



Colombia, Peru
& Mexico
Closure Report
4/4

Allan Lavell

**REDUCING
RELOCATION
RISK**
IN URBAN AREAS



FLACSO



dpu
Development
Planning Unit

Credits This report was prepared by Allan Lavell based on the research and reports by Omar-Dario Cardona, Angel Chavez, Elizabeth Mansilla, and Maria-Pilar Perez; and reviewed by Anthony Oliver-Smith

December 2016

This document is an output from a project funded by the UK Department for International Development (DFID) and the Netherlands Directorate-General for International Cooperation (DGIS) for the benefit of developing countries. However, the views expressed and information contained in it are not necessarily those of or endorsed by DFID, DGIS or the entities managing the delivery of the Climate and Development Knowledge Network, which can accept no responsibility or liability for such views, completeness or accuracy of the information or for any reliance placed on them.

The Research project Reducing Relocation Risk in urban areas is carried out by The Bartlett Development Planning Unit (DPU) at UCL, the Indian Institute for Human Settlements (IIHS) the Latin American Social Science Faculty (Facultad Latinoamericana de Ciencias Sociales (FLAC-SO), and Makerere University.

This report is downloadable for free from: www.bartlett.ucl.ac.uk/dpu/reducing-relocation-risk/

The findings, interpretations and conclusions expressed here do not represent the views of any organisations that have provided institutional, organisational or financial support for the preparation of this paper.

Colombia, Peru & Mexico Closure Report 4/4

Allan Lavell

**REDUCING
RELOCATION
RISK**
IN URBAN AREAS



FLACSO



Contents

Introduction: The Project

Section 1: Diagnosis

Prologue

1. Populations at risk: process and product

1.1 Mexico

1.2 Peru

1.3 Colombia

1.4 Discussion

2. Dealing with resettlement: the administrative, organizational, institutional and financial factors

2.1. On policies and laws

2.2. On instrumentation and the resettlement process

2.3. On territorial organization, risk reduction and resettlement

2.4. On Institutions and organizations: the play of stakeholders

3. Cases of resettlement in the three countries: towards the identification of elements of a typology

4. Beneficiaries.

Section 2: A summary of evidence on decision and implementation from Latin America

Introduction

1. Some relevant concepts, notions and terminological aspects

1.1. On population movement and resettlement.

- 1.2. On options and solutions to voluntary and involuntary movement and the idea of typologies
- 1.3. On terminology
2. Case study selection, methodology and overall approach to research in project countries
 - 2.1 Case study selection
 - 2.2 Research process and methodology.
3. Details of the case studies in each country
 - 3.1. Mexico
 - 3.2. Colombia (Manizales City)
 - 3.3. Peru
4. Towards an understanding of the conditioning factors for decision and implementation of relocation and resettlement schemes
 - 4.1. Legal precepts, normative controls and technical specifications
 - 4.2. History of a theme and contextual problems for the execution of resettlement schemes
 - 4.3. Stakeholders, interest groups and the decision making process
 - 4.4. Demand and supply of livelihood protection and services: tradeoffs between different expressions of risk and need
 - 4.5. Move me, but let me be
 - 4.6. You talk to me but don't make me a true participant in decision making
 - 4.7. Urban land for resettlement: urban rent and lack of accessibility
 - 4.8. Use and reuse of abandoned land

4.9. Those left behind

4.10. Those around the new scheme and the impact of the new scheme on population dynamics

4.11. What sort of house and plot am I going to?

5. An overview of settlement practice, contexts and challenges: decision making and implementation and the key to successful and unsuccessful practice as deriving from case studies

Section 3: Resettlement: the costs and benefits to stakeholders

Introduction

1. Case studies and basic research method

2. The why and how of possible research

3. On concepts, notions and definitions used in the research

3.1. On “risk analysis” or “cost-benefit” analysis of resettlement

3.2. On interpretative models of gains and losses, explanation and outcomes

3.3. Conditioning factors in understanding resettlement impacts and the evaluative process made by beneficiaries and other stakeholders

4. Major results and conclusions from research on costs and benefits

5. A synthesis of notions and evaluations as to costs & benefits across the studied cases in LAC

6. Conclusions as to controlling the impact and outcomes in the future: towards a policy brief for Latin America

Citations

Annex 1. Key concepts and definitions

Annex 2. Typology of Case studies

Introduction: The Project

Between April 2015 and December 2016, the Latin American Social Science Faculty participated actively in the Climate Development Knowledge Network-CDKN- financed project on “**Decision, implementation and social and economic impacts of climate risk induced resettlement in urban areas**”. Comprising studies undertaken in Mexico, Colombia and Peru, this research formed part of a larger research endeavor including studies from India, Uganda and Tanzania coordinated by the Indian Institute for Human Settlements-IIHS; The Bartlett Development Planning Unit-DPU- at University College London-UCL- and the University of Makerere. The Bartlett-DPU, in the person of Dr. Cassidy Johnson, was the global research coordinator.

The rationale for the project was couched in the following terms, included in the project contract: *“The social and economic impacts on individuals, society and urban regions, from climate-related relocations, are not well understood by those enacting resettlement. Relocation may reduce a region’s future climate-related disaster risk but it can also increase people’s poverty and vulnerability. The decision-making process about post-disaster relocation, pre-emptive resettlement or on-site upgrading, and their implementation processes, have drastic effects on whether outcomes are socially just and whether they actually reduce future risks for individuals, urban regions and society. The project will develop locally-relevant understanding and awareness of the processes and impacts of climate-related resettlement at the country and city levels, to enable policy impact and capacity-building.”*

Objectives

The research focused on case studies where populations have been resettled as a pre-emptive or post-impact measure for avoiding climate related risks. It sought to understand the decision making and

implementation processes involved and the social and economic implications of such resettlement policies, specifically in urban contexts.

In doing so it sought to resolve the following specific research objectives:

- a. To understand the political, economic and institutional contexts in which resettlement takes place;
- b. To understand the cost benefit balance of resettlement both from the state’s and from the individual’s perspective; and,
- c. To understand how resettlement impacts people’s well-being and resilience over different time frames.

Key activities that would be completed in order to address the research questions were identified as follows.

- a. For a select group of countries, the identification of factors that contribute to and define urban climate related risk and the systematization of information on the legal and policy frameworks and guidelines governing resettlement and relocation of affected communities;
- b. The definition of a typology of approaches to reducing climate related risk for urban communities, including relocation, and gauge their relative importance in achieving socially just outcomes for individuals and communities, as well as for society;
- c. The definition and characterization of the underlying rationale and decision process associated with resettlement strategies enacted in different urban geographical contexts;
- d. The comparison of similar and different types of

“solutions” enacted across continents, systematizing costs and benefits and lessons learnt; identification of the advantages and disadvantages with regard to reduction of future economic and social costs; and the proposal of best policies for maximizing beneficial outcomes.

Stages of Research

Five work packages (WPs) were implemented over the course of the project:

WP1 Diagnosis

Providing an understanding at both city and country level of the nature of climate induced risks and how societal structures manifest themselves in location choices and exposure along with a consideration of land planning and resettlement policies and legal and normative frameworks at the regional, national and local levels. This diagnosis led to the selection of site-specific case studies in each country. The diagnostic method included a review of country and city specific literature on disaster risks, resettlement and urban development, complemented by consultations with local experts, through key-informant interviews and during workshops. Outputs were formulated in three country/regional-level diagnostic reports.

WP2 Primary Research

Development of a typology of climate-related urban risk reduction schemes, including pre-emptive and post impact resettlement, in order to build an understanding of the role of different stakeholders and politics in driving the decision making and implementation processes. This entailed primary field research based on household surveys, interviews with decision-makers and implementers and focus group discussions with communities.

WP3 Risk Assessment

An evaluation of the quantum of potential climate induced risks, risks avoided and costs of resettlement and relocation, and the study and understanding of the implications of these risks for developmental outcomes, the social and economic implications of climate risk induced resettlement, and methods for assessing costs and benefits of decisions on resettlement.

WP4 Cross Regional Learning

Cross case analysis to understand the similarities and differences of resettlement policies and practices in order to build a critical review intra and inter geographies. The methodology built an iterative

understanding from an interrogation of the cases. This was to be a project-wide, cross-case sharing and typology-building exercise for which the outputs would be one working paper or book, two academic articles and policy briefs.

WP5 Dissemination

Final project results would be disseminated through methodology briefs, policy briefs and summaries of key findings, facilitating an international policy dialogue with the objective of agreeing road maps to integrate project findings into local, national and international resettlement and relocation practices. This would lead to the production of training materials for project implementers, evaluators and policy makers.

The Study in Latin America

The study was undertaken in Latin America under the auspices of the Latin American Social Science Faculty-FLACSO- coordinated by Allan Lavell. Research in Mexico, Peru and Colombia was undertaken by Elizabeth Mansilla, Angel Chavez (with support from Belen Demaison) and Omar Dario Cardona (National University of Colombia, Manizales) and Maria Pilar Perez, respectively. On-site work with the participation of the national coordinators and the overall project coordinator was complemented with Latin American regional coordination meetings and debates held in Costa Rica in May 2015 and Colombia in early 2016 and an overall project meet in London in July 2016 and in Bangalore in August 2016 with the presence of national researchers and project coordinators. A final project meeting and international consultation on results was held in Quito, Ecuador on the occasion of the UN Habitat III Conference in October, 2016. The project benefitted enormously from the advice and presence in debates of Anthony Oliver Smith, project advisor.

The Present Final Regional Report

During the life of the project three regional synthesis reports were produced based on the results of WPs 1-3, the research stages of the present project (Diagnostic, Decision and Implementation, Costs and Benefits).¹ These reports, written in English, sought to summarize the most important cross country, national and regional findings from research in the three project countries. The present report merges these three documents into a single document, providing an overall understanding of research procedures and results. This final report has also been translated into

¹ National reports (in Spanish) are available on the project website: www.barlett.ucl.ac.uk/dpu/reducing-relocation-risk/index

Spanish, making comparative results more widely available and accessible in the LAC region. National project reports for the three phases are available online in Spanish. This regional report ends with the policy guidelines developed for the Quito meeting which in themselves provide conclusions and recommendations from the whole research project.

In the present report we limit the use of citations to those novel to this report. Citations backing up considerations taken from the national reports and included in this regional synthesis may be consulted in the national reports. Annex 1 provides a summary of the concepts and definitions used or discussed in the project.

Section 1: Diagnosis

Prologue

Resettlement of population and the search to reconstitute their livelihoods and their infrastructural, economic, social, cultural and psychological foundations, has been enacted historically under diverse economic, social and environmental conditions. The demand for land for the development of large scale infrastructure projects or for urban renovation, the need to settle persons expelled from their places of origin due to conflict, and relocation and resettlement due to the incidence or potential incidence of damaging physical events, are the most prevalent and well known of these types of movement. Any one of these movements and processes (unless completely spontaneous) require legal or normative frameworks in which to operate, institutional and organizational set ups for achieving set goals, mechanisms for financing and systems for monitoring. Experience has shown that many such processes incite social conflict, competing demands and dissatisfaction with, or suspicion of government, and its ability to provide solutions. Many have not been carried out in planned, participatory, sustainable and sustained manners.

Where relocation or resettlement are related to the presence, or potential presence and impact of damaging physical events of climatic and meteorological, geological, geomorphological or oceanographic origin, such practice is often conceived as part of what is now commonly known as “Disaster Risk Management” (DRM). It then constitutes one of the many methods available for “reducing” (corrective management) or “anticipating or preventing” (prospective management) disaster risk (which may increasingly be related to climate change hazards). Disaster risk related relocation and resettlement may take one of many forms and be inspired and implemented according to many different institutional and organizational, legal and normative,

planning and participatory schemes. When decision and implementation are led by different organizations and institutions, different rationales and processes may prevail. Thus, for example, resettlement and relocation are often related to land use planning and territorial organization processes and schemes as well as to disaster risk reduction goals. In fact, independent of the disaster risk link, resettlement may be seen as a concern that essentially derives from land use and territorial organization planning needs where the criteria for decision making could differ substantially from those that militate where DRM concerns and practice are prevalent and the starting point for the process.

The objective of the present section is to summarize the more salient aspects deriving from a short diagnostic exercise undertaken in Peru, Mexico and Colombia, on the demand for and the process of resettlement when faced with climate related risk and disasters.

The full diagnoses for the three Latin American countries (in Spanish) consider the origins and significance of urban population risk, the research or discussion ensuing to date from urban risk or resettlement processes, the organizational and institutional mechanisms existing for dealing with this, especially through resettlement, and a review of selected cases of resettlement. The latter sought to identify particular sites for field work study but, more importantly, during the diagnostic stage, the identification of the range of possible modalities of resettlement-relocation that exist (basis of the construction of a typology). The diagnoses were limited in scope by the time available for their elaboration and concentrate on the more essential descriptive and analytical elements. The principle objective of the diagnoses was to identify conditions and circumstances that warranted greater reflection and consideration as the project progressed.

In the present “synthesis” we will highlight comparative and contrasting contexts and conditions in the three countries. As opposed to a detailed repetition of information recorded in the three country diagnoses we project the highlighted comparative and idiosyncratic aspects in such a way that we may identify research challenges for the future. In particular, we highlight the contrasting ways in which urban population and livelihood risk is constructed over time; the magnitude of the problem and what may be expected in the future with continued urban growth and increased climate stressors; the institutional and organizational structures involved in decisions to resettle, the ways resettlement processes are enacted and with what resources; the guidelines or criteria used in such decisions and practice; and, summary examples of resettlement, the motives and types of movement experienced.

1 Populations at risk: process and product

Latin America, amongst southern continents, has the largest relative numbers of persons living in cities and towns—close to 80% according to UN figures (United Nations, 2014). This can be expected to increase in the future as countries with lower relative rates of urbanization join the dominant urbanized community— most Central American countries along with Bolivia and Paraguay, for example.

Although constant over the last 50 years, urban population growth has passed through different periods and can be explained by different processes. This also applies to the increases in and the nature of urban disaster risk.. Here we propose that “urban disaster risk” refers to risk that is generated through the particular processes we consider to be “urban” (as opposed to rural, sectoral, etc.). In particular we refer to processes leading to concentration, centralization and densification; urban socio-spatial segregation (between the more prosperous and those marginalized or excluded from the benefits of modern growth and development); lack of redundancy in integrated, lineal urban service functions (streets, electricity and water and sanitation systems, for example); processes of environmental degradation both within and outside cities, present because of the concentrated demand for natural space and resources; the nature of governance arrangements and the lack of overall coordination between different hierarchical and bureaucratic administrative urban and metropolitan levels (see Mitchell et al 1999; Lavell, 2000).

1.1. Mexico

In Mexico a broad division can be made between the post-World War II process of urban concentration

associated with import substitution industrialization and the growth of commercial agriculture, with the expulsion of population from rural to urban areas, and that associated with the post 1980s process of economic liberalization, free trade and reduction in the size of the State, accompanied by successive periods of economic crisis.

In the post WWII scenario, where the search for cheap industrial labour and the need for cheap industrial inputs was a major factor in rural expulsion, population was concentrated increasingly in a small number of metropolitan areas—Mexico City and Monterrey in particular. Little urban planning was practiced and extreme deficits in infrastructure provision were suffered. Location of poorer population groups in poorer and more hazard prone areas was prevalent.

In the second period, which extends from the crisis at the end of the 1970s through to the present time, changing patterns of urban growth have been witnessed with an important surge in the growth and size of smaller provincial cities, under the aegis of economic restructuring and a decline in the functions and role of the State in the provision of basic needs and infrastructure. During the 1960s and 1970s cities such as Guadalajara, Queretaro, Toluca and Puebla grew rapidly under the influence of industrial decentralization. Since the 1980s, this has expanded to include centres outside of Central Mexico, including the border cities with the USA.

Government planning functions declined during the post 80s period, along with the growth of private sector speculative interests and practice in the urban land market and the privatization of many types of infrastructural and service provision.. Moreover, increased decentralization in favour of municipalities has led to fiscal decentralization and the pressure to generate greater local resources, public service concessions to the private sector and an increase in the numbers of large speculative urban land developers. Such conditions have all led to increased disaster risk in cities. This is manifest in the levels of informality in land use and occupation in non-apt areas. In the case of working class housing many cases exist where houses have been declared inhabitable even before they were handed over to their owners. In the case of Hurricane Manuel and its impacts in Acapulco in 2013 a case was discovered where urban developers had diverted a pluvial drainage channel in order to build more than a thousand houses, thus increasing the intensity of flooding in other areas. Inadequate construction and location of basic infrastructure, such as drainage systems and roads and highways, and the maintenance of historical deficits in the

provision of adequate infrastructure has occurred. The impossibility of acquiring safe reserves of land to enable planned, as opposed to irregular and marginal growth, has led to increased numbers of at risk settlements. The impossibility of acquiring an urban lot for a large number of very low paid workers means that the occupation of unregulated, unsafe areas is imperative.

Between 1970 and 2008, 80% of all damaging physical events recorded in the DESINVENTAR disaster data base were in urban areas and 81% of these were in urban areas of between 20 thousand and a million persons. Fifty two percent of all events were hydro-meteorological (Mansilla, 2008). According to the Council of State Housing Institutions, in 2010, there were half a million houses in Mexico with 2 million people that needed relocation due to high risk conditions (CONAREVI, 2010).

1.2 Peru

The Peruvian case provides a more disaggregated classification of periods of urban and poverty growth which combines the two periods identified in Mexico but is peppered with additional social conflict considerations.

Between 1950 and 1970, urban growth is stimulated by the same factors as in Mexico but it is accompanied by an early interest in urban planning and natural resource management under the existing undemocratic political conditions. By the 1980s democracy had returned to Peru and in 1981 a first National Planning System was created. However, a rapid, uncontrolled movement to cities was fostered during this decade by the search for educational opportunities and by the rural violence propagated by Sendero Luminoso-the Shining Path guerrilla organization- and the flight of many from the Peruvian army itself. During this period cities were widely dispersed and poorly connected such that it was difficult to speak of an articulated urban hierarchy. Movement to the cities in the indigenous Andean region led to the growth of suburban settlements on hazard prone land, accompanied by social movements in favor of increased infrastructure for such areas. This consolidated and “institutionalized” the construction of urban disaster risk for the first time in Peru.

The 1990s was a decade of crisis, frustration, increased poverty and effective dictatorship once more. Economic liberalism held sway with anarchy in the provision of urban infrastructure. The National Planning Institute was closed and with this the Ministry of Economy and Finance-MEF- took over development policies for the country. In this way any

attempt at territorial planning was postponed. Even with the creation of the Strategic Planning Centre in 2000, the MEF has dominated development policy ever since.

Defeat of the Shining Path movement was accompanied by crisis and violence in cities. Urban population growth led to the saturation of urban space and an increased growth in informal settlements in many intermediate sized cities, especially those near to the zone of political violence. Even so it was Lima that received the largest number of displaced persons, especially from the central-south zone of the country. Due to this the State created COFOPRI, an organism for the Formalization of Informal Property, which reduced the role of municipalities in such processes. COFOPRI operated by co-opting the population and infiltrating the poor in order to develop assistencialist policies in exchange for votes. It formalized human settlement hand over fist, even in very high risk areas.

Post 2000 the country returned to democracy. Decentralization of government became the message of the day and 25 regions were created for this purpose. The role played by COFOPRI was taken up on by municipalities. A National Public Investment System was created which made projects on urban infrastructure easier to finance, including financing in high risk areas. Programmes for Access to Social Housing and for Water and Sanitation are begun with positive repercussions for high risk dwellers. In 2011, the government creates the Budgetary Programmes for Vulnerability Reduction and Disaster Attention (PREVAED). This Programme controls near to a billion dollars annually for risk reduction and disasters, including resettlement.

The most salient characteristics of population settlement over the last decades can be summed up in terms of: location in ecologically fragile areas, the dominance of self-construction methods with little or no technical assistance, the use of inadequate building materials, the “legalization” of unsafe lots and the construction of risk reduction infrastructure in return for votes. More recently, a tendency towards high rise buildings for habitation is seen when faced with the lack of access to land in many cities.

According to official data, over 21 million people are exposed to the effects of heavy rainfall and 12 million to cold or freezing conditions. According to official figures more than 21 million live in conditions of extensive risk and 1% of these are in areas of non mitigable risk, subject to a demand and need for resettlement.

1.3. Colombia

Colombia has over 70% of its population living in

urban areas and this continues to grow at a rapid rate, under conditions of growing exclusion or marginalization for many. The causes of migration to urban centres is typical of Latin America as a whole where rural poverty and the attraction of the city are prevalent. In Colombia the persistent, chronic insecurity of many rural areas due to the social conflict associated with the FARC guerilla movement (parallel to the impact of Shining Path in Peru in the 1980s) has added to the pressures associated with the migration from non-urban areas of predominantly poorer populations.

Location in areas of high risk, mitigable or not, can essentially be explained by the same factors that prevail in other countries: land speculation in large cities and lack of access to safe land (corruption in the “sale” of unsafe land to urban migrants escaping violence in the rural areas has also been mentioned in different studies of insecurity in the city); the absence or lack of urban planning and efficient land use ordinances; and, inaccessibility of poorer populations to social housing policies and to government finance, due to their lack of capacity to incur in debt..

