ground subsidence will not stop in the nearest future and will continue affecting buildings. The performed studies are the scientific-technical basis for the development of the present protection measures that have been implemented. The automatic monitoring network which is operative in the area is the basic element to eventually activate the emergency plan in the case that acceleration in the subsidence process is detected.

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Small and Frequent Disasters due to Climate Variability and Change – An Accumulative Development Problem

Mabel-Cristina Marulanda[1], Omar D. Cardona[2] and Alex H. Barbat[3]

[1]CIMNE, Universidad Politécnica de Cataluña, Barcelona, Spain and IDEA, Universidad Nacional de Colombia, Manizales, Colombia, email: mmarulan@cimne.upc.edu
[2]Universidad Nacional de Colombia, Manizales, Colombia
[3]CIMNE, Universidad Politécnica de Cataluña, Barcelona, Spain

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Small disasters contrary to the extreme and extraordinary events are very often not visible at the national level and their effects are not relevant from a macro-economic point of view. They usually affect the livelihoods of poor people in rural areas and small municipalities, perpetuating their level of poverty and human insecurity as factors of social vulnerability. Risk regarding small disasters frequently is not considered as relevant, nevertheless due to their accumulated impact and recurrence, they are a social, economic and environmental problem with big implications. These events are primarily related to persistent hazards such as landslides, avalanches, floods, forest fires, droughts and so on resulting from socio-ecological processes associated with climate variability, change and environment deterioration.

The ilustrative case of Colombia

The *DesInventar* database, developed by the Social Network for Disaster Prevention in Latin America, (La RED in Spanish), constitutes simultaneously a database system for elaborating historical inventory of disasters and a methodology for its analysis. It is constituted, in one hand, by software that allows gathering, systematizing, organizing and consulting information incorporated to the system both from a space point of view and a temporal point of view, and on the other hand, by an information capture and analysis methodology (La RED-OSSO, 2003). According to the database, in Colombia territory more than 19,000 events happened during the period 1971 to 2002. This number of events contrasts considerably with 97 events registered by EM-DAT disaster database, constructed by Center of Epidemiology of Disasters of Catholic

University of Lovaina. *DesInventar* database is useful to evaluate the number of events, the effects in terms of deaths, injuries, crops and housing destruction and the economic costs, allowing their comparison with the impact of extreme disasters. Events of small or moderate size parameters associated to multiple different types of physical phenomena are not considered by many people as "disasters", but they have the same causes and origins of those of large magnitude. It is necessary to recognize that each year an important number of small and moderate events, non very spectacular in terms of damage and losses in individual way, certainly do affect the population and the diverse economic sectors as result of their frequency and their impact accumulation over time. Therefore, effects of these type of events can not be underestimated, because in general terms, they are a window to typify risk problem in the country: it is not risk of extreme event disasters with a long return period, but insular, real and daily risk that multiple communities, municipalities, sub-national or entire regions of territory are exposed. A comparative analysis of losses caused by small events and some of recognized extreme disasters with massive destruction that have occurred in Colombia is useful to approach the impact small and moderate events can be keeping during time (Marulanda and Cardona, 2006). Establishing a comparison between two of the greatest disasters that the country has suffered during last 32 years –the Nevado del Ruiz volcanic eruption in 1985 and the Quindio earthquake in 1999– the figures can not be undervalue as is presented in Table.

Table 1: Comparison between the effects due to small and extreme disasters (ERN-Colombia, 2005)

Type of damages and losses	Nevado del Ruiz eruption (1985)	Quindio earthquake (1999)	Small disasters (1971-2002)
Death people	24,442	1,862	9,475
Affected people	232,546	160,336	1,745,531
Destroyed houses	5,402	35,949	93,160
Affected houses	NA	43,422	217,075
Damage crop hectares	11,000	NA	2,174,713
Losses US$ million (%GDP)	246.05 (0.70)	1,590.81 (1.88)	1,652.89 (2.25)

The evaluation of the proneness of Colombia to small scale and chronic disasters and the type of impact they have on local development and for the country from an aggregated perspective has been developed to detect the spatial variability and dispersion of vulnerability and risk in the country as a result of events that rarely enter the international or even national disaster databases, but which pose an accumulative development problem for local areas and, given their overall probable impacts, for the country as a whole.

Hazards vs. vulnerability: what should be the emphasis?

