)</u>, played a key role in designing and advocating for Lima's DRM Strategy, as is later described. Because the strategy has only recently been implemented, there is so far no external research or publications about the process. This Brief draws largely on the authors' own experience in the process and on interviews with other key actors, supplemented by news articles, as well as the city administration's public documents such as budgets, research reports and the strategy itself. Though publicly available, the official documents of the strategy are all in Spanish. For more detailed information about the case, see a powerpoint (in Spanish) by Pedro Ferradas of Practical Action Latin America, presented at the national launch of the UNISDR international campaign 'Making Cities Resilient: My City is Getting Ready' in May 2012.

<sup>&</sup>lt;sup>5</sup> According to the Peruvian Geophysical Institute (IGP), there is a high probability of the occurrence of an 8-M, magnitude earthquake in the city of Lima, taking into account the relatively long 'seismic silence' of recent years.

 With funds from the Inter-American Development Bank (IDB), the Ministry of Housing conducted seismic microzoning and vulnerability studies in various districts of the capital

After the earthquakes in Haiti and Chile in 2010, the media disseminated the results and the findings of these studies, thereby contributing to DRM becoming more visible in the public agenda.<sup>7</sup> In 2011, Peru's national congress approved a law creating the National Disaster Risk Management System (*Sistema Nacional de Gestión del Riesgo de Desastres* - SINAGERD). The law mandates that all public institutions from all levels of government must integrate

DRM in their planning processes, in particular in order to avoid creating new disaster risks. The approval of the law demonstrates not only the existing political commitment to DRM issues, but also serves to reinforce the progress made in DRM, and represents an important step toward the implementation of the Hyogo Framework for Action (HFA).<sup>8</sup> That same year, a new municipal administration came to office in Lima under the leadership of mayor Susana Villaran. It is within this context that the new DRM Strategy for the city was born.

The following table summarises the key objectives and actions of the Strategy:

Objective	Key Actions
1. Promote the prioritisation of DRM in Lima	<ul> <li>Form a risk management group within the city government with representatives from departments related to planning, citizen security and public services. Independent assessment to be provided by technical specialists.</li> <li>Review organisational structure of the city government to improve efficiency and quality of disaster management protocol.</li> <li>Join the Making Cities Resilient campaign</li> <li>Integrate proposed DRM activities into city planning and budgets</li> <li>Incorporate risk assessment and risk reduction measures into all public civil works</li> <li>Incorporate DRM into the city's strategic development plan, institutional development plan and urban development plan</li> </ul>
2. Improve knowledge of risks through assessments and research	<ul> <li>Sectors and local governments to conduct disaster risk assessments in all education centres and all premises where care is provided to children, the elderly and the disabled. Appropriate risk reduction measures to be implemented</li> <li>Work jointly with the central government to assess risks in older hospitals and evaluate infrastructure</li> <li>Conduct a quantitative risk assessment and identify measures for minimising loss</li> <li>Engage public and private institutions to participate in developing DRM plans and emergency operations based on quality research</li> </ul>
3. Raise awareness among public and private actors as well as the population overall	<ul> <li>Support local governments and the media to develop campaigns aimed at encouraging families to improve their housing conditions</li> <li>Organise campaigns promoting responsible water consumption in Lima</li> <li>Direct participation from residents in the prioritisation and execution of the public works</li> <li>Provide capacity building for local government</li> </ul>
4. Reduce risks and the underlying factors generating them	<ul> <li>Coordinate with district councils to ensure land-use planning directs urban growth into low-risk areas</li> <li>Revise building regulations, particularly relating to earthquakes, and provide training to local builders</li> <li>Work with district governments to implement housing and service protection measures in areas along the Rimac river</li> <li>Improve road infrastructure and management to reduce excessive traffic</li> </ul>
5. Improve emergency preparedness and response capacities	<ul> <li>Work with INDECI to develop emergency response strategies and plans involving public and private actors</li> <li>Strengthen and equip a Centre for Emergency Operations</li> <li>Improve emergency access for response vehicles</li> <li>Work with district mayors to launch awareness-raising campaigns aimed at informing the public about disaster preparedness</li> <li>Work with local communities to develop community disaster preparedness plans</li> </ul>

Source: Adapted from the <u>powerpoint presentation</u> (Spanish only) by the Citizen Security Manager of the city of Lima, presented during the 2<sup>nd</sup> National Meeting of Networks of Risk Management and Climate Change Adaptation, organised by the <u>Global Network for Disaster Reduction</u>, 29-30 November 2012, Lima.