The deficit in the availability of housing increased 3.8% annually in the 1990s and continues to increase today, assuring the location of more and more people in unsafe housing in unsafe areas. Beyond the socially induced factors that oblige poorer populations to locate in unsafe areas and the incidence of hazard prone, unsafe areas in Colombia’s urban scene, anthropogenic factors also intervene in the creation of risk in already hazard prone areas (Manizales, the focus of the present research endeavor in Colombia is notorious for its hazard prone topography and since 1960 over 8000 houses have been severely affected due to landslides and flooding).

Among the social factors contributing to risk in Manizales, the following are dominant: the deposit of rubbish and building materials on steep slopes; the building of overweight houses on the upper reaches of urban slopes; excavations for construction purposes or extraction of building materials at the base of steep slopes; deforestation of upper basin areas and the use of inadequate building materials and pluvial drainage systems. Hazards are thus socially constructed on top of the already prevalent, unsafe natural conditions.

A study undertaken 10 years ago showed that of the almost 8 million housing units in the country, 750,000 were located in areas of mitigable risk and 280,000, or 4% of the total, in areas of unmitigable risk. The notion of unmitigable risk was derived from a consideration of those housing units where the water and drainage companies refused to install public services due to their unsafe condition. Overall, those

living in both mitigable and unmitigable risk housing are poor, marginal or excluded, illegal and informal and with high levels of unemployment. This means that many times they are much less concerned about environmental hazard when locating, and much more concerned with the presence or absence of the social and economic conditions that guarantee their survival. This is a factor that obviously weighs on any decision to resettle or relocate.

1.4. Discussion

In general throughout Latin America, similar conditions and processes, played out in different time periods, help explain the permanently growing location of population and livelihoods in areas exposed to hazards, and to hydro meteorological hazards in particular. Little has been studied or written based on hard fact as to the future impacts of climate change on the insecurity of such settlements but the general notion is that this will increase hazard and eventually the risk conditions that antecede disaster. A consideration of the data and the facts presented in the three country diagnoses allows us to identify a number of challenges and defining factors as to risk reduction for urban populations in the future.

Firstly, the number of persons living in highly hazard prone areas, areas of high unmitigable risk, is large and growing. Here it should be noted that the notion of unmitigable risk is population group and economic function specific. What is unmitigable for the urban poor is not necessarily unmitigable for the urban rich and economic and commercial interests as a whole. Beyond the prevailing economic processes and the concentration of income in cities, continued migration of poorer populations is the main cause of location in unsafe areas and climate change is expected to impact on rural populations in such ways that rural to urban migration continues. The sum of these processes and their accumulative results means that countries face an almost impossible task in promoting pre-impact resettlement of even the most at risk populations. The numbers are simply too great and the resources too scarce. Also,, the administrative process leading to state incentivized resettlement is still in nappies. This thus suggests that resettlement can most appropriately been seen as a means of last resort, once all other options for risk reduction have been considered and discarded. This is relevant not only when we consider the social and economic disruption resettlement can and has caused but also because it is impossible to think of resettlement for all those in such need, even less so if one thinks of future population growth in unsafe areas.

A second question and challenge thus relates to the ability to offer alternatives to continued location in

high risk prone areas, thus avoiding, from the outset, the need for future resettlement.

Resettlement is mostly a palliative for disaster risk. A needed option due to prior failure to control location in already hazard prone areas. a. Only in cases where the physical hazard has developed in post location periods, as can be the case with changed conditions due to environmental degradation and climate change, for example, can we think of resettlement as a needed solution for changed conditions. It is however a need principally dictated by humanitarian, social and political considerations in post impact situations. The search for greater prospective control over settlement in hazard prone areas is present but still latent. This means that now and in the future resettlement will probably only be a real option in most cases for post impact populations, those that have suffered disaster and where decision making as to need and priority is dictated by the pressure of circumstances, political considerations and short term needs. This of course does not exonerate us or government from searching for mechanisms for the prospective control of location in insecure sites.

2 Dealing with resettlement: the administrative, organizational, institutional and financial factors

The decision to enact resettlement and the process for achieving it clearly need to be guided by policy and strategy dictates and legal or normative frameworks, accompanied by adequate methodologies and instruments, carried out by relevant organizations and institutions in coordinated and holistic fashion.

When considering what has occurred and what the current situation is in the three countries (which may also be representative of the overall context and diversity of circumstances in LAC), one starting point is to highlight a series of affirmations made in the diagnoses which seem to capture essential aspects of past and current processes and indicate needs for future research. In the present sub-section we will attempt to condense the content of the three national diagnoses into various significant themes and areas of discussion. We will be indicative, not extensive, and refer readers to the original diagnoses for details of the processes instituted for resettlement.

2.1 On policies and laws

Central statements from the diagnoses

“In Mexico there are no ad hoc legal frameworks or institutions specifically responsible for resettlement. Risk or disaster incited resettlement is backed up by a series of norms established in government development plans and programmes, particularly the

National Development Plan and its sequels at the State and local levels” (Mexico).

“Colombia is a country that has developed a large number of public policies and programs directed at solving problems of housing for population living in high non mitigable risk zones. Existing norms have permitted the State to facilitate processes, but, the complexities of each case and the capacities and level of governability of each municipality is what makes projects feasible or not... norms are necessary, but not sufficient and one needs committed personnel using intelligence and ingenuity to achieve goals” (Colombia).

“Peru passed a first law on population resettlement in 2011. The National Disaster Risk Management Plan approved in 2014 promotes resettlement” (Peru).

The national diagnoses revealed a differentiated historical approach and current context for resettlement in each country.

In Peru, a specific law was passed in 2011 on preventive (and post impact) resettlement. This was formulated in the context of, and builds on the new disaster risk management law passed the same year and the institutional and organizational prerogatives it dictates. In Mexico, policy without a law now exists, expressed in the programmes of Territorial Organization and Schemes for the Relocation of Population from Risk Zones (REPZOR) (2014). This has been developed in the framework of the recently created Secretariat of Agrarian, Territorial and Urban Development, SEDATU, which replaced the Secretariat of Social Development (SEDESOL) in dealing with disaster risk management and reconstruction concerns. SEDESOL managed resettlement issues through its Emerging Housing Programme and existing Federal housing programs, in coordination with local and State authorities. In Colombia, a long series of laws, decrees, agreements, norms and dictates have been developed at the national and local levels that refer to resettlement issues.

In the cases of Mexico and Peru, resettlement policy and law have been developed in following recent disasters or developments with regard to disaster risk management in general. In Mexico, the 2010 impact of tropical storm Manuel in Guerrero on poor population living in unsafe areas was fundamental in inciting the development of REPZOR. In Peru, a critical factor was the overall restructuring of the disaster risk management law and administration in 2011 and successive seismic and hydro meteorological impacts on housing and population in various regions since 2005.

In the case of Colombia, no explicit resettlement law exists, while an explicit policy has only recently been expounded in Article 157 of law 1573 (2015) supporting the most recent national development plan. However, integral disaster risk management has been an important theme in the country since 1985 following the Nevada de Ruiz volcanic crisis and the destruction of Armero. This led to the passing of the novel 1989 law on disaster risk management which was updated and reformed in 2012. Within the framework of, or at least guided by the concern for disaster risk management, resettlement-relocation has been the subject of concern in multiple evolving laws, norms and decrees. These are particularly concerned with urban development (since the first 1989 law on this theme) and social housing and its finance. Interestingly, resettlement or relocation, or in more specific terms, the pre or post impact concern for affected populations in high risk zones, has been guided by concerns for housing and not explicitly in a more integral resettlement vein. However, the 2015 law on the national development plan is explicit as regards the provision of housing, accompanied by social service provision and economic reactivation for affected populations.

The more recent concern in Peru and Mexico for resettlement issues and the longer interest and experience in Colombia are reflected in the wider literature base on the topic in this latter country where systematizations of experience and case studies are more or less easily available. The now well-known and almost unique study and guidelines for post and pre impact resettlement developed by Elena Correa for the World Bank were in fact stimulated and developed as a sequel to work done in Colombia on the Guatavita relocation process in the north of Bogota.

2.2. On instrumentation and the resettlement process

Central affirmations from the diagnoses

“It goes without saying that each case (of resettlement) is different and very little can be said in common. This makes generalization difficult. In Manizales norms have been changed according to lessons learned, good practice and experience at the local level” (Colombia).

“There are no norms that indicate when resettlement is permitted or not, or, where high risk communities exist, whether resettlement is needed or other solutions exist. Due to this...the conditions for resettlement and consequently the final results, vary case by case....The norms dictated by SEDESOL and SEDATU do not allow us to fully understand who decides on relocation, using what criteria or how

the place for relocation is decided. Neither is there documentary evidence that allows us to understand if prior to relocation there were studies to verify viability, conditions of security or place of destiny or the technical specifications of relocation. There are no studies post relocation or as to the use made of abandoned land.... There is no evidence that alternatives to relocation have been considered... in the heat of post impact promises” (Mexico).

“With the volume of new instruments (generated by the recent 2011 law on resettlement) problems for operationalization exist, including: the information on risk, vulnerability and hazard is not easily available or is outdated; existing instruments do not permit adequate urban planning; although what we want to achieve with DRM is known, how to do it is still pending” (Peru).

“It is necessary to execute law 29869 on resettlement.. The challenge is to do this without generating conflicts, under mutual consent, and with the population convinced of the need. Due to this we must generate efficient incentives such that the vulnerable population will decide to resettle in more secure areas even if this means starting from scratch” (Peru).

The lack of adequate specification and definition of key concepts, or adjustment of norms to different prevailing conditions and types of population movement means that in many circumstances interpretation is idiosyncratic and cases differ widely in process and their level of success in all the countries.

The new Peruvian law does, however, provide for definitions and criteria for defining types of resettlement, selection of communities and the process for achieving resettlement. And, following its promulgation, the development of guidelines for inventorying communities at high risk (as is the case in Colombia as well), for the study of at risk populations and for guiding the resettlement process as such have been developed. The recent nature of all these measures and criteria makes it impossible to judge their efficacy at present. But, what is known is that the law assumes that the population is in agreement with being resettled and no provision for the expropriation of property is made as is the case with resettlement due to the promotion of strategic development projects. When faced with the lack of obligatory movement there is little social sustainability for ongoing processes. These themes offer an opportunity for future research given that a number of examples of resettlement post law do now exist.

With regard to the Colombian case, a number of

problems have been faced by national, departmental and local governments in dealing with resettlement. These are probably of more generalized concern in LAC, namely:

- Deficiencies in the process, given lack of definition as to the levels of political, private sector and society responsibility for at risk communities. Moreover, there is limited institutional capacity to make processes sustainable and short term non integral visions prevail with no real understanding of the magnitude of the problems faced.
- Deficiencies in the structure of the State at the national level which are evidenced in problems with interinstitutional coordination, weak support for the process of understanding local risk and in the elaboration of at risk inventories, diffuse and non-continuous support from different institutions and lack of incentives at the local level that prioritize and push actions forward.
- Deficiencies at the local level reflected in the lack of a regional vision for managing at risk communities. A lack of understanding of local risk and a disarticulation of disaster risk management with territorial planning. The unsustainability of processes due not only to economic problems but also to existing management capacity and understanding of the complexities and risks associated with the resettlement process.

2.3. On territorial organization, risk reduction and resettlement

Central affirmations from the diagnoses

“New instruments are created that search to strengthen a risk management approach based on the logic of territorial organization and human settlement planning” (Mexico).

“Legislation on territorial organization, disaster risk management and climate change are not explicitly interrelated, revealing a weak impetus and interest by the State for having a policy which defines the sense, utility and reach of territorial organization. On the other hand, the number of norms that exist generate disorder and operational problems when trying to organize territory” (Peru).

“The new resettlement law has been interpreted in a reactive fashion, post impact, by CENEPRED. The absence of a prospective approach is a reflection of the lack of institutionalization of territorial planning in the country” (Peru).

“The 1997 law 388 requires municipalities to have

territorial organization plans that define high hazard and risk areas such as to prohibit their occupation” (Colombia).

The Colombian 1997 law is clear on the importance of territorial organization plans. In Mexico, REPZOR searches to strengthen territorial organization as a basis for sustainable development and has the central objective of “contributing to territorial organization and planning-through support for the elaboration of programmes of territorial organization and the mitigation and relocation of population from risk zones”. Specific objectives include: “promotion of integral studies of viability and cost benefit to support relocation and support research and analysis of legal instruments and local norms related to territorial organization tending to promote and strengthen the legal framework”. Here it is important to note that with the creation of SEDATU in Mexico there is a deliberate attempt to recover a strategic territorial perspective for development which had long been lost since its early promotion in the 1970s. In fact, with this development an important part of the approach to risk management is seen through the eyes of territorial organizations where reduction of exposure is of fundamental concern. Since this is national legislation it “naturally” emphasizes top-down approaches. The legislation does not include the need for the participation of affected communities. Moreover, the legislation reveals little sensibility regarding the complexities of operationalization of the resettlement legislation process.

The transition from explicit objectives and intentions to on the ground action is difficult and as yet unresolved in many places. In Peru it is stated that “the volume of instruments for territorial organization generates operational problems when attempting to reduce risk. In Colombia the number of territorial organization plans at municipal level is small compared to the 1,101 municipalities in the country. This is mainly due to problems of lack of trained human resources for enacting plans that consider disaster risk and a limited understanding of this practice in many municipalities.

Disaster risk management and resettlement and, in general, the location and functioning of human settlements and their relationship to natural and social resources is a central concern for, and should be enacted through the planning of territorial organization. In all three countries this relationship is clearly established and territorial organization assumes a stated central position in ideas on resettlement, even if not followed much in practice. However, it is well known that existing legislation on territorial organization and land use seems to be largely concerned with exposure and optimum use of land, but has little to do with vulnerability.

Resettlement can reduce exposure, but may increase vulnerability, maybe to lesser hazards, but with great impact for people who have been impoverished by resettlement.

Overall, the following statement, taken verbatim from a personal commentary offered by Omar-Dario Cardona, sums up the significance and difficulties with territorial organization:

“We must emphatically and explicitly raise the issue of the absence or inefficacy of territorial planning (regional, urban and land use plans)... In less than half a century vast urban centres grew with no control or planning.... Despite the early, but ignored work of people like Phillipe Masure in La Paz in the 1970s (which warned that near to 70% of the La Paz area was not apt for building) the topics of hazard and risk were not relevant themes until recently and no consideration was made of them in urban development plans... The theme of territorial organization should be a priority in research and practice. In order to speak of resettlement one has first to delimit the context in which it occurs... Colombia, far too late, considered obligatory relocation in law 9 of 1989 and then was tardy in promulgating law 388 in 1997 where the need to identify high unmitigable risk prone areas that need to be protected by territorial organization plans is indicated. And, it is as late as 2014 that still not very successful attempts are made to define methodologies for the evaluation of hazard and risk and how to incorporate them in territorial organization plans, invoking the principle of “gradual progress” and, thus, delayed development... This has not been very successful because those who legislate understand very little as to such evaluations and request impossible results. For example, 976 municipalities of the 1,101 that are on a development scale of six out of six (the lowest socio-economic strata) do not have the resources or know how to comply with the law... moreover, the requisites are badly formulated.... Clearly, without “appropriate” studies little can be achieved as regards corrective [resettlement] or prospective [prohibition of building in non-apt areas] interventions. Here it is important to highlight the why of our studies, what does high, medium, low risk mean (these imply judgements that differ site to site and from risk modeler to modeler). And what do these evaluations mean not in terms of hazard and risk but in terms of the actions that derive from such a zonification of risk-corrective, prospective and prescriptive? We need knowledge that is context specific and pertinent... and this is not just a matter of having geographical information systems as is generally assumed. Here there is an important dialectic between objectivity (evaluation) and subjectivity (perception) of risk... risk

is associated with decision and not doing something is also decision... In summary, the theme of territorial organization is prior to decisions and actions on resettlement. This is a very serious problem that not only depends on norms, laws and methodologies but also on understanding governance and resources; the relevance of knowledge; understanding economic, political and community feasibility. Because of this we must take a step backwards and examine the root problems and try to understand primary causes and not just examine visible effects...”

2.4. On Institutions and organizations: the play of stakeholders

Central affirmations from the diagnoses

“Considering the diaspora of laws and norms that relate directly or indirectly to population resettlement under disaster or risk conditions, in any resettlement process numerous institutions are involved, and Federal resources are always fundamental even if contributions are made by States and municipalities” (Mexico).

“The sustainability of the present processes of resettlement is worrying because the State in its sector logic does not act efficiently when faced with complex and multidimensional problems which demand the efficient concertation of almost all ministries and with perfect harmonization of regional and local authorities” (Peru).

“In the frame of the country’s public policy on risk management and resettlement, actors can be divided into two types, those with direct and those with indirect relationship. Strategies must be seen integrally and not only as a problem of housing per se such that all actors are important” (Colombia).

Although there is still a tendency to see resettlement as a housing problem, it does in fact need to deal with far wider issues of social services, economic recovery, culture, social networking and other aspects. Interinstitutional collaboration is fundamental as is the coordination between national, State and local levels given the different roles played in planning, study, management and finance. Clearly real problems exist with such coordination and the opportunities for it to be achieved.

3. Cases of resettlement in the three countries: towards the identification of elements of a typology

The diagnostic process allowed a preliminary collection of information on close to 30 cases of relocation-resettlement in the three countries. The information was compiled guided by concepts included in an Excel

sheet common to all three project regions. The content of these Excel sheets is included in annex 2 of this LAC regional report. The main elements revealed by the preliminary collection of information were:

- The long experience countries have with some sort of resettlement process.
- The dominance of post impact resettlement as opposed to preventive solutions. The new law in Peru and policy in Mexico may increase the number of preventive schemes as they are accompanied by guidelines and financial options for so doing.
- The prevalence of schemes related to flood or landslide events.
- The varied size of resettlements from small to very large, involving whole towns or communities and undertaken in reference to both small and metropolitan sized centres.
- The existence of schemes and even legislation that promotes resettlement by national, Departmental, State, provincial or local level governments.
- Ad hoc schemes that are one off, autonomous solutions to pending problems, through to schemes that are conceived in a wider planning framework, related amongst other things to land use planning, environmental recovery, urban development and territorial organization.
- Resettlements affecting the whole or the majority of the population of an existing settlement through to resettlements that are based on selected population from affected communities.
- Multiple options for the acquisition of land plots and housing by affected populations, from the use of bonds for rental in the short term, through to directly financed housing, to debt finance for purchase and construction.
- Resettlement in proximate locations and those at long distances from the original site.
- Resettlement based on homogenous population from the same area and that based on heterogeneous communities with persons from different communities affected by the same event or in anticipation of a future event.
- Successful and totally unsuccessful schemes even in the same city or town.

- Little systematization of the use made of abandoned areas.

The range of different characteristics that define the varied experiences illustrates the complexity in proposing what should be studied comparatively, in order to contribute most to future resettlement actions and practice.

4. Beneficiaries.

The preliminary analysis provided in the country diagnoses unanimously identified the municipalities of each country as primary beneficiaries given their fundamental role on the resettlement process through, or complementary to their roles in territorial organization and urban development. Moreover, the financing entities for such endeavors would also derive benefits from project results- in particular FONDEN in Mexico and the Budgetary Programmes for the Reduction of Vulnerability and Attention of Disasters in Peru- PREVAED.

The recent nature of legal and normative precepts in Peru and Mexico offered a real opportunity for influencing and assisting the organizations responsible for resettlement through the provision of an understanding of needed improvements and the identification of process problems. In the case of Mexico, this applies to the programmes for Resettlement at the Directorate of Territorial Organization in the Secretariat of Agrarian, Territorial Organization and Urban Development. Moreover, work on a new Law for the Sustainability of Territory offered an opportune moment for the Project to influence the development of this legal mechanism. And, in Peru, the CENEPRED, the Centre for Estimation of Risk and Disaster Risk Prevention was identified as a prime beneficiary. Beyond these institutions there were an ample range of government organizations that are involved in any resettlement Project and which would derive benefit from Project results. This includes the Housing and Environmental Ministries.

While not a high priority topic in general, the El Niño and the hurricane season in the north were favourable contexts for the promotion of project ends. Dissemination of project results and indirect influence could be achieved using established networks of the Risk Management Organizations in the countries and participating universities- the National University of Colombia, Manizales and the General Office for Disaster Risk Management and Adaptation for Climate Change at the San Marcos National University, Peru, for example.

Section 2: A summary of evidence on decision and implementation from Latin America

Introduction

The present section provides a summary of research findings, conclusions and recommendations on decision making and implementation in the cases of population relocation and resettlement under conditions of hydro-meteorological hazard and stress studied in Mexico, Colombia and Peru.

The complete Spanish language reports of the research findings in the three countries can be found on the project web-site. Reading of these is critical in terms of the fullness and richness of analysis country by country and comparatively.

Our collective thanks to all those in the three countries who gave of their time, knowledge and experience to generate the data, information, knowledge and analysis herein presented. This includes academics, national and local government officials, NGOs, and most importantly, the population resident in the studied areas of resettlement or proposed resettlement.

The present section is structured in five major sub-sections. The first will summarize the principle concepts or notions used in the research undertaken in Latin America. This includes aspects relating to the terminological debate as to relocation and resettlement, on urban resettlement as a component of disaster risk management and this in itself as part of development planning, and as to a typology of resettlement contexts and solutions for urban risk. Here we combine points of origin for our research with conclusions derived from that research summarizing an evolving debate and discussion on how urban resettlement should and could be seen. As such this sub-section offers a point of articulation between the diagnosis offered in section 1 and the research results presented in sections 2 and 3. A second major sub-section provides a summary of the approach

taken to research on decision and implementation and the methodological aspects as developed in Latin America. A third sub-section provides summary details of the case studies chosen in the three countries. A fourth systematizes and summarizes the major findings deriving from the research. Here the presentation is structured around key aspects relating to the decision making and implementation processes. A final section will provide conclusions, recommendations and guidelines for the formulation of policy and policy statements on the resettlement problematic.

1 Some relevant concepts, notions and terminological aspects

1.1. On population movement and resettlement.

A consideration of the extensive literature on voluntary and involuntary population movements, relocation and resettlement (terms used frequently in the English language and expanded on in the Spanish language to include others such as *reubicación*-re-siting- or *reacomodo*-readjustment) reveals that we are dealing with a complex topic with common roots but also clear differences in context and circumstance.

Understanding what is what and recognizing the diversity of different circumstances and conditions is, thus, essential. This diversity also indicates that we are perhaps not dealing with a single integrated easily identified problematic but rather with a series of different circumstances which if examined jointly show common features but also a sum of significant differences. When applied to the problem of classifying, constructing typologies or systematizing the different conditions and circumstances under which movement takes place or is induced, this must be accompanied by a diverse understanding of the proposed or possible solutions to the problems identified.

Here we will provide a view from the inside that derives from a consideration of prior terminologies and ideas, but which is colored by the experience of the present project. Neither here nor later are we postulating a conceptual frame for the research as such (although this is implicit in what is said and analyzed), but rather an advance on conclusions derived from the research itself. It is not our intention to review existing terminologies and notions, but rather to derive a conclusion as to the most appropriate notions and terms to be used in understanding and constructing typologies that lead to an understanding of causal factors, conditions for and solutions to the problem of hazard prone urban populations.

The notion of typology or classification can be constructed empirically through a hierarchical and systematic process derived from an analysis or consideration of diverse contexts and case studies. The starting point for any discussion on terminology and concept is the notion of the spatial movement, mobility or displacement of population and, in many cases, the reconstruction of their livelihoods and social and economic infrastructural or service support systems. Such movement may be voluntary, planned as a collective response, or spontaneously undertaken at an individual family level, normally stimulated by the search for betterment or security. Or, it may be involuntary or obligatory, dictated by a hierarchically more pervasive social institution or force, normally some level of government, which applies the law according to established norms or imposes its will through some form of repression. Repression and force may and have been used by private sector interests in the search to valorize geographical sites and territories for motives of economic gain. This is a form of usurpation which constitutes theft unless undertaken with the complicity of the State which may give it some appearance or status of legality. For example, land grabbing is now a major problem in the developing world.

Voluntary or involuntary movements in response to climate related hazards may occur under a series of different circumstances or contexts. Firstly, and most dominantly, **as a response to a disaster event which seriously impacts the existing population or community**, leading to wide scale loss of housing and site security. Secondly, in response to a **series of smaller sequenced events** that accumulatively have led to damage and loss, insecurity and fear of the future and which stimulate preventive thought and maybe action by population or authorities. Thirdly, as a **preventive measure** where it can be shown through scientific analysis or it is perceived that a serious event could and will occur in the near to medium term future. Fourthly, where **processes of environmental**

degradation have led to a changed physical environment for a community with the possibility of hazard event occurrence in the future (socio-natural events such as land sliding and flooding due to deforestation on site and upstream). And fifthly, where the **average climate conditions have changed** to such a degree that livelihoods as practiced are no longer viable at the present location (this situation can be increasingly expected in areas severely affected by climate change and where there is dependency on agricultural or natural resource based initiatives).

Under any of these conditions the voluntary or obligatory movement and relocation of persons may in fact be justified in terms of reduced disaster risk. At the same time, obligatory movement may also at times be explained by ulterior motives such as the potential revalorization of the abandoned site, development needs and redevelopment of city centers by private sector and government actors. Nothing undermines credibility of government or private sector more than the use of abandoned land for private or public gain where this was not explicit when the resettlement was proposed. In the case of preventative (as opposed to post impact) movements the onus of responsibility for justifying the move, the complexity this involves and the technical arguments favoring it are seriously increased due to uncertainty and the fact that resettlement will seriously interrupt accepted ongoing livelihood processes and patterns and service provision on-site.

Considering the population that move under conditions of climate and hydrological stress we may identify two different contexts. Firstly, **entire communities or zones of a city** (including at times multi community zones, contiguous in geographical terms). These may be of varied sizes from small- let us say 15- 30 families-, to very large, up to or above a population size of 15,000. At times whole towns have been relocated or the functions of cities reassigned to new locations even though the original city persists with changed or modified functions (for example the re-siting of the capital of Belize in Belmopan due to hurricane threats to government functioning).

Secondly, **individual families or small groups of families from diverse hazard prone communities** in the same urban center who are selected at the same time or in the frame of the same relocation-resettlement process or political decision. Such a process normally follows the occurrence of hazard events that seriously affect various parts of a town or city contemporaneously and which have affected some but not all of the community. The impacts of such “splitting” of communities or families can be considerable, reducing access to social networks and livelihood options. Resettlement, particularly of this

sort, can also occasion considerable emotional stress and sentiments of loss and alienation that can affect the adaptive process to the new environment.

1.2 On options and solutions to voluntary and involuntary movement and the idea of typologies

In any attempt to provide a conceptual basis for understanding the processes of planned human movement under hazard stress it is necessary to also consider the **range of options** that exist as regards a solution to the problem of hazardous location. Here evidence (including that from the present research) suggests various generic types of solution.

Firstly, the **wholesale movement of a community, small or large, to a single alternative location point**, where access to an adequate site is critical in the decision (adequate in the multiple sense of cost efficient, secure from hazard, well located as regards employment opportunities, services and communications, noninvasive of protected, ecological zones, etc.).

Secondly, the wholesale movement **of more than one community** from different or from the same parts of a town or city to a single new site and where access to adequate land and considerations of intercommunity cooperation and social networks will be outstanding factors to consider.

Thirdly, the creation of new communities in safer locations made up of **individual families from different hazard prone locations** from the same or different cities or towns.

Fourthly, the movement of families or individuals from **an existing community to diverse and different parts of a town or city** according to their own choices and options for purchase or renting of alternative accommodation. This may include such schemes as those where persons offered relocation to a common site may reject this but are given the option of finding a family from a non-hazard prone area that does want to occupy the new location and where the original beneficiary occupies their house. This demands that the house is certified to be in a safe and adequate location. This implies that people will be integrated into existing communities, which in itself may occasion a series of problems and challenges with respect to competition with the host community for resources as well as a potential for conflict on ethnic or class bases.

Clearly, in terms of populations in movement and the creation of new living habitats and spaces, if we consider the different conditions that stimulate movement and the characteristics of the moving

populations, any typology (or double typology) would be very large. If we assume that defined types of population situations or contexts determine the need for specific and identifiable optimums in terms of types of solution, such a crossing of typologies could be a basis for the evaluation of real cases and the factors governing their success or not.

1.3 On terminology

The LAC case studies, and past experience, lead us to a reflection on terminology in the search to discriminate between significantly different contexts or situations which are of importance when considering process and success and failure vis-à-vis the social and economic impacts of change.

A basic difference in types of movement, their spatial and social aspects, requires a consideration of the relationship between livelihoods and the social structure of the original and the new location. Although the physical distance between these is important in any distinction, the notion of social and functional distance is more important. Thus, population that is moved or moves but can, without additional cost or major effort, maintain its current livelihood schemes, its access to services and determined levels of social relation and cohesion can be considered under one category of movement. This category we can refer to as **“relocation”** (equivalent in Spanish to *relocalización* or *reubicación*). This category may include whole communities, large and small, single or composite, or individual families and persons from different or the same locations that are dispersed in the city or located together in a new habitat.

On the other hand, where movement clearly interrupts or seriously modifies the existing livelihood options and the types of access to existing services, and involves a need for consideration of past, or the development of new social relations and patterns of coexistence, we will refer to this as **“resettlement”** (*reasentamiento* in Spanish). This derives from a consideration of the term “settlement” itself which constitutes a condition characterized and defined by the creation of habitat and the generation and consolidation of livelihood options and social relations between members of a new community, made up of extended families, friends and others.

An alternative to this form of definition and more in line with ongoing developments in international work on the topic would be to consider all movements as planned (or administered or supervised) relocation and then distinguish between the two contexts discussed above using some other terminology. However, from our perspective the key distinction between relocation

and resettlement derives from the fact that the notion of settlement implies a complex development of multiple dimensions of human existence, whereas relocation does not necessarily mean this, as structures, relations, behavior patterns and goals may stay the same despite change of location (relocation). A distinction should be made between forms of resettlement that bring a resource bundle with it, however meager or inadequate, and outright displacement with no assistance of any sort.

the relevance of the details we provide in the examination of the multiple factors that change and condition the population movement scenario can be found in its relevance for an understanding of decision making and implementation. Clearly, given the array of different circumstances under which movement takes place and for which solutions are sought, there can be no single theory or materialization of decision making and implementation procedures. Certain key factors and circumstances can be seen to come into play in general, but beyond these generic aspects, many cases show *sui generis* and idiosyncratic characteristics, and the notion of standard processes and procedures or set policy briefs and recommendations becomes difficult to achieve (there is now a plethora of guidelines developed internationally regarding relocation, forced movement and resettlement related to climate, many times based on knowledge derived from prior development induced movement and the guidelines developed for this). Relocation and resettlement are dynamic, context related processes that show an enormous range of options, decisions and implementation challenges. This does not of course mean that lessons cannot be learnt from a comparative study of different cases nor that such study cannot serve to identify a series of key elements which, if not taken into consideration, will lead to severe implementation and outcome problems. In pointing out the idiosyncratic character of many schemes we are merely indicating the need for caution when decisions are taken and implementation is made effective.

2 Case study selection, methodology and overall approach to research in project countries

2.1 Case study selection

In order to examine hypotheses and derive conclusions as to the process of decision and implementation, case studies of relocation and resettlement were selected in Mexico, Colombia and Peru.

In all three countries, despite original project objectives, a decision was taken to include more than one case per country in the analysis. This was

justified given the wide range of different contexts that make up the relocation and resettlement scene and where no one case is sufficiently typical to provide more than circumstantial evidence as to the complexity of decision and implementation. An attempt was made to select cases that covered corrective and prospective risk management, had been undertaken at different time periods in the same or proximate locations, were enacted under different political, normative and legal conditions and had been stimulated by different government authorities at different hierarchical levels. It was accepted from the beginning that despite common aspects in each and within country, each case comprises a different reality socially, economically, politically and administratively and reveals different facets and approaches to a common challenge. The larger the range of cases we could examine, the more comprehensive would be the conclusions and knowledge of the diverse realities that exist.

The decision to examine more than one case in each country had an inevitable impact on the level and detail of analysis achieved. Each research team originally had 16 days' research time available. This was later extended to 25 days and complemented by the presence of the global research coordinator during a week of field work on site in each country. During the allocated time period documentary analysis, identification of research sites, preliminary visits and setting up of interview schedules, interviews on site and report writing were undertaken. Such a time limitation signifies that the results of the research are indicative and exploratory and less than complete, offering a balanced and succinct exploratory analysis of contexts that invite further research in the future. Results within countries are comparative between the different cases: multiple cases considered in Colombia in a single city (Manizales), five cases in Mexico in the same state of Yucatan and three in Peru in three different regions: Cuzco, Iquitos and Arequipa (see section 2.3 for details).

In the Colombian case, the rationale for the multiple case study in one city approach is that the city of Manizales has a long and rich history of relocation or resettlement schemes with no unique, set policy or normative controls. It is also one of the more iconic cities in Colombia and elsewhere in terms of disaster risk management. With well documented studies available for a long series of relocation-resettlement schemes undertaken over the last 30 years or more, and the presence of many key social actors that participated in these schemes and who were available and willing to be interviewed as to their ideas and experience, Manizales offered a unique opportunity for a longitudinal study of decision making and implementation in a single city. This context exists

in a country where relocation-resettlement is a local prerogative in terms of action (with regional and national support where needed).

In Mexico, post disaster resettlement has a relatively short history, although experiences of relocation following the serious 1999 flooding events do exist. It is post 2010 that the country developed guidelines and norms for a national disaster risk resettlement programme. The Federal structure of Mexico means high levels of autonomy and power for State government and it is within the State structure that resettlement processes normally take place with national support but with little power in the hands of local government. The State-based nature of much resettlement, along with the pre and post 2010 policy framework context, led to the selection of various pre and post 2010 cases, in a single State-Yucatan. This State is very much subject to hydro-meteorological events and climate change impacts-hurricanes, flooding and drought in particular. Moreover, in the principle town studied- Celestun- the opportunity to examine a now finished pre 2010 scheme and a scheme in process of development today, in an area where land use conflicts exist due to impingement of human settlements on mangrove reserves, was an added attraction given the worldwide problem of population impingement on natural reserves and ecological service areas and domains. Exploitation of natural reserves may be accelerated where resettlement schemes do not provide adequate options for livelihood support and populations exploit natural areas in order to subsist.

Peru is the only case in Latin America that has a national law and framework for resettlement, approved in 2011 in the wake of the passing of a new, updated and modern law creating a new disaster risk management system (SINAGERD using its acronym in Spanish) that places great emphasis on disaster risk reduction and prevision in addition to disaster management and reconstruction. Selection of study sites was based on the idea of pre and post law resettlement schemes and finished and ongoing schemes. Moreover, in the case of Belen, Iquitos- an ongoing resettlement scheme- particular importance was conceded to the fact that beyond the guidelines of the new resettlement law (2011), the process is also guided by the precepts of a special national law on Belen itself and the need for its resettlement (2014). The possibility of contributing to improvements in, and analysis of the functionality of the new national resettlement law influenced site selection. This also allowed the project to be looked on positively by national authorities interested in improving the resettlement law and process.

Overall, site selection in the three countries provided

a rich range of diverse cases covering at times cases that are pre and post development of specific policy and legal conditions, longitudinal in nature , single city or regionally comparative, preventative and corrective and which were led by different line Ministries or agencies. Here we would point out again that the range of cases and processes that exist with regard to resettlement not only in LAC but elsewhere does not signify that the chosen case studies cover the whole field, but it does guarantee that the diversity of existing processes may well be better revealed than when using single cases, adding to the hypothesis that when referring to relocation and resettlement we are talking of a varied and normatively diverse context.

In the case of Peru and Mexico one central case was studied in greater detail-Celestun in Mexico and Belen, Iquitos in Peru. The additional cases were used as a mirror to analyze differences in context and process in the same country or State and involved less on-site research. In Colombia the case of La Playita in Manizales was of particular importance given its recent nature and novel approach to relocation, but overall it was the sum of the cases and their contribution to an overall understanding of process that was important.

2.2 Research process and methodology.

The research process in each country varied. This was a result not only of the different circumstances of the selected cases but also due to familiarity or not of researchers with the research contexts and the ease of conducting research in these. Moreover, the variety of research techniques employed illustrates the use that can be derived from each. In all cases the limited time available for research and the prior existence of studies and data on the cases was a major reason for not, in general, undertaking individual interview schedules with local populations. Instead, focus groups were used selectively to derive relevant information. Interviews with government decision makers and implementers was common in all countries. Research in each country was carried out in the following specific ways:

- **Mexico:** All sites in Mexico were green site locations subjected to little or no prior research, beyond existing census and questionnaire based surveys undertaken by government agencies with beneficiary populations. Research consisted of preliminary collection of information based on documentary evidence and individual interviews with local populations and authorities and, following this, more in-depth interviews again with the population organized in focus groups and with a more wide-ranging group of government officials at the State and local levels.

- **Colombia:** Secondary research evidence provided by local researchers over time, itself based on interviews with population and in focus groups was fundamental. Personal knowledge on the part of the project researchers who have either held key public positions in disaster risk management or have played major advisory roles in the city and interviews with key actors from government and local development agencies with direct knowledge of the sum of the resettlement schemes researched was used extensively. The well documented and researched nature of the theme in Manizales allowed an approach based on secondary documentary sources and complemented by interviews with key social actors in the decision making and implementation processes.

- **Peru:** Wide-ranging documentary information on Belen, based on survey data collected by the Ministry of Housing, Construction and Sanitation, was complemented by focus group and individual interviews with local population and local and national government officials, all gleaned during two visits to the field site and in Lima. The Cuzco area research was based on documentary evidence, interviews on an individual and focus group basis with local population and government officials and a structured

questionnaire applied to 32 persons in the resettled community. Moquegua (Ubinas volcano) based research was purely documentary and with select interviews with national government officials. On site and documentary evidence was complemented with the co-organization of two major meetings. One, in the framework of resettlement, related to El Niño, and the other, specifically organized with the Centre for the Estimation and Prevention of Risk-CENEPRED- focused on the topic of resettlement and which was attended by multiple sector agency representatives.

3 Details of the case studies in each country

The particular cases chosen in each country were as follows.

3.1. Mexico

Barrio FONDEN, Celestun, Yucatan – this is a 2007 to 2010 corrective urban relocation project financed by the national disaster prevention fund- FONDEN- following hurricane Dean in 2007. Eighty-three of over 300 families impacted by the event were relocated, coming from different parts of the town but predominantly from one area. None

Location of studied resettlement schemes: Mexico. Source: E. Mansilla



FONDEN: Original and new location. Source: E. Mansilla



General view of Las Charcas. Source: E. Mansilla



General view of Las Charcas. Source: E. Mansilla

Las Charcas: Types of housing in the existing risk area: a) Precarious; b) semi-consolidated; c) consolidated Source: SEDUMA-SEDATU-AXIS



Las Charcas: Types of housing in the existing risk area: a) Precarious; b) semi-consolidated; c) consolidated Source: SEDUMA-SEDATU-AXIS

Las Charcas: Types of housing in the existing risk area: a) Precarious; b) semi-consolidated; c) consolidated Source: SEDUMA-SEDATU-AXIS



were moved more than two kilometers from their original locations. The project was implemented by the Yucatan Secretariat for Community and Social Policy and the national level Secretariat for Social Development –SEDESOL- in the framework of a Post Hurricane Dean housing reconstruction programme. Celestun is a town of near to 10,000 persons today that grew rapidly through migration of ex henequen workers during the 1960s. The population is dedicated to fishing and salt collection principally, with collateral tourism activities, and near to 85 percent of the population are poor or extremely poor. Celestun is located on one of the principle areas of mangrove swamp in Mexico. This is a nationally protected and internationally recognized natural area.

El Arenal-Las Charcas, Celestun. This is a recently initiated process of prospective relocation-resettlement in order to recover degraded, nationally owned and controlled mangrove swamps and reduce disaster risk due to flooding and wave action. It is promoted by the Secretariat for Urban Development

and Environment (SEDUMA) of Yucatan with the support of the municipality of Celestun within the frame of the Secretariat for Agricultural, Territorial and Urban Development- SEDATU’s- Programme for the Relocation of Population in Risk Zones-REPZOR. Differing from the FONDEN project, the scheme for relocation seeks to reduce risk, recover natural areas and plan urban development. That is to say it has multiple mutually reinforcing elements different to the FONDEN project with it’s purely disaster risk reduction objectives. Two thousand two hundred and ninety-eight persons live in 763 houses in the Charcas area and are subject to an ongoing discussion as regards resettlement. This is a third of the population of Celestun. The population varies between those with precarious and high poverty levels to more consolidated housing owned by those who are more stably occupied.

Campestre Flamboyanes, Progreso, Yucatán. This led to the resettlement of 321 families, 8 kilometers from their original flood prone site located

Resettlement housing in El Escondido. Source: E. Mansilla



Origin and destination of Campestre Flamboyanes Resettlement, Progreso Source: E. Mansilla

New Housing in Campestre Flamboyanes. Source: PROVIVAH



in an environmentally fragile area of mangrove swamps. Begun in April 2011, construction was finished in six months but property rights were only granted later in April 2013. The occupied area already had services and infrastructure given it was the site of previous construction schemes for other types of population. The scheme was instrumented by the National Housing Commission's- CONAVI- Special Programme for relocation of population in risk zones, taking advantage of funds available from the State of Yucatan via SEDUMA, IVEY and a fund available from the private sector construction industry. Progreso is a coastal municipality near to Merida with a total population of 40,000 persons, 50% poor. It is a tourist centre and dormitory suburb for Merida.

El Escondido and Tigre Grande, municipality of Tzucacab. Two small rural *ejidal* (collective land ownership) communities located near the Campeche and Quintana Roo border that were relocated due to severe, unusual flooding in 2002 associated

with the passing of Hurricane Isidore. Flooding of up to 10 metres occurred that lasted for more than two months and materialized a week after the passing of the hurricane. No one has an adequate explanation of the origins of the flood waters as such. Comprising 34 and 31 dwellings and families respectively, the relocation took place to areas very proximate to the original sites and was finalized in 2004, two years after the event, during which time the population occupied temporary shelters. The population are migrant farmers and also cultivate subsistence crops and earn a meagre income from monies given for the maintenance of environmental services associated with their 40 ha agricultural and woodland plots. The Institute for the Development of Mayan Culture (INDEMAYA) headed the scheme with funds from the French government and Carrefour, a French retail company, that were channeled through an NGO dedicated to attending indigenous children. The NGO was headed by Ofelia Medina, a famous Mexican actress. The scheme was designed by her brother Fernando Medina.