#### Step By Step Formulation of the Strategy

The process of getting the strategy designed, adopted and implemented involved a series of key phases:

*Successfully bring together technical and political actors:* Culminating in its enactment in January 2011, the SINAGERD law itself involved a long process of discussion and advocacy efforts with the participation of a broad group of stakeholders, including national officials, technical and scientific institutions, public and private entities, donors and civil society. Since Lima is the political and administrative centre of the country, these discussions were held mostly there. The new Lima municipal administration came into this already-assembled group. It approached this critical mass of actors and formed a panel of

 <sup>&</sup>lt;sup>7</sup> Big headlines in the press and the TV highlight the projections of these studies regarding the occurrence of an earthquake of great magnitude in the capital: more than 50,000 deaths and more than 2.5 million inhabitants affected by the destruction or partial damage of their houses. See:
 *"<u>El Terremoto que Tememos</u>"* (The Earthquake We Fear), an article published in 2011 in the most highly read newspaper in Peru (*El Comercio*).
 <sup>8</sup> The text of the law is available only in Spanish: Ley del Sistema Nacional de Gestión de Riesgo de Desastres. For more information about the implications of the SINAGERD system, and the region's shift to a more integrated, institutionalised strategy for DRM, see the <u>ELLA Brief:</u> Institutionalising Disaster Risk Management: Latin America's Systems Approach.



experts<sup>9</sup> to seek advice and to strengthen their capacities in DRM. By mid-2011, the decision to develop a comprehensive DRM strategy for the city of Lima had already been made.

Analysis of already-available information: Thanks to the coordinated work of the panel of experts and the municipal officials, in particular from the Citizen Security Office (Gerencia de Seguridad Ciudadana), an abundance of rigorous, high-quality scientific studies about vulnerability and disaster risk already existed. This meant that the Municipality of Lima had immediate access to information about the most critical risk areas of the city and the kinds of interventions they needed. The research served as inputs allowing the administration to quickly make decisions regarding the prioritisation of DRM measures and identification of target neighbourhoods, while also strengthening political will to act since the findings gave objective, third-party support to their decisions. The studies were discussed with the representatives of the municipality in order to analyse the viability and implications of implementation. At the same time, a number of outreach events such as meetings and seminars were organised to get feedback from a wide audience of actors, including government entities, universities, professional associations and civil society organisations.

*Participatory formulation of the strategy:* The city organised workshops to raise awareness among the different operational offices involved, such as urban development, planning and private investment, and to cultivate their participation in the process. An agreement was reached on participation methods, specific tasks and levels of commitment. A process of institutional re-organisation was begun to facilitate the uptake and implementation of the new measures. In order to secure budget availability, the relevant legal regulations were modified as necessary in order to ensure the availability of funds for the strategy during 2012.

*Positioning the strategy in the public agenda:* The mayor and other municipal officials made great efforts to inform and engage the public in the process through visible public interventions and through the media. For example, after the earthquake in Japan in March 2011, one of the main roads of the city was closed as a preventive measure due to the risk of a tsunami; and in February 2012, the Municipality of Lima led the response to the flash floods that dumped large quantities of mud and rock fragments in periphery areas of the city. In both cases, the Municipality

successfully used a visible response to the emergencies to emphasise the importance of the DRM process and the need for the new strategy. This also facilitated their negotiation with the central government for more flexibility in the allocation of funds for disaster risk management.