Housing in Tigre Grande Resettlement. Source E. Mansilla



3.2. Colombia (Manizales City)

Barrio Holanda. An onsite upgrading scheme undertaken at the end of the 70s with support from the Dutch government and implemented by the corporation for the Defense of Manizales, Aranzazu, and Salamina (CRAMSA) now renamed the Autonomous Regional Corporation for CALDAS: CORPOCALDAS. Environmental protection was combined with upgrading of housing. A good part of the original population or their families still live there. The area was subject to landslides.

Barrio Paraíso. According to documentary sources this was the first officially organized prospective, preventative relocation scheme in Manizales, undertaken by local government in 1987. Four hundred and twenty five families from five different high flood and landslide risk areas, including Barrio Bajo Andes, were allocated land in the barrio and built their homes with materials allocated them individually. Today, the barrio is a consolidated element of the urban structure but the neighbourhoods from which population came have been continuously repopulated

Barrio Holanda today Source: Dora Suarez



Location of Barrio Paraíso



by new population, thus reconstructing risk.

Yarumales. A resettlement scheme promoted between 1993 and 1995 for 36 families from different parts of the city who were under flood and landslide threat. The project was promoted by the Fund for Popular Housing in collaboration with a religious NGO Minute of God and with technical and architectural support from the National University. Today, the same population occupies the neighbourhood and the scheme is considered by many a model for the future.

Barrio Samaria. In 2003, the city of Manizales was seriously affected by two cases of heavy rains and land sliding, in March and October. Due to this Barrio Samaria was created as a resettlement scheme for families from different parts of the city affected by the phenomenon. The mayor's office along with the Municipal Office for Prevention and Attention of Disasters and the Fund for Popular Housing, in support of the Caldas government's Department for Disaster Prevention and Attention, the National Directorate for Disaster Prevention and Attention and the Housing Fund of the Ministry of Housing and

Northern slopes, San Jose, Manizales, 2015. Source: Dora Suarez



Barrio Yarumales Source: Dora Suarez



Barrio Samaria Source: M. Pilar Perez



La Playita: prior to resettlement Source: Unidad de Gestión de Riesgos de Manizales



La Playita: Riverside 2003 & landslide 2005. Source: Unidad de Gestión de Riesgos de Manizales



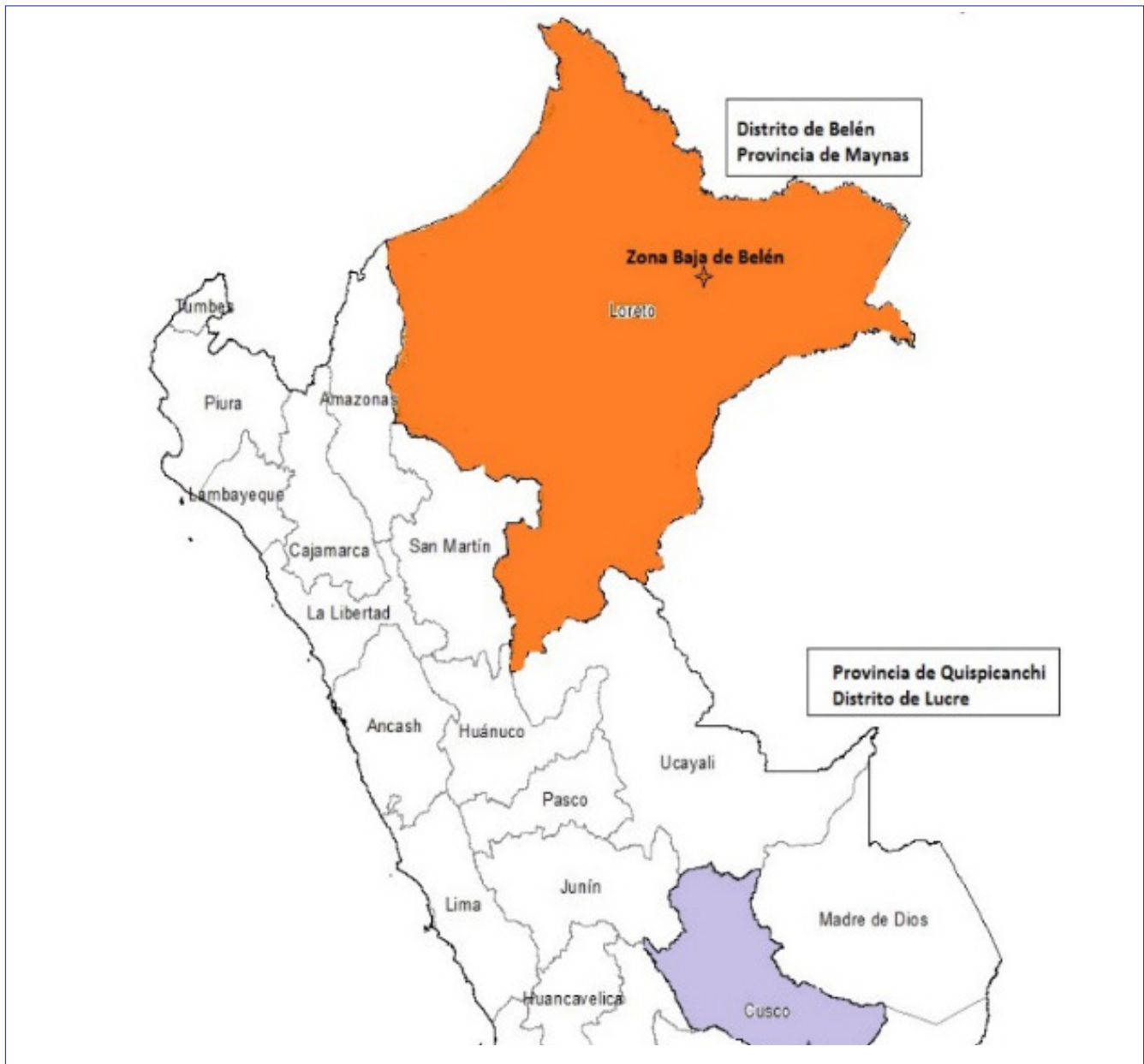
Environment-FONVIVIENDA decided to sponsor the Samaria resettlement scheme. Families were relocated from the existing Camino Viejo a Villamaría, Andes, Carmen, Sierra Morena, Avanzada, 20 de Julio, El Aguacate, Chachafruto, Camino del Medio, Tachuelo, Nevado, Albania and Bosconia communities, amongst others. Families needed complimentary financing from other sources than the promoting agencies. By 2004 housing had begun to be handed over to the affected population.

La Playita. In 2003, 15 families from La Playita were relocated to Samaria due to destruction of their houses by flooding. In 2005 a landfall caused damage and panic in the remaining community, inspiring a process of resettlement that would last 3 years. Three hundred and

twenty four houses, approximately 600 families, were resettled in diverse and different parts of the city given the lack of access to a piece of land sufficiently large for a single community structure. The scheme was led by the mayor of Manizales along with the Municipal Unit for Disaster Prevention and Attention.

Urban Renovation, San José. From 2008 onwards a nationally inspired programme for the renovation of the San Jose area of the city has taken place involving the planned resettlement of 1,615 families from landslide high risk areas under an urban renovation scheme. To date, few of the families have been resettled in high rise apartment buildings proximate to their original locations, due to ongoing problems with the renovation scheme.

Belen District location



3.3. Peru

Lower Belen, Iquitos. 16,000 households are marked for resettlement from the Lower Belen area next to the Itaya River, tributary of the Amazon in Iquitos. Over 80% of the population is poor to very poor and illness and insalubrity are common in the area due to contamination of water sources and lack of drainage facilities. A special law was passed in 2014 providing legal backing for the resettlement which is being promoted and executed by the Ministry of Housing, Construction and Sanitation. Households will be relocated to a 56 ha site, 12 kilometres from the present location, in a flood safe area. Prior attempts to upgrade the present area failed and resettlement is seen to be the only solution, given the predicted future migration and routing of the Amazon River proximate to the present site of Belen.

Tongobamba, Lucre, Cuzco. Severe flooding in 2010 in the whole Urubamba Valley and Cuzco area led to a Presidential promise to resettle population from the Huacarpay-Lucre area to Tongabamba, a zone where USAID and COSUDE had placed affected population in shelters. Resettlement took a year to complete and was undertaken by the Ministry of Housing, Construction and Sanitation. Two hundred and forty two housing units were built for 200 families some half to a kilometre from the original site on secure land.

Moquegua: Volcán Ubinas, Querapi. The 2013 reactivation of the Ubinas volcano led to a proposal for resettlement of more than 1,300 families located in risk zones in the district of Ubinas. Two hundred higher risk families were prioritized from Querapi. Resettlement is planned to another province in the same department called Pampas de Jahuay which is in the area of influence of the Pasto Grande irrigation project, an eminently agricultural area.

4 Towards an understanding of the conditioning factors for decision and implementation of relocation and resettlement schemes

The case studies undertaken in the three project countries provide a wide range of evidence as to the diverse process of decision and implementation involved in resettlement-relocation. Taking evidence from the cases studied we will attempt to highlight defining generic elements that allow us to draw up a common set of guidelines, but we will also outline idiosyncratic elements as revealed in the country case studies and which require specific treatment and guides.

Flooding in the Lower Belen Area Source: PNC-MVCS, 2015 (David Ramirez)



Relocation site at Varillalito, district of San Juan Bautista. Source: PNC-MVCS, 2015 (Ing. David Ramirez)



Layout and buildings for New Belen resettlement project



Tongabamba resettlement project Source: Angel Chavez



4.1. Legal precepts, normative controls and technical specifications

The legal and normative structures and systems in place in each country for resettlement vary enormously from the very formal to the disparate and undefined. Clearly, both decision and implementation are conditioned by such structures and the context they offer or not for the process of resettlement. An outstanding question we are faced with pertains to whether the existence of clear legal requisites is a positive thing or not or whether a more broadly interpretable set of guidelines and allocation of functions is more appropriate. In our three cases we have structures that are legally defined in Peru, that are guided by policy considerations but no law in Mexico and which are basically guided by indications as to responsibility for resettlement processes in Colombia with no explicit law or policy frame, but clear indications do exist as to the local nature of the process and a series of supporting elements for implementation are provided.

Peru passed a specific national law guiding resettlement from areas of high unmitigable risk, in 2011 (law 29869), the same year that country passed its most recent and innovative national disaster risk management law. This provided increased attention to corrective and prospective risk management as opposed to disaster reaction and response (law 29664). The two were contemporaneous but not concatenated or specifically linked. The resettlement law established a complex institutional and methodological process initiated at the local and regional levels and supported by national institutions, predominantly the National Centre for Risk Estimation and Prevention, a component of the national disaster risk management system, and the Ministry of Housing, Construction and Sanitation. At the time of writing (2015) some 24 schemes for resettlement, affecting 21,000 persons were being considered under the new law and a few cases have been commenced or completed to date. Early evidence suggests that the bureaucratic and technical process and its multiple steps will be unwieldy and slow. It involves many inter-institutional relations and needs for coordination. Studies and requirements are dictated by many instances of government including that which declares that new sites for location are not located on archeological sites. Recently, the law has been accompanied by rules that allow housing bonds previously available only for poor population for new house building or purchase to be allocated for disaster affected or potentially affected populations. This allows them to purchase used housing without the need for the construction of whole new settlements or small urban developments, as was the case previously.

The national law in Peru is accompanied by the option to pass more specific laws related to specific cases of needed resettlement, where it is determined that this is in the public interest and effective expropriation of current sites and housing is deemed necessary. This is the case of the special law passed in 2014, following a Presidential promise of relocation from the flood prone area of lower Belen in Iquitos, Loreto. The law circumvents various clauses of the national resettlement law, thus making decision and implementation easier. It names the Ministry of Housing as the executing agency, assigns 176 million soles or near to 60 million dollars for the resettlement scheme and determines that the original site on the Itaya River will become public property once resettlement takes place. Population resettlement is considered obligatory, in the public interest. Despite the existence of a generic national law some now see the Belen law as a model for future resettlement schemes where these involve large numbers of population. This is the case with Belen where 16,000 persons and 2,600 housing units are involved—that is to say, almost as many as are being considered today under the national law on resettlement (21000). The specific law completely inverts the national law in the sense that decision and implementation are ordered from above as opposed to from below. With this, the whole process of negotiation and coordination, support and opposition changes vis-à-vis the national resettlement law, its processes and precepts.

The experience gained to date with the national law and its regulations has shown the difficulties it poses, especially when technical aspects are crossed with political considerations and changes. In Querapi, the first scheme to be undertaken under the new law, activities have been suspended or are unfinished due to difficulties with operations, finance and decision associated with the long list of requirements laid out in the law, along with legal demands and political changes. Bureaucratic thoroughness castrates operational efficiency in contexts where there is a very real demand and need for solutions. The technical requirement of cost-benefit analysis for deciding as to on-site upgrading as opposed to risk mitigation via resettlement is complicated by the complexity of the new CENEPRED risk evaluation procedures.

In Manizales, despite advances in introducing technical criteria, resettlement has obeyed legal, political and responsibility criteria as opposed to technical criteria to date. This is mainly so where resettlement is seen to be an obligation post impact and is corrective by nature. . In prospective schemes technical considerations are more likely to be considered and in Manizales an agile relationship between university and local government and population allows opportunities for manageable

technical criteria to influence decision making. For example, a consideration of the needs associated with corrective, prospective and prescriptive intervention has led to a summary view which guides or can guide Manizales decision makers (see Table No. 1).

The development of criteria to support different approaches to risk reduction and control in Manizales occurs in a legal and normative context where no explicit policy or legal framework exists. Resettlement takes place in a more ad hoc fashion where set rules and procedures do not exist. It is facilitated in a less bureaucratic way, by the existence of resettlement or relocation considerations in housing ordinances, land use planning principles and norms, and housing finance options. This seems to give sufficient flexibility and guidelines for action, placing resettlement in relation to ongoing planning and financing concerns, as opposed to making it a topic of special and separate concern, isolated from inherently related contexts and needs. It does, however, need to be accompanied by specific legislation defining rights and needed levels of wellbeing. In Colombia, as in Peru, the needs of resettlement and particularly the acquisition of housing has been facilitated by changes in the law that allow access to financing for the purchase of used housing as opposed to newly built homes, as is the case normally with resettlement schemes.

Mexico is half way between the legal structures of Peru and the more flexible approach in Colombia. From a special programme for relocation of population in risk zones promoted by the National Housing Commission in 2009, the country now has a 2014 initiated Programme for the Relocation of Population in Risk Zones (REPZOR). Having changed leadership on at least one occasion to date, the programme has inspired a number of relocation schemes on a pilot basis, but it is difficult to judge its efficacy as a whole in comparison with other approaches to legality and policy. Its financial instrument is the national Fund for Disaster Prevention-FONDEN- which as we will see later has not been a very good means of promoting socially adequate house building after disaster.

4.2. History of a theme and contextual problems for the execution of resettlement schemes

The lower Belen area has been the site of various attempts at resettlement over time, when the periodic annual flooding has taken its toll of housing and persons. Some 30 years ago the local government relocated population to safer sites, but when not demanding that the original properties be handed over to government, this merely led to the sale of the new properties and a move back to the original site where commerce and economic activity could be more easily undertaken. Between 1990 and the

Table No. 1. Types of intervention associated with different risk levels

Level of Intervention	Implicit and configured risk	Risk Levels	Prospective Intervention	Corrective Intervention	Prescriptive Interventions according to demand
5	Highly probable instability	Very High	Total prohibition of structures and population	Resettlement	Explore how to reduce hazards
4	Feasible instability	High	Hazard reducing works and early warning systems	Risk reduction works and early warning	Reduce hazard and protect the area
3	Improbable instability	Medium	Hazard reduction works	Control works	Control the hazard and protect areas
2	Remote instability	Low	Hazard reduction works	Impede growth of hazards	Control the hazard and monitor its development
1	Very improbable instability	Very low	Controls on increase in hazards	Impede growth of hazards	Verify no increase in hazards

Prepared by: O.Cardona, K. Mendez, M.P. Pérez, and J.P. Londoño.

end of the last century, while President Fujimori was in power, the regional authorities also undertook a scheme for relocation of more risk prone persons and families. However, once more, expropriation of original sites was not demanded and this, plus corruption, permitted non risk populations to accede to the land allocations and also led to sale of the new plots and return to the original sites. Following 2012 flooding, resettlement of population from Belen, San Juan Bautista, Punchana y Maynas was undertaken without access to basic services or land titles in the Calipso area. This site is very close to where lower Belen will be resettled. The Calipso area has continued to receive population affected by 2013-2014 flooding but has failed in many instances, with many, but not all residents moving back to their old areas and selling or renting new housing.

More recently, in 2014, the national government, through the Ministry of Housing's Our City Programme commenced an urban on site renovation scheme for the lower Belen area. Intended to upgrade 2,000 housing units for 12,500 persons, providing water and drainage to the existing unsafe and insalubrious housing, the scheme was allocated 200 million soles, more than that allocated to the now ongoing resettlement scheme for Belen population.

Somewhere over 100 dwellings were upgraded, prior to the scheme being suspended due to financial and technical problems in the design of aerial sewage systems and the allocation of building contracts. The decision to suspend the programme was never fully understood by, or explained to, the local population, but is now a cause of a severe lack of confidence in the Ministry and national government. This has stimulated opposition to the new scheme for resettlement. Based on arguments as to the un-Constitutional nature of the Belen resettlement law, infringement of the rights of indigenous groups and the proven success of the housing provided by the Sustainable Belen programme, a group of parliamentarians promoted an attempt to suppress the law with the support of political and population groups in the Belen area. This failed due to opposition from other groups in the zone and due to the support given by national government agencies. However, it served to demonstrate the contrasting attitudes and interests involved in this resettlement scheme, which, due to its size, inevitably brings together all types of interest groups and stakeholders.

In Colombia, in a single city like Manizales, history is not reflected in continuity or consolidation of schemes. The cases analyzed and instigated over a 30-year period are all basically different and inspired according to different motives and processes, institutions and support mechanisms.

But accumulation of experience along with increased planning has led to new strictures and reflections and the need for additional technical studies.

4.3. Stakeholders, interest groups and the decision making process

Belen provides an excellent case for examining interest groups and their influence and impact on decision making. This is facilitated by the existence of a concept and method for evaluation of such influences elaborated and undertaken by an independent consultant under contract to the Ministry of Housing, Our Cities programme. The method, conceptually supported by academic study, was applied to a large series of interests and interest groups ranging from the President of the Republic through national parliamentary committee members, to regional and local authorities, traders, farmers, fishermen, churches, NGOs, and bureaucrats. These were categorized according to the type of involvement and interest in the resettlement programme, ranging from beneficiaries, through to those involved in decision and implementation and those with collateral interests. Measuring the salience of each group in the decision making process, through the use of indicators of the influence or power each wielded (coercive, utilitarian and normative) and the levels of legitimacy and urgency of each interest group, the analysis demonstrated the complexity of the different demands and interests associated with the particular role and position of actors in the programme in the lower Belen area. According to whether the interest group or person qualified highly on one, two or three of the criteria they were qualified as either latent, expectant or definitive in influencing decisions. Amongst the actors, the President of the country, the Ministry of Housing and the parliamentary commission on housing, the President of the regional government and the Governor of Loreto, the provincial mayor of Maynas, the mayor of Belen, the commercial interests and neighbourhood committees were qualified as definitive in decisions. Thirty three different groups or individuals were identified when classifying interests and interest groups.

Farmers, fishermen and street market traders were opposed to the resettlement due to the distancing it would mean from their work places and opportunities for income generation. Persons involved in illegal activities from drug trading to prostitution, money laundering to sale of arms, were opposed due to the way resettlement would harm their interests and force them out of illegality and the informal into the formal system. Mothers, students and churches were in favor given the opportunity for greater access to service infrastructure and greater security for children and livelihoods. Politicians were divided between

and even within party lines depending on how they saw the balance between election benefits and disadvantages. And NGOs were undecided due to the potential impacts on their traditional ways of project development and incidence in the Belen area.

As Chavez points out in his Peruvian national report, “the arguments of the diverse groups are well known because they are widely disseminated by the press or through gossiping. It is important to point out that messages are polarized and lead to confusion amongst the population. For the population it is very important who says what and how it is said. They rely and confide a lot on the word of their leaders... Stake holder analysis reveals that decisions transcend the political, technical and scientific fields... resettlement processes demand a new practice for decision making where this affects a collectivity... normative considerations are questioned by all those actors that have not been consulted previously, are little convinced or will be highly affected by the programme... the absence of the State in Peru for years has favoured a type of clientele politics which conditions the attitude of the population... it is conditioned by the receiving or not of kickbacks from the different interests in play... in the case of Belen a low level of appropriation of the project can be witnessed and this has been complicated by the distrust that the failure of the Sustainable Belen project caused... the July 2016 change of government will weigh on the decision to continue or not... Meanwhile the programme continues and the new site is now ready for building on. This is a process that is favoured by the economic recession suffered at present in the selva which motivates local politicians to promote the process in order to create new employment opportunities for unskilled labour”.

While local politicians move with the winds of changing attitudes to resettlement among the population, and regional politicians support, oppose, or show indifference according to political convenience, no new mechanism and organization that guarantees support for resettlement exists amongst the population itself. A considerable number of persons are willing to consider relocation, especially when they see the project materialized in real buildings and services (especially if they manage to maintain their present homes for other uses). However, opposition to the scheme, supported by a series of local interests (commerce and illegal or informal activities), encouraged by sections of the press and due to the felt need to be close to work options, tend to still dominate.

From the angle of the Our Cities programme the scheme continues and will be concluded. Under conditions where government will change in July

2016, the objective is to advance contracts and building as far as possible in the short term, making cancellation of the scheme more difficult. Those who want to move will do so. Space will be given to other demand groups if some of the Lower Belen population refuse to move and the major challenge will be what to do with those that remain in the area against the stipulations of the law. The INDECI Sustainable City programme shows how more than 50% of Iquitos is at high risk of flooding and a good part of the population in those areas could require resettlement. The New Belen resettlement is seen as an experiment for the future and a solution for the high demand for resettlement from high risk, non mitigable areas that regularly suffer small scale or severe flooding in Iquitos. Moreover, given the size of the scheme and the construction of what will be a new urban centre in itself, the scheme clearly fits in with the notion of using resettlement as a means to order urban space and plan future growth.

The resettlement process is also influenced by the decisions of the Ministry of Economy and Finance that no investment can take place in high risk areas. With this dictate, in theory, the investment that has taken place in the past in Lower Belen in housing, services, escape routes etc. can no longer proceed. The process by which government has institutionalized risk is in principle cut back on. Time will tell how society circumvents such prohibitions and the incentive they give for resettlement.

In the Mexican case, the comparative study of 5 resettlements or relocations shows how improvisation, the prevalence of different government stake holder interests and the vertical nature and centralization in decisions, with a predominance of Federal support for the State and little participation of local authorities, commonly prevails. Local government is in the best of cases used as a support mechanism in executing and implementing processes but is not considered in decision making as such. The population affected by disaster events or those that are beneficiaries of resettlement schemes are treated as typical disaster “victims” and in none of the cases were they consulted as to their needs and requirements or with regard to conditions that would improve their future lives in a new location.

Who decides, following what social and technical criteria and when are things that vary case by case. They depend on the particular economic, social and political moment and circumstances. They do not, in general, respond to previously established and planned procedures and protocols that reflect the knowledge gained through previous experiences.

The ways in which resettlement has been promoted

and decided in the Yucatan case studies over a 10-year period illustrates the changing influence of different institutions and their central objectives and interests. Post impact schemes are normally financed by FONDEN. But, when control over the real process of implementation changed in 2012 from the Secretariat of Social Affairs to that of Urban and Rural Development and their State level counterparts, both the modalities and the impetus changed. With preventative schemes such as Las Charcas and Progreso it is clear that these have occurred when there is coincidence between urban planning and redevelopment goals and the need for environmental recovery, and the existence of an at risk population. Although the latter is used to justify resettlement, the former would seem to be the real motivation for resettlement and appears to guide context and action. In such cases, the State level representations of the national Secretariats exercise a good part of the control over the processes.

In Manizales, due to strong decentralization in the country, the majority of decisions are taken using local parameters guided by the political context of the moment. These are principally defined in accord with the responsibilities assigned to different actors. In La Playita, the community was involved in the definition of needs and the type of resettlement they wanted—originally, a single site for resettlement. This type of participation placed great pressure on the process. Nevertheless, when faced with the realities in the city (lack of land availability, cost) such requirements were dropped as the decision passed from a collective one for a collective solution to an individual one and individual solutions.

4.4. Demand and supply of livelihood protection and services: tradeoffs between different expressions of risk and need

Chavez in the Peruvian case study states that “decisions take place in the context of an exchange of goods and services, behaving much like a market. That is to say, there is a set of relations where those that take decisions on services and goods exist and there is a passive or active demand for those goods... No mechanical rationale exists where demand stimulates supply... flood prone populations do not necessarily convert their problems into a social demand for security against flooding and its consequences... Neither do poor populations explicitly demand better living conditions... the population may be so absorbed by its day to day needs that a wider social demand is not conceived. If in the rainy season there is a demand for greater security and protection, in the dry season this is forgotten and the demand is for security against criminality and delinquency. This fragility in the

generation of demands may be conditioned by the low levels of citizenship of the poor who are accustomed to clientelist and assistencialist practices... politicians and providers of services and goods must receive benefits from their decisions in order to compensate their possible negative costs and externalities”.

Questionnaire based evidence shows the play off between every day and disaster risk factors in the lower Belen area. Over 40 percent of the population neither know of the existence of the law on resettlement nor the risks associated with flooding and its future predicted patterns. Moreover, many, even if they do know, are not overly concerned given their present access to different life style satisfiers and their knowledge that government always provides protection and goods during flooding (the notion of death or serious injury does not enter into the equation or their thought process given the slow onset nature of flooding in the area). At the same time, considerations as to personal security, drugs, and delinquency, insalubrity and health dominate the mindsets of the population. Fifty-six percent of the population declared themselves to be against resettlement in the Our Cities questionnaire. However, in another section of the same questionnaire this result was inverted and a majority favoured resettlement but under certain conditions—seeing building advanced or completed, maintaining rights to their existing land and housing etc. The political nature of the problem does, however, make questionnaire results as risky a venture as election result surveys and their prediction of results in national or local elections.

Overall it is clear that the social and economic circumstances of the population are looked at in segregated fashion and the aspects that dominate are those most immediate to needs and every day demands. Little is done to demonstrate and reveal how apparently independent problems are linked in concatenated or integral ways—different manifestations of risk are in fact related and mutually reinforcing. A holistic approach to providing a solution would be more productive but the nature of social demands and political offerings are many times segregated or sector based.

As the Mexican cases of the FONDEN colony, Progreso, and the rural communities show, where the distance moved is short and the ability to maintain livelihood inputs and employment schemes, as well as access to established services, is maintained, the contradiction between increased security against flooding but increased every day risk does not exist, making relocation as opposed to resettlement a more viable objective. This can be seen in Manizales where movement of population over larger distances has led to severe problems, while such schemes as Yarumales

and La Playita have been far more successful given the action taken to maintain or recreate livelihood options and service provision.

4.5. Move me, but let me be

A significant finding, applicable in the Peruvian and Mexican cases, relates to the plans for the land and properties that are left behind when resettling population. How this problem is dealt with has a great bearing on the acceptance or not of resettlement by the population.

In Peru, in the case of Tongabamba, the population accepted resettlement with little opposition, frustrated with having lived in temporary housing for a year after a major flooding event and the trauma associated with this. The event itself was extraordinary in the collective memory and the experience of those affected was so great, that a need to resettle was clearly perceived. But, beyond this initial response, the process that followed once the resettlement scheme had been handed over is part of the reason why resettlement was easily accepted as an option. The population was not obliged to cede ownership of their original houses which were in themselves larger and more comfortable, having access to internal and external services. The resettlement housing was small, and basic services were not provided until much later, if at all. Given the population retained ownership of their original housing this has led to most returning there, renting or passing their new home on to family members. Many have invested in upgrading of original site dwellings using more “noble” and flood resistant materials and also building higher off the ground. The new resettlement homes thus become a place of refuge should the area flood again and in the meantime the population returns and enjoys all of the comforts of employment, service provision and transport services at the original site. This can of course only happen if the new site is near to the original site (relocation not resettlement) and the work options are the same, as is the case with Tongabamba.

In Belen, although movement has not taken place as yet on a large scale and many doubts exist as to how this will work out, many are playing with the idea of maintaining their old houses in the flood zone while receiving free housing in the safer area. This is an active move on their part despite the fact that the law makes confiscation and destruction of the housing obligatory and the rules of the game will only allow them to take the parts of their old houses with them to extend the small houses they will be donated.

Although the sustainability of life in flood prone areas is difficult for more vulnerable populations

such as children, adolescents, the elderly and the disabled, the only safe areas available are on the northern route out of Iquitos to Nauta, 10 km or more from their present homes, or across the water from Puchanas, if a planned new bridge is built. In the Nauta area those affected by flooding over the last few years have been resettled near to Varillalito, where the lower Belen population will be resettled and one of few places where security against flooding is guaranteed. If the project is completed the area will be under great pressure from many others searching for security in the wider Iquitos area. Under any circumstance, a break with prior livelihood options and social mechanisms will exist which will probably be accompanied by efforts to maintain certain of the past relations and contacts as a means to increase stability and feelings of ownership and being

In Mexico, the original housing of the FONDEN project beneficiaries was never confiscated and families accepted the move to a safer area with much smaller and less comfortable housing due to the fact they could keep their old properties and use them for other nonresidential uses. They thus get a double kick back from moving-increased security at the new site and livelihood options at the original site. In the rural area of Tigre Grande new housing was of low quality and needed upgrading by the population. At the same time, it was small and overcrowded in comparison with original housing and plots, and this led to opposition by the population. Confiscation of houses was obligatory and their destruction mandatory, although resistance was shown to this measure. Only by threatening to cut off services was it possible to get the population to abandon their old homes. The population still uses the old land for agricultural production however, and regularly meet for social occasions on the land near to the flooded areas.

Overall it is clear that moves from larger, more comfortable houses to the small resettlement housing will never be attractive such that the option to maintain control and use over the original site is an added advantage and can be critical in the decision to relocate peacefully. Where such processes are accompanied by severe delays in the granting of property titles for the new dwellings, as was the case in the FONDEN project and the rural communities, people tend to migrate back to their original houses, repair them and carry on. This is also stimulated by the fact that the new locations are often as hazard prone as the original sites due to lack of available land and bad planning. This has led to parents going back to original dwellings, leaving the new dwelling to their children when they marry.

In Manizales, after early experience with similar problems to those in Peru and Mexico, the Samaria

and Playita schemes demanded voluntary demolition of houses and the use of the demolished materials for new building purposes. Moreover, in order to have access to a housing subsidy, beneficiaries have to show that the old house was demolished and that their ownership of land has been ceded to the State. This policy is far less flexible than in Peru or Mexico.

4.6. You talk to me but don't make me a true participant in decision making

A common refrain in Latin America goes: "I participate, you participate, we participate and they decide". A common facet of the resettlement process is the deficient or absent process of real participation by the affected population in the selection of new sites, new housing and new urban design. Vertical processes whereby population is informed of what will happen and persuaded to collaborate, as opposed to being part of the process, are common and well-illustrated in the cases studied.

In Belen, although wide scale questionnaire studies have been promoted as to the characteristics of the population, its attitudes and rationale, preferences and opposition to resettlement, a vertical local leadership process has been followed to date regarding participation and decision-making. Major consultation has occurred once the scheme to build New Belen was under way, when land had been purchased and prepared and building started. The urban and housing models are clearly Lima based and designed with little attempt to model them to local vernacular or cultural needs and standards. Ordered, self-sufficient areas with all services provided will replace the large, wide streets and wooden structures now used and part of the image of Belen and its population-the Venice of Latin America as it is affectionately but erroneously called. Any acceptance of the need for greater space is expressed in the right to take materials from the old house in order to expand the 60 square meter house that will be handed over to them. Technical, financial and architecture convenience dominates over cultural and local needs and customs. Any attempt to explain this way of doing or thinking can only be based on the idea that technical specifications and cost considerations are above cultural considerations. And, that the speed of building is fundamental due to the perceived risk that the scheme will be cancelled with the 2016 change of government.

The same arguments are valid in Mexico where specifications for building by FONDEN derive from the decision of the Vicente Fox presidential administration that no new houses would be built with non-durable materials. This led to use of cement and block in rural areas using urban building models, designed

or thought out by Mexico City based personnel with little experience of local conditions and where the solution is seen to be to provide a house, not an adequate home. And this has occurred despite the fact that Mayan vernacular building has been praised internationally as being hazard resistant and sustainable and of lower cost than industrial solutions.

In Mexico the dominance of post-impact FONDEN-financed relocation guarantees a lack of beneficiary consultation given that all is determined according to pre-designed technical specifications. Houses are built in one way and according to one set of specifications and population needs and recommendations are not taken into account. Options for reconstruction of preexisting housing according to local cultural mores are not accepted. This process inevitably leads to the abandoning of housing and a return to original sites. In the Charcas scheme, where resettlement is being planned in a social vacuum, consultation and questionnaire surveys have been undertaken in circumstances where the population does not even know that resettlement is being planned. The reasoning for this is political, not technical.

In Colombia, the subsidies given for house purchase define the design characteristics to be applied. This refers to space and area and the need to obey seismic-resistant norms, meaning that most houses will be of concrete, brick or similar materials. Acceptance of any other type of building material, in accord with popular imaginaries, is rarely accepted. Due to this the resettled community is rarely taken into account when dealing with typologies of housing, needs and optimum size. Houses will almost inevitably be smaller than in the original settlement.

4.7. Urban land for resettlement: urban rent and lack of accessibility

It is clear that access to adequate land is a major problem in resettlement. Urban rent considerations, growth pressures, the nature of land ownership and the lack of community or municipal land are major contributing factors to this.

In Belen, the size of the proposed resettlement required a large lot of land that could only be found some 12 kilometres from the original settlement site and in a direction commensurate with the planned expansion of the Iquitos area in neighbouring municipalities. But although safe from flooding, the site has raised certain doubts in terms of impacts on local ecosystems and certainly in terms of distance from sources of work and the cost this will signify to the population. This is a fact that affects the cost structure of families in Belen who have never had

to consider transport costs in their daily budgets or investment of time in movement for work or social activities.

In Mexico, *ejidal* (communal) control of land and urban land speculation are common problems with regard to access to adequate land. And, in most cases it is not clear that the risk of flooding has been reduced much in the new locations, whilst at the same time the population still maintains control over original locations with their flood threats.

But it is in Colombia that difficulties of access to land are most apparent, especially in the city of Manizales with its mountainous terrain and lack of level land. However, it is here that this very condition has led to a series of “solutions” that are interesting to consider more generally in the light of the challenges of resettlement. The case of La Playita reveals various factors.

Firstly, its size did not allow the local government or the population to identify an adequate site in the city limits where the whole population could be relocated—a single site was, at the beginning, a requirement of the local population. A number of alternatives were also opposed by persons living in the areas considered for relocation as they saw the beneficiary population as a source of delinquency and robbery etc.—ignoring the fact that their own communities were plagued with this anyway! Finally, when no site could be identified, a decision was taken to propose that the population search for and purchase used housing in safe areas on a random individual family basis. Finance was provided through subsidies by local and national government (in the latter case with a change in housing finance laws to make the purchase of used houses possible). This was the solution that was adopted in the end and the very first persons to relocate were the very community leaders who had insisted on a single site to begin with. The solution took three years to enact but was successful, although as the process proceeded access to adequate houses became more difficult due to increased demand and house prices that started to climb.

One conclusion deriving from this experience is that the notion of community is at times mythical and exaggerated and in fact a single contiguous population group does not necessarily constitute a community in a real sense. Strong divisions may exist within many so-called “communities”, which allows partitioning to take place successfully. Moreover, this type of solution, where individual choice is taken into account, covers other cases of resettlement processes. Thus, in Brazil, schemes have been enacted whereby a collective solution is proposed

and built (normally high-rise apartments) but individual families who don't want to move there are given the option to search for a house somewhere else, offering the family that occupies it an opportunity to live in the resettlement site in place of them. Such a solution could be thought about for Belen dwellers who do not want to be moved 12 kilometres distant to the new site.

A second aspect of the Manizales scene is the latest San Jose redevelopment schemes that recognize the value of central urban land, and its danger to poor families but also its potential for urban redevelopment and increase in urban rent and profit under commercial use. The population will be moved out to nearby high-rise buildings while the abandoned land will be engineered for safety and used commercially with much increased urban rent. This does of course challenge the notion of high risk, unmitigable areas because this becomes socially hierarchical and economically determined. What is non mitigable in terms of low cost resettlement for the poor is not necessarily the case for private enterprise supported by government where the benefits from commerce, taxes and urban rent allow far greater investments in conditioning land and reducing hazards than in the case of low cost schemes for resettlement.

4.8. Use and reuse of abandoned land

A critical aspect for successful resettlement, or at least an impediment to movement back to preexisting areas, is the use given to recovered land: the land that population is obliged, or not, to hand over to authorities once movement to new sites takes place. Previously, we have covered the cases where such hand over was not obligatory and both its positive and negative consequences.

Peru and Colombia, where transfer of original sites to public ownership has normally been obligatory, provide interesting cases for analysis and reflection. The redevelopment of the slopes of the San Jose area of Manizales and the value added in urban rent terms has been discussed widely. Here, the cost benefit equation, although benefitting the municipal government and the land developers and commercial users in particular, could be seen to be positive overall given the increased safety for population and their still good access to work opportunities and services that location near to the original sites signifies. In the case of La Playita, the abandoned area was then used as a dumping site for urban rubbish and building materials or excavated land and has since been converted into a reforestation zone, resulting in urban upgrading and new ecological service provision.

Such a scheme also invites us to consider the

opportunities that could be found with a resettlement scheme such as Belen where the population is tied to place for reasons of employment or custom, while at the same time the occupied area is a potentially rich area for future ecological diversity, agricultural production and ecosystem management. It is interesting here to consider the opportunities that could exist for co-use of the abandoned land by its old owners, individually or collectively, and government. At present it is postulated that the land will revert to State ownership and the area converted into an ecological refuge of value to the city in terms of tourism, hygiene, security etc., even if local authorities are at times ignorant of the scope and importance of such a move. Here, in order to reduce opposition of the population to a move distant from their existing homes, work places and opportunities, the recovered land could be co-used for productive and ecosystem service purposes with the population gaining employment advantages and income from the area through agriculture, fishing and tourism. This would be similar to Mexico where the population was not obliged to give up ownership of existing land, but must dedicate this to alternative uses (the fact that reoccupation for housing purposes took place is incidental in this argument).

4.9. Those left behind

Where resettlement takes place there are at times many more persons and families in the same area that also need relocation or on site upgrading.

In the Belen case the New Belen resettlement scheme is targeted at one area of a city that in each of its four municipal jurisdictions has numerous other families at risk from severe flooding—Puchanas, Iquitos, Belen and San Juan municipalities. It also takes place in an area where demand for housing is high even from communities and families not prone to floods. In such a context the inevitable question is why lower Belen and not the rest were chosen for resettlement. And, if New Belen is not successful in attracting the identified beneficiary population it has been built for, as seems the case today with the majority of dwellers still resistant to the scheme, who will occupy the new housing? Some ideas can be derived from relocations associated with previous flooding in areas near to Varillalito—Calipso in particular. Population from the different areas of Iquitos relocated to the Calipso scheme have manifested that despite slowness in service provision, families place a high value on the tranquility of living in a flood-safe area where children don't drown or become ill all the time as they did during the flood season in Belen. Also, they no longer spend money on wood for walkways to escape from flooding, and children can play all day, all year anywhere. Here one would suggest that the

government is in a win-win situation, given demand for flood-safe housing and housing in general in the area. Filling up with non-Belen population is the first obvious solution and sales of houses to disadvantaged groups who need housing is a second option. What is sure is that the housing will not be left empty.

4.10. Those around the new scheme and the impact of the new scheme on population dynamics

One is accustomed to hearing how population in areas about to be resettled by others object to this, claiming that it will perturb local harmony, peace and customs. Such is the case of La Playita in Manizales as well as in Progreso, Mexico. In the case of New Belen, it would seem that this has not occurred and in fact the local population sees the advantages of proximity to areas with new schooling, hospitals and clinics and recreational facilities they can share. A collateral negative process is the continuous invasion of surrounding private property in the anticipation of increases in land values and options for access to services and employment.

In Mexico at the Progreso resettlement it seems that the beneficiary population has created a new urban neighbourhood where, although proximate to other social groups located there previously, little contact exists between them.

4.11. What sort of house and plot am I going to?

The evidence suggests that many schemes provide very inadequate housing solutions, in terms of size, location and design. The Belen resettlement scheme is based on designs that combine size controls (due to financial reasons) along with standard housing and overall settlement design which are more appropriate for coastal and Lima based locations than the selva as such. Little concern for vernacular or cultural modes is accommodated even though, in principle, organizations such as the Construction Directorate, in the same Ministry of Housing that leads the resettlement scheme, do attempt to promote the use of local, vernacular building schemes and customs.

In Mexico, a standard FONDEN based model of house (designed and instrumented through Mexico City based personnel), is used wherever the scheme takes place, independent of location and culture. When NGO and other interests came into play in rural areas of Yucatan, an attempt to copy traditional Maya building failed due to cost and architecture limitations. The only schemes that really offered adequate housing and plots were the Yarumales and Playita schemes in Manizales. The success of the first was due to a unique combination of work done

by NGOs in collaboration with architects from the National University, along with the early nature of the scheme which meant land was still available in more or less central areas near to work and services. In the case of La Playita, this was so because of the policy of letting people search for and purchase used housing in the city according to their own needs for services, location and proximity to work. The play of national policy and economic interests must however be considered here as it can seriously affect how resettlement is seen and how housing needs are satisfied. Today, the planned construction of 100,000 homes for the poor in Colombia has been stimulated by the need to deal with a crisis economy where construction is seen to be a stimulus and economic imperative. However, it can have consequences for resettlement as the dominance housing solutions take in the formula may be to the detriment of more integral considerations and socially balanced approaches. Moreover, the donation of housing with no price sharing by the population has been considered to not favour appropriation of the promoted solutions and good resettlement practice.

The adequacy of high rise housing for the resettled, as used in the San Jose urban renovation scheme, has been severely questioned by some in Manizales despite low-cost considerations. Community integration is compromised, and the advantage of two story homes is that one floor can be used for livelihood support activities. Comment has been made as to the case of a lady who had pigs on the 13th floor of her apartment building in order to provide livelihood support, given she had no back yard to keep them in!