Picture 2: The risk areas prioritised for the Barrio Mio programme, an initiative of the Municipality of Lima to mitigate risks in sloping areas. These are all poor and vulnerable populations settled on slopes and river shores with limited access to basic services

Source: Powerpoint (in Spanish) presenting the Barrio Mio programme.

#### Initial Results

Though the strategy has only been implemented since 2012, it is still too early to assess its broader impact, though it is already achieving some key initial results.

• First and foremost, for the first time ever, the Lima Metropolitan Area has an officially-recognised and comprehensive DRM strategy, which has been implemented since 2012 with a total investment of over US\$ 200 million.<sup>10</sup>

<sup>&</sup>lt;sup>10</sup> In June 2012, the Mayor of Lima presented the strategy to the National Congress. She said: "*More than 200 million soles will be invested this* year, and by the end of our administration this amount will have increased to 500 million soles. We have designated 40% of the municipal budget to address a priority issue which is disaster prevention and response." (Author translation). Source: 12 June 2012. Lima Invertirá S/.260 Millones. en Prevención de Desastres este Año (Lima Will Invest S/. 260 Million in Disaster Prevention this Year). El Comercio newspaper. Online publication.



 $<sup>^{\</sup>circ}$  A panel consisting of DRM experts from COSUDE, UNDP, Practical Action (authors of this Brief) and PREDES.

- DRM has been incorporated into the long-term development plan (*Lima en el 2025*) for the region of Lima, which includes the city and a wider area surrounding it. DRM and vulnerability reduction are progressively being included in land-use planning processes.
- Implementation of the city's *Barrio Mio* (My Neighbourhood) programme that combines urban rehabilitation actions with risk assessments, treeplanting and reforestation interventions on slopes and river shores for protection of vulnerable areas. It also includes mitigation and reinforcement works such as walls and stairs, training for the population, and other actions (See Pictures 2 and 3). To date, the project has implemented actions in 12 of the 17 most vulnerable areas of the city, benefiting more than one million people, and training. 35,000 social leaders in DRM.
- Design of relocation programmes for houses built in high-risk areas (see Text Box on the Vía Parque Rimac Project), and a programme to tackle overcrowding in critical areas. In 2012, the Municipality of Lima issued a regulation regarding the legal and physical formalisation and regularisation of overcrowded land. The aim of this initiative is to promote urban refurbishment through incentives and popular housing programmes which will benefit more than 600,000 families settled on critical land. To this end, the Municipality created the <u>Urban Refurbishment Sub-Office</u>, an agency within the city's Urban Development Office.



Picture 3: Urban rehabilitation and risk mitigation projects proposed in the framework of the *Barrio Mio* Integrated Urban Development Programme. Source: <u>Powerpoint</u> (in Spanish) presenting the *Barrio Mio* programme.

 Implementation of a disaster preparedness plan for earthquakes and tsunamis, with 13 of the city's parks equipped to serve as temporary shelters for 100,000 people in case of emergency. The Municipality of Lima has also implemented tsunami evacuation routes along the city's coastline, obtained emergency equipment and heavy machinery, and formulated an emergency response protocol for the first 72 hours after the occurrence of a disaster.

#### The Case of Vía Parque Rimac

Lima's DRM strategy mandates incorporating risk reduction measures in all of the public works implemented by the city government. The city has shown how any development project can also incorporate elements to help reduce disaster risks. In this way, the disaster risk management budget does not compete for resources with other priorities and risk reduction becomes an integral part of local development. *Via Parque Rimac* (The Rimac Park Road Project) is a perfect example.

The project, as it was originally conceived and implemented under the previous Lima mayor, proposed the construction of high speed roads under the Rimac river to improve the transit of vehicles throughout the city. Its budget amounted to US\$ 571 million from private investment sources.

When the new municipal administration was elected, they opted for modifying the project to reflect integration within the new DRM strategy. The modified project has a larger budget thanks to the renegotiation of the private investment agreements, amounting to US\$ 700 million. Rather than just focusing on transit, the new initiative is an integrated development project that will improve not only the circulation of vehicles, but also the quality of life of the population settled in the project intervention areas and the environmental conditions of the Rimac river through the construction of a large park with wide green areas.