5. An overview of settlement practice, contexts and challenges: decision making and implementation and the key to successful and unsuccessful practice as deriving from case studies

A starting hypothesis suggests that the historical process associated with original settlement in hazard prone areas combines with existing structural conditions associated with governance, economy, polity and bureaucracy to impede successful resettlement. This will occur unless particular conditions are present that allow a breaking with custom, convenience, ignorance and lack of cultural and social affinity and sensitivity of the defining social actors. This is so both with decision makers and implementers, and the population affected by risk. This affirmation leads to the following substantive considerations supported by case study evidence.

i. Relocation and resettlement must be seen in a majority of cases as reflections of prior “failures” of society in the planning and control of land use in cities, and with wider development planning

concerns. Poverty, accompanied by lack of applicable and applied municipal norms, the lack of options for access to secure land by poor populations for cost or other reasons, the lack of land reserves for formalizing informal land use occupancy, amongst other reasons, explain settlement in unsafe places. But with this occupancy, the unsafe nature of which is no surprise in general to affected populations, history is woven, a new culture is created, links and social relations and modes of life are created. These in turn are normally reinforced by the willingness of local governments, for political or other reasons, to provide unsafe sites with diverse services and support. Relocation or resettlement thus takes place with reference to historically constituted, socially relevant population and territorial units with customs, life styles, and needs that are clearly established and permanent. Relocation and resettlement, in most cases, are measures to compensate historical errors, but in situations where history has been constructed and has converted an original “error” into a current, quotidian reality. Or they may respond to demands and pressures from private sector interests with ulterior motives in terms of urban development and planning. From this perspective the problem of resettlement does not lie in the process of resettlement as such, but, rather, it lies in the process by which the decision to settle was originally made and as to what circumstances and restrictions to implementation exist. Outcomes from resettlement and relocation processes (seen in terms of costs and benefits, advantages and disadvantages etc.) are directly related to the ways decision and implementation are achieved and how these take into account the history of and the present construction of existing settlements, their livelihoods and material existence. In this sense, methodologically, there is no separation between understanding decision and implementation and understanding and explaining outcomes (this idea is followed up on in work packet 3 of the present project).

Original settlement is clearly a response in many cases to political interests and even corrupt land trafficking processes. In this sense the only real and effective way of avoiding the problem is through improved urban governance and land controls which in themselves require provision of safe land for poorer populations. All other solutions including resettlement will fall short as finance will never exist for all needed on site upgrading or resettlement schemes.

ii. Relocation and resettlement in search of disaster risk reduction and control do not take place in a social, temporal and spatial vacuum. They do not, as processes, evolve with reference to a singular objective, defined in terms of “disaster risk reduction”, “uncontaminated” by other processes and needs.

They do not constitute a sectoral theme that has its own clearly identifiable objectives and unequivocal ways of achieving them. When faced with the high levels of failure that are registered with resettlement processes, where more than sufficient evidence exists as to the reasons for failure in the past, any explanation of such failure must be phrased in terms of what can be called “conflicting interests”, special interests and differing “value frames and criteria”, different mind-sets. That is to say, relocation and resettlement are not clear cut, self-contained and single-minded processes but rather actions that may and do challenge the status quo and involve conflicting or non-compatible interests which need to be taken into account in the search for a solution to hazardousness and disaster risk. Three series of factors may be postulated in this respect.

- First, hydro meteorological disaster risk, influenced or not by climate change, is but one aspect or stressor in the lives of the poor and only one expression of the range of risks they have to deal with daily or recurrently. Under such circumstances, reducing disaster risk can only be adequately considered and enacted where consideration is taken of what this means in terms of the other risks faced by the affected populations. Many times, reducing or controlling everyday risks associated with unemployment, health, violence, security, unequal access to safe land and poverty in general is a priority and is prioritized over reducing disaster risk. Or, the requirements for reducing disaster risk are seen more in terms of short term solutions or reactions, such as early warning, evacuation routes, structural solutions and disaster response, than in terms of final solutions such as resettlement to safer areas. The growth of hazard prone communities is primarily a result of poverty or political convenience and coercion. The consolidation of such areas is the result of a process of institutionalization of risk and the development of disaster risk tolerance in order to reduce every day risk. Both conditions make resettlement a difficult task to enact successfully. Poverty is many times expressed through the need to occupy unsafe, non-controlled land. Political convenience and manipulation are expressed in the ways land invasions are supported for electoral gain purposes, while at the same time ignorance of existing land use planning dictates is common. Institutionalization is expressed in the ways local governments provide hazard prone communities with needed services and support during emergencies. And risk tolerance is expressed in the ways poor populations construct culture and everyday opportunity in hazard prone locations, thus diminishing their concern for disaster risk as such. The combination of some or all of these historical facets provides a structural context whereby resettlement interrupts the very essence of polity and everyday

existence. Any option for successful resettlement thus requires a view and actions that can construct new polities and everyday existence commensurate with political gain and livelihood advance. Logically, one can thus assume that the difficulties of resettlement may be found in the existing conditions that explain risk prone communities and the success that can be achieved in overcoming their effects and the social attitudes they help conform.

- Second, notions of community vulnerability to hazards is based on the notion of community as such. As many resettlement and relocation processes are based on the notion of community and deal with spatially segregated and constituted communities, it is clear that community is a prevalent notion in the process, and “maintaining community” becomes a major factor in many socially inclusive processes attempted by governments. However, it may be postulated that in some if not many circumstances where contiguous urban barrios or neighbourhoods exist, fomented by land invasion and illegal occupancy and crossed by numerous social divisions and conflicts, the notion of community may be farfetched and exaggerated and at times basically inapplicable, despite ideologies to the contrary. We then face the idea of the “myth” of community and, therefore, the myth of the need to move whole communities from one site to another in order to maintain “community integrity”. Such integrity may be a myth and with it the idea of wholesale movement of whole communities may also be a myth or restriction to thinking about other more dispersed solutions. This does not of course mean that community is not a powerful force for adaptation to new circumstances and an objective to be achieved in resettlement processes.

- Third, resettlement many time signifies a contradiction and even confrontation between different interpretations of risk and their solutions. Disaster risk and development specialists, often working out of central locations and with little knowledge of local conditions or needs and with little contact with other specialist interests, dominate over local population decisions on site selection, urban and house design and livelihood needs.

- iii. Difficulties with institutional collaboration and with the introduction of holistic ideas in planning principles and approaches derive from competition and undefined principles and roles, where disaster risk reduction-the primary aim of resettlement as we consider it in this study-is seen to be a specialized concern with its own mechanisms and institutional bases. The jurisdictional element is a critical factor in understanding success and failure or options for both. Resettlement processes involve intimate

knowledge of context and local populations that must necessarily be led locally even though counting on national or regional support. At the same time, relocation or resettlement of population, where housing, services, livelihood planning and social integration are or should be major concerns, can be led by different agencies or Ministries according to how the problem is interpreted and understood from their sectoral perspectives. It may be postulated that when faced with the clear and unequivocal need for integration and holistic approaches, the nature of the lead institution can and will affect the final outcome and determine the level of concentration on specific aspects as opposed to the proposal of more integrative solutions. Thus, if the problem is seen to be one essentially of housing and led by housing authorities this can and will lead to a different approach and emphasis as compared to where the problem is seen from a land use and urban planning or environmental angle, a social integration and poverty angle or a community development angle. Overcoming specialized interpretations and action formats then becomes critical.

iv. The commitment of governments to re-siting and resettlement is compromised by the fact that substantial investment has normally been made in service provision for those that invade or “illegally” occupy land. Such a process may be explained by different political or humanitarian factors, but the very fact it happens is a serious antecedent to any attempt at resettlement because government has invested in, and the population has had access to, both services and emergency response mechanisms and support which color their view of location and movement to another place. Invasion sites are also prey to political cooptation whereby any idea of movement away from the area compromises political support for certain groups but increases support in other areas. Even where areas that are occupied through illegal invasion are declared of high non-mitigable risk, thus leading to the prohibition of investment in such areas, legal processes based on civil rights and humanitarian principles lead to such rulings being overturned and investment taking place. Once service provision is guaranteed and existent, the adaptability of local population guarantees determined levels of livelihood support and a tying to area and place, a process also added to by cultural affinity and history. The various interests of different stakeholders; from politicians to local commerce, those involved in illegal and informal activity, and population; circumscribes any future attempt to relocate population and must be seriously considered in any negotiation or plan for resettlement in the future. Plans that allow maintenance of past legitimate and legal gains, while widening livelihood options are more likely to be successful. Confidence that livelihood options and transport costs are

accessible greatly increases support for resettlement. For this reason, the following experiences and approaches have had, or could have more success:

- Where resettled population is permitted to maintain possession of risk prone sites but under the condition they are given other non-life threatening uses in the future-economic, artisan, etc.;
- Where free options, supported by pecuniary means, are made available to choose sites and houses in any part of the city, purchasing available used housing;
- Where original land passes in co-ownership to government and the population, and it is reconditioned for ecological, environmental and agricultural use with earnings distributed between government and the population; and
- On site upgrading that increases building resistance and reduces hazard occurrence and intensity while allowing benefits to be derived from past investments.

v. Housing design and functionality, respect for cultural norms and mores, spatiality and distribution of facilities are clearly important in the choice to move or choice to stay once moved. Small houses on small plots for persons used to large lots and larger houses can only work where persons are absolutely convinced that they are safer from flooding etc. and livelihoods are also guaranteed. The access to adequately designed and built houses seems to be conditioned by local government appropriation of the processes in agreement with local populations. A centre-periphery relationship cannot work where persons unfamiliar with local needs and culture take control of the process. This then means that locally led and directed schemes with regional and national support is the only real way to go.

vi. Resettlement can only be successful and must always be seen as a multi-faceted process in which urban area and house design and comfort, livelihood support, service provision and other aspects are successfully covered and provided for. Clearly, participation and open consultation and partnership in decision making are important prerequisites. However, the whole notion of integrality, holism, multi-faceted problems and, in consequence, solutions seems to be distant from the mindsets and practice of government bureaucracy, where sector concerns dominate and relations with others are scarce or difficult. Given resettlement can be promoted by any one of many local or national level institutions from the Ministry of Housing and the risk management systems through to social welfare institutions or

environmental ministries, NGO or private sector, approaches and central concerns can differ and aspects of little concern to the central administrator of projects may be ignored completely. Housing ministries will be concerned with houses, environmental ministries with environmental recovery, social integration units with social welfare etc. On the other hand, national level institutions will be more concerned with national level concerns and approaches, whereas local level institutions are more concerned with local appropriation and problems. Where national government policy in general favours such concerns as economic growth and employment creation, resettlement will be increasingly dominated by concerns for housing construction and less so for more subtle affairs such as social welfare and integration, alternative housing solutions to that of building new units etc.

vii. In terms of legislation and norms for resettlement, it seems the more appropriate and flexible solution or way forward is not necessarily through specific laws and ordinances. Policy prescriptions that lay out the basics and requirements for a resettlement process should be accompanied by a clear insertion of the resettlement problem in the policies and laws on disaster risk management in a development framework and provided for in the norms and laws on territorial organization, environmental management and poverty reduction. Resettlement must be seen and dealt with as one option for disaster risk reduction and control, not an option in itself, and the criteria for deciding on its appropriateness should be seen in the light of other options in a balanced fashion.

Section 3: Resettlement: the costs and benefits to stakeholders

Introduction

In the prior stage of research on urban resettlement under conditions of climate variability and change, a diagnosis of existing risk conditions and institutional approaches to decision making and implementation and a study of decision making and implementation in cases of resettlement in three Latin American countries (LAC) was completed (see Sections 1 and 2 of this report).

The third substantive stage of research in LAC, Asia and Africa was undertaken under the notion of “risk analysis” or analysis of the “costs and benefits” associated with resettlement.

In the present sub-section, we highlight the more important theoretical, conceptual and policymaking and implementation issues that can be drawn from a cross-country study and comparison of the costs and benefits accruing to persons that are resettled.

Research at the project resettlement sites, as well as elsewhere, has consistently revealed similar problems and virtues of resettlement. This is so even when we acknowledge the sui generis nature of different resettlement projects and the variation experienced with implementation processes, depending on the type or magnitude of resettlement and differences in city or town size.. Given this, it is important to identify the principle generic and specific contexts that condition outcomes and results. The basic hypothesis of this project is that these are very much related to the diverse implementation and decision-making processes enacted in different places, modified or influenced by contextual conditions and conjunctures over time.

The present sub-section comprises 5 aspects. The first deals with the case studies and the method used to generate research results and conclusions. The

following deals with the why and what of research. The third examines some fundamental conceptual and definition issues, and the fourth provides a summary of the conclusions on costs and benefits across country studies, highlighting the more substantive issues. The final paragraphs project results into the field of policy and implementation in the search for increased benefits and decreased costs. These provide inputs into the regional policy guidelines produced by the project, and constitute both conclusions and recommendations derived from the overall study results.

1 Case studies and basic research method

In previous sections it has been pointed out that a varied approach was employed in the selection of resettlement sites for analysis in each country.

In the case of Mexico, five sites were analyzed in the State of Yucatan, including two nearby rural communities affected by the same hazard event and resettled contemporaneously. In Colombia, seven sites were considered, with varied implementation dates, all in the same city of Manizales. And, in Peru, one principle site was studied in the city of Iquitos with subsidiary information gleaned from a second and third site near Cuzco and Arequipa. This varied number of sites and locations was intentional, and led to a different depth and spread of research questions and methods.

Time available for research was critical in determining the depth of analysis possible. In the case of the present cost benefit analysis research, 20 days per country was available for designing and implementing the research method, analyzing results and writing reports. This allow for an indicative, but not comprehensive approach and results. This does not however make the results invalid. The value of results from the LAC region may be found in the diversity of

sites studied and the comparative issues that arise. Value may also be found in the different approaches used to gather information and conclusions regarding the cost and benefit issue.

In the case of Mexico, conclusions on costs and benefits and their differences site to site are based on the results gained through WP 2 at the two rural sites of El Escondido and Tigre Grande, as well as Campestre Flamboyanes in Progreso and the Celestun-FONDEN and Celestun-Charcas sites. This was complemented with an interview survey on costs and benefits carried out specifically during WP 3 in Campestre Flamboyanes (see annex in the Mexico national report) and informal interviews with fishermen and other informants in the Charcas Project in Celestun. Results contrast the different ways project implementers and those analyzing the implementation process conclude as to costs and benefits, as compared to the opinions of beneficiary populations as such. The themes considered – both causal and cost-benefit – are: justification of resettlement; type of implementation process and level of social participation; location and general characteristics of the resettlement site; character and functionality of the new housing; security in land ownership; level of fulfilment of original resettlement objectives and the use given to vacated land; consideration of other options for problem solving; and long term results.

In Colombia, WP 2 results on decision making and implementation are reprocessed for the seven sites studied in the city of Manizales (Barrio Holandes, Yarumales, Barrio Paraiso, La Playita, Samaria, and San Jose). Conclusions as to costs and benefits and their relationship to implementation processes were derived. This information is complemented with interviews with key housing authorities in the city and the reprocessing of a comparative study undertaken on costs and benefits at nine different resettlement sites in the city between 1987 and 2008, undertaken by Anne Catharine Chardon from the National University. This latter study was based on some 574 questionnaires administered to project beneficiaries. The major themes considered in the Colombia research as a whole, on an outcome and causal level, included: institutional factors and relations; participation and social organization; legal and normative aspects; perceptions; economy; socio-cultural practice; mental and physical health concerns; territory; environment; social confrontation and strategy.

In the case of Peru, the New Belen resettlement scheme is used for research. As has been detailed elsewhere, this scheme is large-scale and will, when completed, have involved the movement of some 2,600 families or 16,000 persons. The size of the

Project as well as the large number of interest groups involved means that costs and benefits can only be approached through a comparison of the evaluations made by such diverse groups. Moreover, only some 100 families have been resettled at the new site to date as the Project advances and infrastructure and services are completed. This means that the analysis of costs and benefits is hypothetical, based on the perceptions and notions of those to be relocated, or on the more informed ideas of the few that have been relocated to date. Such information has been complemented by a questionnaire study of population in the Calipso and Villa Olimpica resettlements, set up in response to different flooding incidents in the Lower Belen area over the last 7 years. Calipso residents will not be relocated to the New Belen scheme once this is finished, but those from Villa Olimpica will. Persons from these sites have been used as a surrogate for persons relocated to the New Belen scheme. As they come from the same Lower Belen area but are not as yet located in New Belen, they can provide opinion on costs and benefits that take into account preexisting Lower Belen conditions and their new conditions in their present location, which are similar to those that will be experienced in New Belen (the questionnaire used for both beneficiaries and stakeholder groups can be consulted in the annexes of the Peru national report).

2 The why and how of possible research

The major purpose of the research was to provide a series of results that can contribute to decision makers and implementers, population and civil society, NGOs and others, changing the dominant mind sets and practices with regard to resettlement. This is critical when faced with resettlement and relocation schemes that often fail miserably, when judged against development criteria and principles. Field research to date on decision and implementation in our project geographies has allowed a preliminary identification of both positive and negative outcomes. Research during WP 3 works within the frame of these results. It more clearly specifies outcomes and searches to move from an understanding of the immediate causes of success or failure to a more profound understanding of underlying causes. Here, the why of inadequate process and unsatisfactory outcomes is examined from more than a one dimensional, reduction of hazard exposure perspective.

The complexity of the overall research question demanded a clear identification of the sub-components of the outcome problem that may be adequately examined and researched in a short time framework and with limited financial resources. These sought to be complementary and accumulative

amongst and between our regions and countries, in terms of both results and methods. And, they sought to clearly offer an input into future decision-making and implementation processes. In this sense the research on outcomes was consequent with and constituted a continuation of prior research undertaken on decision and implementation, thus guaranteeing a holistic and integral approach to, and results from, the research. Under no circumstance could we pretend that the research would be all-inclusive and conclusive. It could, however, be indicative and suggestive and lead to the identification of a series of critical aspects to take into account in future resettlement decisions and processes. It could even lead to questioning as to the convenience or not and under what circumstances, resettlement can be seen as a solution for existing disaster risk.

A summary of the types of possible research discussed include (these are not mutually exclusive):

- Comparison between costs and benefits as perceived by as yet non resettled population, and those perceived by populations resettled in areas similar to those considered for new resettlement (see case of Calipso and Villa Olimpica in Peru), or in the real new resettlement site. Research into the ways anticipated costs and benefits are affected by contextual and circumstantial conditions.
- Longitudinal study of how costs and benefits change over time (e.g. from early on after resettlement to up to ten years later). Study of the intervening variables that may explain improvement or downgrading.
- In a situation where costs and benefits, advantage and disadvantage exist and are contrasting, what are the conditions that have primacy in the final decision to resettle?
- Study of contrasting qualitative and quantitative aspects of decision-making associated with costs and benefits and the ascendancy or not of one or the other.
- Backtracking from particular costs and benefits, gains or losses identified in phase 2 and 3 work to identify particular causes and effects that relate to particular decision-making and implementation processes or historical factors and conjunctures. Whereas phase 2 work allowed a correlation between immediate causes and different advantages and disadvantages, phase 3 work should allow going beyond immediate causes, such as lack of adequate architectural and engineering provisions, lack of available land, lack of participatory processes etc., to delve deeper into the structural or nonstructural

causes of these immediate explanations. In essence, as the Pressure and Release- PAR- model developed by Blaikie et al (1996) moves from unsafe conditions to dynamic pressures and root causes, here we proposed the same. It is imperative to understand what can be modified given a particular economic, social and political regime in place, and what cannot be modified without significant transformation of values and practice.

3 On concepts, notions and definitions used in the research

3.1. On “risk analysis” or “cost-benefit” analysis of resettlement

The terms risk and cost-benefit analysis are those used in the Project description to depict the goals of the third stage of work of the urban resettlement project. Clarification and specification of these terms is required as they informed project development.

Firstly, they are not used to cover processes undertaken prior to the decision to implement a resettlement process. That is to say they are not applied in the sense of analysis by government or others that provided a rationale for the undertaking of a resettlement project. This is of course a legitimate use of such notions and processes and these are in fact undertaken in many cases of resettlement and relocation. In the cases studied, only in the lower Belen resettlement process was it possible to identify a fully-fledged cost benefit analysis applied for the current New Belen scheme and for the extant Sustainable Belen Project. In both cases the cost benefit equation was negative with the New Belen scheme less so than in the case of the suspended Sustainable Belen Project (see Peru national report). Peruvian law is the only context where econometric cost benefit analysis is required in order to substantiate a resettlement versus an onsite improvement process. Risk analysis, understood as a search to measure and understand the risk conditions existing in a community or area affected by different hazards, is almost inevitably undertaken in some way or another prior to decision making. This may be based on empirical observation, experience or perception or on more sophisticated approaches with systematic measuring of hazards, exposure and vulnerability.

In the present project, cost-benefit and risk analysis are used as synonyms for post resettlement analysis of gains and losses, advantages and disadvantages. They refer to the outputs of resettlement, measured in the short and longer terms, and how they are perceived or measured by beneficiaries, decision makers and implementers. Cost-benefit or risk

analysis essentially refers to the advantages and disadvantages, gains and losses, or positive and negative impacts of resettlement. Cost signifies existing risks maintained or repeated or new risks incurred. Benefits refer to risks reduced, avoided or addressed. "Risk" is understood in a full development scenario including not only disaster risk (the probability of loss and damage with the occurrence of damaging physical events) but also chronic and everyday risks that signify a loss of opportunity and are a reflection of disadvantage for the population—bad health, insecurity due to social and family violence, unemployment, malnutrition etc.