Some of the additional funds will be used for executing public works on the left bank of the Rimac river to reduce risks faced by the populations settled near the river. The new project's relocation plan also specifically includes DRM elements; the previous project only called for relocating families living in the direct path of the public works, whereas the new initiative's criteria for relocation is families living at risk, and will include a programme of subsidies and compensation for constructing multi-family housing blocks.

<sup>11</sup> Holistic disaster risk management is more attractive when it simultaneously addresses the needs of many stakeholders and competing priorities. In general, the incentives are stronger when disaster risk management visibly contributes to improved economic and social well-being. See: UNISDR. 2012. <u>Why Invest in Disaster Risk Reduction?</u> UNISDR, Geneva.



# CONTEXTUAL ENABLING SUCCESSFUL DRM REFORM

The factors that contributed to the success of the intervention include the implementation of the Hyogo commitments and the 'Resilient Cities' campaign, which was endorsed by the city of Lima. Other important factors were the context of regulatory changes and the decentralisation process the country is undergoing, which gives much support to local-level government initiatives. In addition, the national disaster risk reduction legislation underpinned the development of city-level institutional structures.

Political factors were also at play. After 23 years, a left-wing political party won the mayoral elections in the city of Lima. From the beginning of this administration, its agenda and discourse - based on structural problems - represented a shift from previous municipal administrations.

It should be noted that DRM also served as a legitimate opportunity to gain political approval.<sup>12</sup> In particular, the city administration capitalised on large-scale disaster events to build public support. Over time, the public began to regard DRM public works as just as crucial as other types of infrastructure investments. In this regard, the role of the media was crucial.

Many of the public sector officials brought into the municipal administration under the new mayor had spent their careers

in the development sector in NGOs or donor agencies. This facilitated strong communication and exchange between the municipal government and the development sector, such as through work groups which were established, which helped push forward all phases of the strategy. In addition, the expertise of development cooperation actors and other sectors facilitated technical monitoring for the consolidation of the process.

In the next few years, the city's new strategy will face several challenges. The first is maintaining the original funding amount: Lima's mayor, Susana Villaran, narrowly survived a vote in March 2013 to remove her from office, but the mayor's political party has lost majority seats on the city council, so this could be an obstacle for getting budgets approved. In addition, the implementation of many of the strategy's components, such as *Barrio Mio* and popular housing proposals, require the permanent collaboration of different institutions with their own agendas, such as the district municipalities, the national authority responsible to give the title to informal settlements, the water utility of the city, and the Ministry of Housing. The political reality also means it might be challenging to secure the cooperation of these various actors.

<sup>12</sup> For the first time, the city government is marketing their DRM public works to build public support for the mayor. For example, during the election to revoke the Mayor promoted by the opposition, TV spots of the Municipality of Lima demonstrate the public works carried out as part of the DRM strategy, such as this <u>video</u> about the *Barrio Mio* project.

**ESSONS LEARNED** 

The integrated DRM strategy developed by the Municipality of Lima is largely the result of the confluence of three key processes: advocacy and influence for mainstreaming DRM in the municipal agenda; institutional innovation for implementing the SINAGERD Law and for generally taking an integrated, systems approach to DRM; and capitalising on a moment of increased awareness of the urgency of DRM among the population. This case is an example of how technical knowledge and experience from various interventions can be utilized. Since academic and technical institutions are a valuable source of knowledge and analysis, there is a need for closer collaboration between communities at risk, researchers and governments, and for high-quality, rigorous studies of risk and vulnerability.

DRM is an investment in the future that competes with multiple demands on resources. This case demonstrates how one possible solution is to mainstream DRM into development processes and budgets, while at the same time using communications to convince citizens and other public officials of the need to invest in DRM.

# CONTACT THE AUTHOR

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