Costs and benefits can be explained by structural drivers or conditioners, or by personal characteristics, capacities and adaptation opportunities. Following the concept used by the India research team, risks and benefits relate to the opportunities that exist for asset building seen from an economic, social, cultural, psychological, political and physical perspective. A sustainable livelihood framework and process is thus implied in looking at benefits and costs.

Outputs may be measured in quantitative and/or qualitative terms and be either positive or negative. Analysis should permit an understanding of the balance or contrast between these and their impact on attitudes, decisions and actions in support of or contrary to the resettlement scheme and process. Quantitative analysis pushes us towards more traditional econometric techniques couched in terms of summation processes that take into account the additional or reduced costs to the individual or to implementers in achieving different outcomes (such as mobility, mitigating or reducing disaster risk in old and new locations, housing and service provision). Qualitative measures take us along the road of intangibles and the "unmeasurable"—cultural identity, social cohesion and networks, lifestyle needs and wishes, identity with place, psychological security etc. As explained and argued in the Peruvian research, more traditional quantitative cost benefit analysis refers to aspects captured under the notion of "exchange value" while more qualitative aspects are better considered under the notion of "use value".

Outputs (costs and benefits) accrue to different social actors, ranging from the beneficiaries (families, individuals, neighborhoods, which in turn may be classified in terms of existing types, functions, roles, position etc.) of resettlement through to those involved in the decision and implementation process (government at different levels, builders, planners etc.) and collateral agents that have derived benefits from existing settlements (NGOs, commerce, churches, service providers, etc.) or could derive benefits from new settlements (local government at the resettlement

site, already existing population and existing commerce, service providers and business persons near or around the new site, etc.). Clearly from a humanitarian and social perspective it is the costs and benefits as accruing to or perceived by beneficiaries that should assume a higher status, although we know that decisions are taken and results forged according to the values of implementers and decision makers. Such a conclusion substantiates the need for highly participatory processes from the outset and throughout the resettlement process.

Outputs can be time related and will vary according to the time period considered, taking into account the long (10 years or more), medium (5 to 9 years), short (1 to 4 years) and very short (less than a year) terms. Initial negative or positive overall and individual results may be transformed over time and originally difficult or unsuccessful processes may be turned around and vice versa. Longitudinal analysis can allow us to understand the processes at play including the role of social organization, government support mechanisms with infrastructure or employment creation, contextual factors relating to the town or city and the opportunity they provide for integration and employment. Unfortunately, the time frame of the present research does not allow for a longitudinal analysis, although some aspects of this are touched on in research in Mexico and Colombia where the resettlement schemes analyzed have been in place for some time.

Outputs are also typology related. A broad categorization of types of movement would include ex post disaster related, or preventative pre-impact movement, and climate change induced relocation from previously safe sites. Whether it is a resettlement (longer distance movements accompanied by recreation of life conditions and livelihood options) or relocation (shorter movements where existing conditions can be taken advantage of in work, service provision, social networks, cultural ties etc.), process will be important. The size of settlement or community is also significant, as is the size of the town or city where resettlement occurs and the type of social structure and livelihood basis that exists in the original and new settlement.

Outputs may be classified differently according to economic, social, political, cultural, psychological, organizational, governance, urban planning, environmental, health, urban or regional considerations. The challenge of measuring and dimensioning intangible benefits and impacts is always present, never mind which category we are dealing with. Due to the time frame for this research and the range of cases involved, such a typology is referential but not exhaustively dealt with. This contrasts with the case of India where more

concentrated and intensive research has permitted far more detail and disaggregation.

In the present research endeavour it has been possible to pursue an analysis of advantage and disadvantage, gains and losses principally from a qualitative perspective with some quantitative aspects covered. Analysis is more general than specific and takes into consideration different stakeholders, recognizing that each case analyzed is a world unto itself in many ways.

Finally, it is important to point out that costs and benefits have been looked at in two ways: firstly, based on post resettlement or relocation experience in different time frames (from 28 years ago in Colombia until three years ago in Peru) and secondly, in the case of Peru and Mexico, as they relate to evaluations under pre movement conditions where a resettlement process has been announced for the future. That is to say, analysis based on people's perceptions or considerations as to future costs and benefits. Such perceptions and considerations inevitably feed into and influence the attitudes and position taken by different persons, families or groups when faced with the decision to resettle.

Clearly, both post and pre resettlement valuations will be coloured in differing degrees by subjective considerations and inexact evaluation. In the case of pre movement evaluation, this is more likely to be true and operate to a greater degree, being influenced by politics, social pressures, perceptions, individual and collective influences on thought, etc. This is the case with Peru and the New Belen scheme which, moreover, is a large scale scheme where distortion of notions and ideas and influences beyond the family and the beneficiary operate on a large scale. One way or another, an understanding of how costs and benefits are measured or valorized in pre movement conditions is fundamental, as it will normally show the importance of pre resettlement communications on the part of decision makers and implementers and the need for ample participation on the part of beneficiaries. Distortion, manipulation, political gerrymandering, imposition of others' values and criteria is much more likely where such conditions are not satisfied. This is amplified where prior government schemes have failed with little knowledge of the whys and whereabouts of such failure, as in the case with the Sustainable Belen Project.

3.2. On interpretative models of gains and losses, explanation and outcomes

Discussion amongst the research team both in LAC and in India and Africa concluded with a first guiding

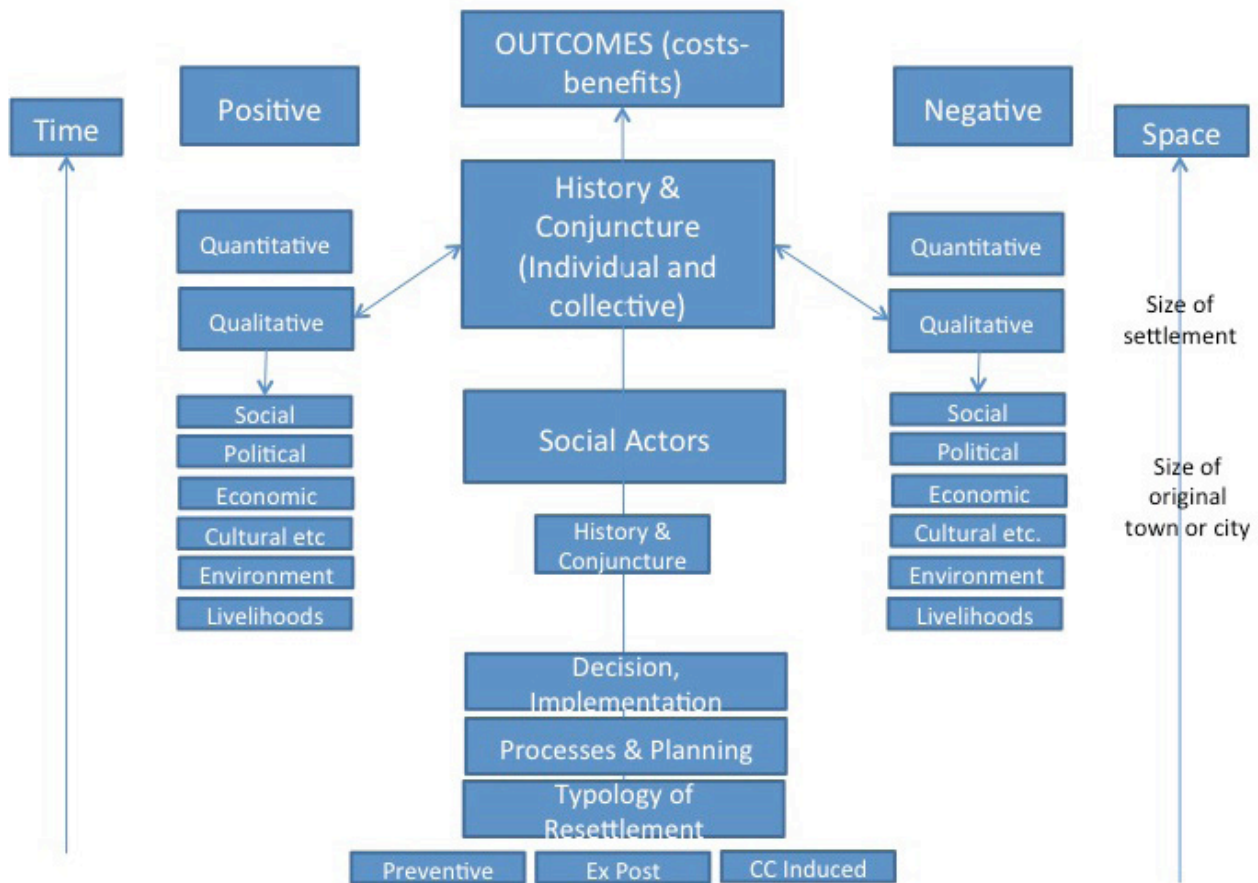
hypothesis, namely that specific outputs over time are closely related to and explained by the original decision making and implementation processes. Here, local versus national inputs and knowledge, local and beneficiary participation in decision-making and implementation and sensitivity or not to cultural mores and needs comprise significant factors in explanation. Decision-making processes and implementation procedures may be subverted or downgraded in their effects due to contextual or historical factors in situ. With time, new conditions can be forged and the resettlement outcomes altered in both positive and negative ways.

This complex scenario is depicted in the diagram reproduced on the following page, originally posited by the LAC team and modified after discussion with the full research group from Africa and India.

Understanding of the causes of different impacts or outputs and their classification according to the type and magnitude of proposed resettlement schemes should provide important inputs into future decision-making and implementation processes. The lessons from this analysis should be built into ad hoc, ex ante decision and implementation formats. Here it is important to point out that many of the criteria used to judge the efficacy and appropriateness of resettlement projects in ex post evaluations were probably never considered in the original decision-making and implementation process. This makes such evaluations rather "utopic", valid in pointing out errors but invalid in positing that results do not conform to posited goals or needs (as limited or circumscribed as these may have been). Many times the singular objective of reducing disaster risk dominates the project process while the wide ranging social, economic, cultural, and psychological and other considerations known to be fundamental in success have rarely been considered fully or at all during implementation.

3.3 Conditioning factors in understanding resettlement impacts and the evaluative process made by beneficiaries and other stakeholders

An overarching fundamental theme in any explanation of the decisions taken and the outputs achieved relates to the position resettlement decisions and prior political, social and economic processes have with regard to overall disaster risk policy, and this in turn with sector and territorial, environmental and social development planning and policy. This is relevant both with corrective risk reduction strategy, reflected in post impact and climate change related resettlements, and with pre-impact preventative resettlement. Consideration must be given here to how much the more lasting option of prospective land use planning and normative controls of location in



hazard prone areas, searching to avoid the need for later resettlement, has been considered, and in what framework.

A basic tenet of our research and understanding of the often negative outputs of resettlement is that many resettlement decisions and processes are guided by a narrow view of risk that essentially relates to avoiding exposure to physical hazards and thus, disaster risk. Such views are “determined” by the ways DRR is seen and who enacts its postulates and sought for results. Moreover, when resettlement schemes are analyzed ex post and many times found to be lacking, the analysis, as we have pointed out above, is often undertaken on the basis of a far wider ranging series of “risk” conditions or lack of livelihood opportunities than is implied in disaster risk as such. These include health, social cohesion, income and employment opportunities which clearly have never been taken into account when resettlement criteria and decisions were decided. The contrasts, conflicts or relations between “disaster risk” and “everyday risk” and the lack of a clear view in resettlement policy that this should aim for wider development goals (including contributions to poverty reduction, land use planning, environmental control, transformational development etc.) may in many ways relate to the sector bias of attitudes towards disaster risk and the lack of its integration with wider development concerns

and actors. Outcomes then become the result of approaches, attitudes and mindsets as to why and how to enact disaster risk reduction and according to what guidelines and criteria. Here we can testify to the fact that resettlement – when enacted under conditions of environmental stress – is seen primarily to be a disaster risk management and reduction, but not an integral development problem.

There is of course a complex contradiction in all DRM work. The very reason most people are in harm’s way relates to their “underdevelopment”, exclusion or marginalization. That is to say, persons in conditions of poverty are more likely to be at risk due to lack of access to safe land or safe housing and building practices. Thus, if resettlement is seen primarily as a means of getting people out of unsafe environmental conditions without transforming their livelihood conditions, their asset accumulation and overall capabilities and capacities, resettlement is likely to only be a means of trading risk reduction of one type (disaster risk) for increased risk of another type (chronic or everyday risk). In reality, many times resettlement does not even eliminate disaster risk but only recreates it in a different or even, at times, similar form. Only through integral planning methods where overall holistic risk is considered can resettlement hope to achieve sustainable goals.

It is within this overall context and according to the basic hypothesis detailed above that research took place. This searched for complementary diversity among countries and an accumulative result that pushes the notion and method of outcome analysis forward, providing results, criteria and considerations that can be used in future decisions on resettlement and on the planning and administrative process this should follow. Attention to the complexities associated with climate induced changes in historical patterns and manifestations of hazard were sought, but research was firmly based on the notion that vulnerability and exposure and livelihood precariousness are still the dominant aspects to overcome, with policies directed at hazard prone communities.

4 Major results and conclusions from research on costs and benefits

Case studies of resettlement undertaken during the present project, and elsewhere, are generally negative as to outcomes, with some outstanding exceptions that are explained by the particular circumstances and conditions under which they were enacted. The sui generis nature of much work in this area is clear and results are very much case dependent and influenced by the very different conditions under which they are enacted. Despite this, many common results exist despite differing on-the-ground processes. Here we will provide a summary of major common and idiosyncratic results as these have been recorded in LAC case studies. A consideration will also be given to the diverse and discriminatory factors that have impinged on common outcomes wherever they may have occurred.

The major factors that favor a negative balance in costs and benefits are the following:

- Compliance with legal and normative requirements as regards human security from hazards in the aftermath of disaster that lead to concerns as to legal action against non-complying public servants, leads to a bureaucratization of procedures and ignorance of wider concerns associated with resettlement, be they social, economic, environmental or cultural.
- The tendency to see resettlement as essentially a housing and service provision problem where getting people out of harm's way is the preponderant concern and the wider livelihood, development and poverty reduction needs of the population are ignored or forgotten.
- Problems of coordination and participation between relevant government sector ministries.

- The lack of experience with resettlement and a rapid turnover of professionals dedicated to such activity.
- A lack of coincidence between the cultural, aesthetic and functional premises of those designing resettlement schemes and the backgrounds and needs of local populations.
- The political nature of the problem and the manipulation of information and ideas among contrasting groups.
- The state of deprivation, exclusion, need and resilience of beneficiary populations makes them easy "victims" of inadequate schemes where the satisfaction of needs related to housing, land security and access to services tend to override the satisfaction of wider livelihood needs (employment, incomes, health and security).
- Beneficiaries are provided with information but are not part of decision making as such on location, housing, services etc.
- The use of post impact resettlement as a political expediency and a quick fix approach to resolving problems, along with a failure to guarantee adequate funds for following through with and making good on resettlement requirements. This is especially true with regard to local governments who are normally responsible for service provision on site and land titling.

Independent of the existence of one or more of these conditions and circumstances operating in the context of post resettlement conditions, research in Peru on an as yet mostly incomplete resettlement process is illustrative of things that can occur where the original settlement is large, has a long standing cultural and social position, and where multiple stakeholders and multiple social processes are active. The situation of Lower Belen is in no way comparable to sites studied in other countries, serving once more to illustrate that each case has its own characteristics even if demonstrating various facets in common.

In Lower Belen the long established and highly populated area has inevitably been associated with a highly diversified livelihood base, mostly informal but with elements of formality as well. From legitimate business through to criminal activities, different groups have made a living out of fishing, farming and market commerce; as well as drugs, child enslavement, prostitution and other illicit activities. Churches and NGOs, local government and others have worked in or benefitted from the area over the years. Such

a situation has inevitably given rise to contrasting perceptions and views on resettlement, coloured by notions of personal or group benefits or costs. This leads also to subjective opinions on such costs and benefits, and a social movement has grown defending and opposing such a process. This has been coloured further by the fact that due to failed projects and promises in the past, the population is less likely to believe new government proposals, molding ideas on costs and benefits that are probably inaccurate or even completely distorted. This is further complicated by the fact that to date some 1,000 families have been resettled in different areas outside of the Lower Belen area, close to or on the main resettlement site at New Belen. These have their own opinions and measures of costs and benefits which can be contrasted with the perceptions of the as yet non mobilized population.

According to Angel Chavez (in the analysis provided in the Peruvian report), this context provides an opportunity for the erosion of the as yet still dominant, more-well organized, determined and numerous anti movement lobby through what he calls the “free rider” effect. That is to say, persons who are possibly in favor of movement, but who are reticent to take a final decision. They do not participate actively in defending the idea of resettlement but are susceptible to persuasion on the basis of the opinions and ideas of already resettled persons. The experience of already resettled persons, whether in the New Belen scheme or in Calipso or Villa Olimpica, becomes critical for the final decisions of those that have as yet not moved or been moved.

5 A synthesis of notions and evaluations as to costs & benefits across the studied cases in LAC

One overriding consideration exists when evaluating costs and benefits, advantages and disadvantages, gains and losses from resettlement. This is the fact that such results are generally gained in the context of poor to destitute population groups, where disaster risk is a result in good part of this context, and where reducing disaster risk per se without consideration of the alleviation of other livelihood risks is an unsustainable premise. Any evaluation of costs and benefits of disaster risk reduction resettlement processes must inevitably pass a filter where the results are contrasted with wider livelihood security and sustainability criteria. If satisfaction or dissatisfaction with resettlement were to be evaluated merely in terms of the reduction or non-reduction of disaster risk, the results of analysis would be vastly different in many cases as compared to when people evaluate their experience in a wider livelihood context. Multi risk analysis is thus required and in accepting this we also accept that evaluation on the part of the

population is coloured by diverse and varied political, economic, social and cultural criteria. It is many times objectively subjective or subjectively objective!

Results of analysis in the towns and cities considered in the LAC research that take the above argument into consideration basically lead to the same conclusions and results, with some outstanding differences. A summary of the results provided in the three national reports include:

- In those cases where the resettlement-relocation was small scale (Yarumales, Manizales.), involved short distance movements (Celestun FONDEN, Yucatan), was based on an already existing urban expansion with pre-existing service provision (Flamboyanes-Progreso, Yucatan) or involved an innovative split community based solution within the same city or town (La Playita, Manizales) were the benefits seen to be in excess of the costs. The split community solution whereby families were provided with finance to allow them to purchase a house in any part of the city which satisfied their needs, was probably the most successful of all.
- In each of these cases the implementation process was characterized either by innovative elements involving different types of professional collaboration, high levels of agreement with, or participation by the population, high levels of regional or local collaboration and incentives, or a combination of these.
- Large scale processes such as that studied in Iquitos with the New Belen scheme are exceptional, the exception that proves the rule, and rarely to be found. But given the commitment of government, due to the exceptional circumstances in which these large scale processes arise (in Colombia various comparable cases exist outside of the Project study areas), multi institutional and multi process implementation procedures occur and can objectively lead to a more adequate costs-benefit balance. Moreover, such processes have normally taken place in circumstances where large scale disaster has not yet occurred and time is on the planners' side. Moreover, budgeting procedures exist that go beyond those present in an emergent or emergency process. However, where such processes occur in long established, extremely marginalized and excluded populations, located in largely excluded areas of the country (as is the case with Lower Belen and Iquitos) both the process of resettlement and the process by which populations evaluate the costs and benefits of any future planned movement is extremely distorted by political gamesmanship, protection of vested interests and the very exploitative context in which social relations exist in the risk area. Under

such circumstances it is only after a consideration of the opinions of the already resettled population that a balance can be introduced in analysis. Interviews with resettled populations have shown that the balance between costs and benefits is positive and few would contemplate moving back to the original Lower Belén area. This probably means that the so-called “free rider” effect will increasingly operate and the strength of the anti-resettlement factions will be eroded over time.

- Any resettled population desires easy access to employment, services, social networks, and environmental health. However, interviews and analysis at multiple sites show that if titled housing and land is made available and services are adequate, the balance of costs and benefits is seen to be favorable in general, despite downfalls in the provision of other social and economic attributes. If, as in the case of Mexico, originally occupied land does not have to be handed over to the State but can be used later for productive purposes, the incentives and the balance of costs and benefits turns out to be even more favorable. Resilience of the population to prior conditions of environmental and social stress ameliorate their demands for a more adequate solution and over the years the resettled population make good on improvements in employment, services and overall location costs.
- In the majority of the Colombian and Mexican cases, the population expressed dissatisfaction with early resettlement employment opportunities, increased costs of transport to work, the breakdown in family and other social relations, the inadequacy of original service provision and house size and design, but were still of the opinion that resettlement had improved their overall situation and increased their security when faced both with physical hazards and social violence. On many occasions it was expressed that the concern for security from flooding or other hazards was not high on their priority list, being overshadowed by everyday life concerns.
- The combination of the high levels of exclusion and marginalization of resettled populations with high levels of onsite resilience, and the importance for the population of being given free housing and land make the population prey to bureaucratic and organizational inefficiency and lack of comprehensibility. This is especially true where participation is low. Government can get away with doing little and still achieve a result where the population sees their situation as improved. Such a context requires far more consideration for ethical and moral issues, backed by more concern for inter-sector and territorial planning mechanisms.

6 Conclusions as to controlling the impact and outcomes in the future: towards a policy brief for Latin America

There is a clear relationship between outputs and the ways resettlement is considered and conceptualized (from considerations couched in terms of disaster risk reduction and housing and service provision through to wider spatial, sector and livelihood development aspects and criteria) and its institutional base and logic of implementation. This has been evidenced by the results of the research in Mexico, Colombia and Peru, and as one reviewer of our research results commented, “adds more grist to the mill” as far as evidence against bad practice goes worldwide. The results, obtained in the frame of a concept which placed emphasis on the causal aspects of outputs, allows us to formulate a series of conclusions and recommendations as to the factors or conditions required for any successful, or at least acceptable resettlement process which has a balance of positive outputs when faced with disaster risk or disaster associated with hydro meteorological hazards and climate change. As such, these conclusions offer a basis for the development of a global policy brief aimed at policymakers and project implementers. Moreover, they constitute overall conclusions of the research endeavour undertaken in phases 1 to 3 of the present Project. We do not conclude automatically that such conclusions are valid for resettlement associated with geological hazards or with other social demands and needs such as development or violence based resettlement. But we are sure many are also relevant in such situations.

In order to present such conclusions, we will first announce the more general, context and concept based conclusions and then those associated with the different impacts or outputs that have been seen to arise in the resettlement schemes analyzed.

Overriding considerations:

1. Most resettlement-relocation associated with hydro-meteorological and other hazard types in towns and cities is inspired by an on-going, recurrent experience with disaster loss and damage or by the occurrence of a large disaster that seriously affects the population, its livelihoods and infrastructure. Some type of formal risk analysis normally backs up the decision to resettle but there are **very few cases where resettlement is based solely on disaster risk analysis that precedes some type and level of previously identified disaster risk or potential disaster loss.**

2. The one single sustainable means for avoiding the need for resettlement is by the use of urban land planning strategies and instruments that efficiently and equitably prohibit the occupation of unsafe places and through the prohibition of investments in services and infrastructure by private and public sector organizations at such sites. In order for this to be successful **land use planning, investment decision-making and urban governance must be greatly improved and secure land for occupation by poorer population made available** through the creation of viable municipal land banks or reserves at a local level. Despite this, it must also be accepted that with human intervention in the environment, land degradation and climate change, places that were previously deemed safe for occupation may become increasingly hazardous due to the construction of socio-natural hazards. This requires actions which protect places from such effects and outcomes.

3. Due to the complex economic, social and cultural factors and costs involved in a large majority of relocations or resettlement of populations living under climate-related risk, this should be considered as the **last possible management option and solely contemplated for extreme cases**. Before deciding on resettlement of already exposed populations all other possible options for reducing risk should be closely considered and costed.

4. Where considered absolutely inevitable and essential, population relocation/ resettlement should never be conceived and planned as an isolated, independent project, with its own specific and limited disaster risk reduction goals, although these clearly should be present in the formulation of objectives. Given that the vast majority of at high risk communities are poor or very poor and it is poverty which best explains their hazardous location and the levels of risk they experience, **all resettlement projects should be formulated and planned in terms of wider poverty reduction goals and associated employment, income and livelihood needs**. That is to say, they should be considered from a **wider sustainable development perspective and involve relevant development institutions**. Schemes that judge success primarily in terms of disaster risk reduction goals are likely to fail. Poor populations will always favor access to employment, income, livelihoods and social and economic infrastructure over the singular objective of reducing disaster risk or avoiding infrequent disaster. **Risk tolerance and trade-offs between every-day, chronic and disaster risk contexts will always inevitably occur and most times favour the former over the latter**.

5. Resettlement projects should not only deal with the physical components (housing, infrastructure

and service provision) of habitat but should also grant equal importance to the **social, economic and cultural needs and requirements of the affected population**. While the physical components and land and housing security and ownership are the conditions generally **most valued by the population**, the lack of, or difficulty in sustaining livelihoods, employment and social-family cohesion and networks leads to a serious risk of failure.

6. Resettlement does not have to be governed by a specific law, although this option may be contemplated under determined national and local conditions. Rather than bureaucratically dictating rigid and fixed conditions and characteristics of resettlement schemes, **laws or norms should clearly establish the holistic and integral nature of resettlement and the roles, types and levels of coordination and collaboration that must exist among relevant national and local government agencies**. These should include land use, employment and livelihoods, housing and infrastructure, social relations and cultural concerns, amongst others.

7. **Typologies** of resettlement according to the type and size of urban area and type and size of resettlement must be established and **procedures adapted to accommodate the differences**.

On the scientific and information base for resettlement:

1. When resettlement is judged to be unavoidable, **a rigorous and objective scientific assessment** of the actual risk conditions of the population and the need for relocation must be made available. This scientific evaluation should be **comprehensive and participatory**. It must include not only a consideration of physical hazards (magnitude, intensity, recurrence, etc.) and the levels and types of exposure and vulnerability to these, but also **the social needs of the population, the wide range of disaster and every-day risk contexts they face and their overall attitudes and perceptions of risk and its different manifestations**. Under many circumstances the population **understands the disaster risk it faces**, have been affected by disasters in the past and are many times willing to accept determined levels of disaster risk in order to **maintain ongoing livelihood and lifestyle options, thus reducing everyday as opposed to strictly disaster risk**.

2. The national and local government institutions responsible for DRM should **monitor areas of high unmitigable risk** in order to avoid further urban occupation and densification and increased progression of risk in such areas.

3. On the institutional side, prior to a relocation the following should be **evaluated accurately** (see below for details of these aspects): a) the most appropriate site for the new settlement; b) the existence of a viable project for the use of vacated land; c) the financial resources available and the sources for these; d) the ability of municipalities to meet their fair share of needs (usually the provision of basic services); e) opportunities for the project to realistically be concluded, culminating in the delivery of the corresponding property titles.

On the siting of resettled communities and the use given to abandoned land:

1. Location is fundamental for success of resettlements. Location is many times a surrogate or indicator of existing or potential employment and income opportunities, costs of transport services to and from work or for recreational purposes, access to service provision, as well as certain health related and other social concerns. Where dealing with large communities requiring resettlement **maximum attention must be given to their siting in lieu of the above mentioned factors and circumstances.**
2. Since relocation of urban populations is most closely related to **urban land use and planning issues** and the spatial development of urban areas, it is essential that protocols be established for managing resettlement projects as part of existing rules and norms. These should clearly assign the responsibilities of different levels of government, private sector and civil society and the procedures for implementation. **The review and updating of existing legal frameworks relating to urban development planning and land use** is urgently required in many countries.
3. Many times, due to land costs and availability, it is difficult if not impossible to procure an adequate, well located lot of urban land and resettlement takes place on distant and socially and economically untenable land. Although it is normally considered that a community should be moved as a whole **this idea should not always dominate.** Even where a single adequate piece of land is found, able to accommodate all of the resettled population, consideration should always be given to other options involving the **separation or segregation of an existing community with its relocation-resettlement to different parts of a city.** This may more adequately serve the interests and needs of the population in terms of work, income, social relations and costs. Such division of the population, by groups of families or individually, can be fostered by schemes that allow, for example, for the purchase or rental

of used housing in different parts of a city, trade-off schemes whereby a proposed resettled population could take the home of others and these take the new location offered in the relocation scheme.

4. Abandoned land should never be used for new housing or made available to other population groups through invasion or illegal occupation.

The abandoned land should be ceded to the State on the hand-over of new, titled housing in relocation sites. Incentives and schemes for environmental and recreational uses in abandoned high-risk areas should be considered as a mechanism to prevent attempts to use it for new housing and to increase the ecosystem service provision in the urban area. These should examine the options for co-development between government and the affected population (see below).

On the settlement pattern and housing for relocated populations:

1. Plans for resettlement in urban areas should include all those services necessary for a new generation of safe and healthy urban spaces. This requires **participation and coordination of sector and territorial development institutions** in order to achieve the goal of safeguarding the physical and livelihood integrity of the population at risk.
2. Cultural diversity is the basis of **numerous lifestyles in cities.** These merit close consideration in the design of resettlement schemes in order to avoid traumatic changes in the target population. New houses should be **functional and appropriate to the geographical conditions and needs of the population, as well as being consistent with their customs.**
3. Given the diversity of climates and customs that can prevail in a country, **standardization in the style, size and layout of housing for relocated populations should be avoided** where permanence of the population in the new settlement and a minimizing of the discontent that a project of this type can and often does generate is sought. The use of local materials and techniques and the “local” design of houses has a clear rationale, and knowledge is required as to autochthonous or local styles in order to achieve improved results. It will always be far **less costly economically and socially to invest in improving traditional housing construction techniques,** than imposing inefficient and degrading models with which people cannot readily identify. In order for this to occur, **socially and culturally sensitive architects and builders must be employed,** many from the areas where the resettlement is enacted.

4. The **practice of granting free housing is not sustainable in general** and must be avoided. Such practice involves a high financial cost for relocation projects, high levels of inefficiency, and low incentives to population.

On participation:

1. The participation of the population particularly during the earliest stages of the process must **stop being seen by policymakers as demagogic and unnecessary**. Decision makers often view the participation of society as a mechanism that hinders or delays process due to the large number of interest groups that have to be considered and taken into account. However, practice has shown that even if there are conflicts involving people in planning a project of this type, there are greater **chances of success when negotiating such conflicts than when decisions are imposed without consultation**. Participation is the only way of ensuring appropriation and rationalization of costs and benefits.

On the financing of resettlement:

1. Finance and technical expertise must be ensured and legislated **beyond particular periods of government** in order to promote continuity and successful completion of schemes. Full financing for an integrated approach to resettlement must be guaranteed from the outset.

2. **Good practice with financing** can include: the creation of a contingency reserve fund financing the initial actions of a resettlement process; sector-specific interventions financed with institutional budgets; the articulation of financing to housing bonds created for the various social housing programs handled by the State.

3. The economic benefits generated by the activities on abandoned land (income, employment, production etc.) can or should be **shared with the relocated population**, thus respecting and maintaining past ties to land, ensuring an additional incentive for the acceptance of relocation and guaranteeing employment and income for the resettled population, or a part of it.

Citations

Blaikie, P., T. Cannon, I. Davis & B. Wisner (1994). *At Risk: Natural Hazards, People's Vulnerability, and Disasters*. Routledge. London and New York.

CONOREVI (2010). *Zonas en alto riesgo por entidad federativa y municipio, viviendas y habitantes afectados*. Consulta en línea: http://www.conorevi.org.mx/pdf/zonas_riesgo_detalle.pdf

Lavell, A. (2000). *Gestión de Riesgos Ambientales Urbanos*. FLACSO-LA RED. Mimeo.

Mansilla, E. (2008) *Marco general de riesgo en México*, contribution paper to Global Assessment Report on Disaster Risk Reduction 2009. PNUD-EIRD. Nueva York.

Mitchell, James. (ed.) (1999). *Crucibles of Hazards: Megacities and Disasters in Transition*. United Nations University Press. Tokyo.

UNISDR (2011). *Global assessment report on disaster risk reduction: Revealing Risk, Redefining Development*. Geneva.

UNISDR-UN (2009). *Global assessment report on disaster risk reduction: Risk and Poverty in a changing climate*. Geneva.

United Nations (2014) [World Urbanization Prospects: The 2014 Revision, Highlights](http://www.compassion.com/multimedia/world-urbanization-prospects). www.compassion.com/multimedia/world-urbanization-prospects **United Nations**, Department of Economic and Social Affairs, Population Division.

Blaikie, T. Cannon, I. Davis, and B. Wisner (1996). *At Risk: Natural Hazards, People's Vulnerability, and Disasters*. Routledge. London and New York (first edition).

Annex 1. Key concepts and definitions (as expounded at the beginning of the project and subjected to redefinition in part as the project proceeded)

Relocation vs. Resettlement vs. Rehabilitation vs. Evictions

As defined for this research, resettlement is a major integrated, comprehensive movement of people and families which normally involves significant distance between the origin and new location. Resettlement involves not only new housing and services but also new social and economic relations, and new challenges such as access to work and social cohesion. Relocation, meanwhile, refers to non-systematic movements of families or individuals from hazard-prone locations to nearby areas. Relocation therefore involves less upheaval in terms of access to work and social networks. Rehabilitation could be either relocation or resettlement, but could also mean in-situ upgradation. Evictions are cases where households are moved forcibly without an alternate location planned for the move.

Risk Management Approaches: Corrective vs. prospective vs. compensatory

Disaster risk management is seen (UNISDR, 2011) as comprising three distinct yet complementary types—corrective, whereby existing risk is the centre of attention and reduction the goal; prospective, where the avoidance or prevention (within bounded limits) of future risk is the goal; and compensatory, where residual risk is dealt with through different social and economic mechanisms. The types of intervention possible for each of these types of management are wide in scope. Corrective management involves everything from retrofitting buildings to environmental recovery and reforestation and land use decisions using relocation or resettlement as a tool. Prospective management involves land use and environmental planning decisions to prevent exposure and vulnerability in the future through to public investment decisions informed by risk criteria and reduction goals. Avoidance of hazard-prone locations through

urban planning mechanisms, identification and access to safe land for poorer populations, etc., are seen as prospective measures. Compensatory management involves dealing with residual risk through mechanisms such as risk transfer, insurance, cash transfers and compensations, social security networks, and resilience building in communities and families. Recovery and reconstruction post impact may be of corrective, prospective or compensatory types.

'Developmental' and 'Climate/Risk reduction' context

While risk reduction could in itself be a developmental objective or outcome, for the purposes of our work the difference between the two is that the latter is motivated by reducing people/systems/city's risks as priority, whereas the former aims at larger economic gains or is primarily motivated by uses for the vacated land.

Definition of 'Risk' and who decides

Historically, risk was primarily associated with an external force or agent. But it is now well accepted that risk is a composite of external as well as intrinsic characteristics of elements that affect their propensity to risk. It can arise in relationship to natural (tectonic or climatic) as well as man-made hazards (unsustainable resource management, unsafe water supply and sanitation practices, etc.). Some of these hazards are exacerbated both in intensity and frequency by climate change. These are accentuated further by the elements' physical location and exposing them more to certain external forces.

Often people's and system's ability to respond to these hazardous events puts them in better or worse situations as compared to some others, and these capacities need to be explored and improved in order

to reduce overall impacts of risk. These risks vary over time – both in impact and their accumulation, and vary significantly by geographical location of the elements. The underlying reasons for vulnerabilities may arise out of socio-economic process, which may ultimately be quite remote from the hazard event itself. But it is due to these vulnerabilities, that the impacts felt by some people may be more severe than others.

Often, there are deeper socio-political reasons that certain people (usually from the weaker economic sectors) are forced to live in areas which makes them more exposed to hazards, and thereby at greater risk. This lack of choice exacerbates their vulnerabilities, exposure and often also the abilities to respond, and in the face of an event leaves them even more vulnerable than before. It is this that Blaikie et al called the cause and effect model of vulnerability (Blaikie et al 1994)

Hazards and the outcomes they finally lead to are not limited to the spontaneous, sudden ruinous events, but they also accumulate over time in the form of recurring conditions of moderate intensities. Intensive risks are risks associated with the exposure of large concentrations of people and economic activities to intense hazard events such as high intensity earthquakes, severe floods and cyclones, etc., which can lead to potentially catastrophic disaster impacts involving high mortality and asset loss. On the other hand, extensive risks are widespread risks associated with the exposure of dispersed populations to repeated

or persistent hazard conditions of low or moderate intensity, often of a highly localized nature, which can lead to debilitating cumulative disaster impacts (UNISDR, 2009).

What individuals and communities might identify as risk, informed by their own capacities to cope, often varies from institutional imagination of risk. For e.g. people may have learnt to move temporarily in the face of floods or cyclones, but would consider access to work, schools and health systems as major risks which are not always in their control, whereas institutions continue to respond to hazard risk and this leads to varying risk reduction responses from the various involved stakeholders. The authors urge the readers to distinguish risk definition by who defines and who bears the risk.

Nature of seismic vs. hydro-meteorological risks

Following from the definition of risk, is another distinction between seismic and hydro-meteorological risks: while the latter can be predicted using early warning systems, and responses can be planned accordingly, the former has had no such technological advances yet. When institutions take decisions on risk reduction measures, they may consider this distinction and try and avoid resettlements and relocations as much as possible for 'cheaper' alternatives in the case of non-seismic (most often climatic) risks. (This is aligned with the Latin American policy context of 'un-mitigable' risk, where resettlement is considered as the last resort, when everything else is more 'costly' and less effective in reducing risks.)

Annex 2. Typology of Case studies

The following are the various characteristics of resettlements-relocations, a combination of which can define a typology. Different case studies from across the three geographies (and beyond) are described for these in country reports.

A.	Project level Characteristics	
A1.	Type of Project Refer to the distinctions between rehabilitation, R&R as defined in the concept note.	In situ rebuilding/up gradation Temporary resettlement Relocation Resettlement
A2.	Type of Risk Management Refer to the definitions for corrective, and prospective (and compensatory) risk management in the concept note. Also, note that it could be a combination of two or more of these as well, and when no consideration of risk is given, then none of these may apply.	Corrective/Post impact Prospective/Pre-emptive Not applicable
A3.	Nature of Planning	Planned with risk measures Planned without risk measures Unplanned/Organic
A4.	Level of planned participation Please note that this could be more than one options as well	Part of decision-making process Part of planning process Part of implementation Part of long-term management post completion
A5.	Motivation/Nature of Hazard	Post extreme climatic event Loss of land post an extreme event Low-intensity High Frequency events Non-climatic event (tectonic, etc.) Development
A6.	Level of attribution of CC to hazard frequency and intensity	Low Medium High
A7.	Primary Decision Maker In case of a combination, please describe in the note	People Civil Society (INGOs, NGOs, etc.) Government Combination
A8.	Distance between old and new locations	0 to 1 km 1 to 5 km More than 5 km

A9.	Time between decision and implementation It is observed that the outcomes vary when time elapses between decision and implementation. If that is the case, please describe more in the note	0 to 1 years 1 to 2 years More than 2 years
A10.	Time taken to complete the project It is observed that with time elapsing at the implementation stage, and leadership changing hands, the outcomes of the project vary. If that is the case, please describe more in the note	0 to 2 years 2 to 5 years More than 5 years
A11.	Age of the project (time since completion) Over a period of time, people living in the case study sites may have adapted to the changing scenarios, adopted new forms of livelihoods, the urban forms of the city may have changed, or people may have sold or moved elsewhere. If that is the case, please describe in detail in the note	Less than 5 years 5 to 10 years More than 10 years
A12.	Size of the Project	Small (1-100 HH) Medium (101 – 500 HH) Large (more than 500 HH)
A13.	Nature of dividing the population This kind of division may have affected the social networks in many ways, which needs to be described in the note	Whole population moved to one place Part of the HH moved together to one place Different settlements in their entirety moved together to one place Different parts of settlements moved together to one place All HH moved but spread in parts Part of HH moved and scattered in different locations
A14.	Financing Sources The source as well as the amounts (which are often insufficient) affect the outcome of the project. The monitoring and evaluation frameworks adopted by different agencies for the outcome of the project also impacts the actual outcomes. These need to be described in the note.	100 per cent Govt. funded 100 per cent Donor/ Civil Society funded 100 per cent Community funded Contribution of funds from different sources but none from the beneficiaries Contribution of funds from different sources including the beneficiaries
B.	Original Settlement level characteristics	
B1.	Type of land tenancy	Owned Right to occupy No explicit/legal rights
B2.	Age of settlement (before the move) Moving an older settlement could be very different from moving a relatively younger settlement as the networks and bonds with the land are different.	0-5 years 5-10 years More than 10 years
B3.	Size of the settlement	Small (1-100 HH) Medium (101-500 HH) Large (more than 500 HH)

B4.	Most dominant nature of livelihood options for HH	At home work Travel 0-1km for work Travel more than 5km for work Migrate regularly to other cities/towns for work Migrate seasonally to other locations for work Mixed nature of work
B5.	Level of Hazard Risk Exposure This assessment could be based on secondary information on past events, or project reports if available.	High Medium Low
B6.	Type of Urban form	Cluster housing Row Housing Multi-storey Housing
B7.	Levels of social infrastructure distinguished by provider	Good – provided by the government Good – provided by the civil society (donors, INGOs, NGOs, etc.) Good – self/community created Poor – with contributions from public funds Poor – with contributions from the civil society Poor – self provisions
B8.	Strength of social networking Also comment on the nature of networking – language, caste, livelihoods, regional, etc.	High Medium Low
B9.	Most dominant form of family structures	Nuclear family with male family head Nuclear family with female family head Joint family with male family head Joint family with female family head
B10.	Use given to abandoned site Also comment on who owns, plans and implements the new use – public sector, private sector, communities themselves, etc.	No use planned Planned housing Planned commercial Environmental land use
C.	New settlement level characteristics	
C1.	Level of hazard exposure	High Medium Low
C2.	Type of land tenancy	Owned Right to occupy No explicit/legal right
C3.	Type of new Urban form	Same as what it was before Similar but not exactly the same Absolutely different from the earlier form
C4.	Level of planning and provisions (Good, medium, minimum, none)	Designed housing Roads Public Transport Water and Sanitation Electricity Schools Hospitals or health centres Marketplaces