At present, climate change impacts worry to several scientists and some politicians. Particularly the effects related to risk and human insecurity increasing. However, it is important to mention that risk growing is not only due to climate variability hazard events exacerbated as result of climate change. There are also other risk factors that have to be seen with the same thoroughness as the "vulnerability" conditions and the need of "adaptive capacity" to the action of the natural hazard events. These are risk factors that have not been perceived well enough due to the lack of

systematized information. For this reason, this project presents data that illustrate the increasing of what can be called "small disasters" or "invisible disasters". These figures point up, from a new perspective, that climate change implies a serious problem of disaster risk not only related with the potential of future extreme events but small and frequent disasters.

Small and frequent disasters prevent the sustainability of local human development and they reveal in which areas of urban centres the vulnerability is growing and where new hazards or the exacerbation of the already existing hazards are occurring due to inadequate environmental, social and economic processes. The trend towards an increasing in the amount of damage and losses by small disasters throughout these years is explained by the growing of the intensity and recurrence of hazard events; and the increasing vulnerability and volume of exposed elements. The increase and accumulation of risks in Colombia are consequences of rising natural and socio-natural hazard events that are due to the development model the country has implemented. In this analysis, the growing figures of small disasters and their effects illustrate that the adaptive strategies of poor communities are less effective now as result of the recurrent destruction of their livelihoods and due to the reduction of human settlements disaster resilience.

The information of recurrent lower scale events that systematically affect local development contribute to guide advisory capacities and support resources to municipalities, according with the history of past events and effects. Moreover, many municipalities have not recovered from previous events when they are affected by another event which may not be considered relevant at the national or even sub-national levels, but which signifies a constant erosion of local development gains and opportunities (Maskrey, 2008). Such events, seems to be the result of socio-natural processes associated with environmental deterioration, climate change and variability. They are associated with persistent or chronic events such as landslides, avalanches, flooding, storms and also lower scale earthquakes and volcanic eruptions. This type of context must be identified given that recurrent small scale disasters usually affect the livelihoods of poor populations thus perpetuating their levels of poverty and human insecurity.

The results of this kind of analysis allow identifying the effects, the high priority attention zones, and fundamentally, the impact that small disasters have caused on housing and livelihoods of local communities. The available information allows answering many questions that can be made about processes of risk construction. The analyses are fundamental for criteria definition that can support decision making in matter not only of risk management but also territorial planning, land use, environment protection, designing of social and sectoral development, and microfinance strategies.

Conclusions

The experience with the application of *DesInventar* for other Latin-American and Caribbean countries has given extremely positive results when a wide view is used of the type of events that most frequently appear in these countries. So far, the Colombian case study represents the most complete effort to apply this tool and the deepest analysis because it has not only allowed to describe the frequent types of disasters affecting the country, but also to identify in some cases their causes and effects, the high priority attention zones, and the impact small disasters have caused for the economy of specific sectors and at the national level as well.

With these results, it is possible to stress that extreme disasters not necessarily determine the history of disasters. By accepting the relevance of the effects of small and moderate disasters on the population and the economy as a whole, it must be also recognized that each year many

small and moderate disasters, that individually do not cause high damages and losses, affect the population and the diverse economic sectors due to their frequency and their accumulated impact over time.

The outcomes of this analysis are useful for economic analysts and sectoral decision makers responsible for urban policy development, because they can detect not only the potential impact of extreme events but also the persistence and accumulation of effects of small and local disasters. This stimulates the consideration of risk problems in territorial planning at the local level, the intervention and protection of hydrographic basins, the protection of ecosystems and the implementation of resource transfer and collective insurance programmes to cover the losses of poor communities. This research reveals that the aggregated impact of small disasters as well as the impact of extreme events also leads to a fiscal exposure and contingent liability for the government to compensate housing and to recover the livelihoods of the poorest people.

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Major Lessons for Tanzania, on the Mitigation and Adaptation to Climate Change from the Response to the HIV/AIDS Scourge

A. Mascarenhas

LINKS TRUST, Dar es Salaam, Tanzania, email: mascar@udsm.ac.tz

Introduction

Beyond some uncanny and unrelated similarities between the HIV/AIDS scourge and Climate Change (CC), particularly related to disasters, including loss of life and economic turmoil, there are major lessons to be learnt on issues related to mitigation and adaptation. The first issue pertains in a major way to Knowledge Management (KM). There are several dimensions in KM that have to be unravelled. Fundamental in this respect is whose knowledge and how is this knowledge used? Conventionally, it is assumed that modern scientific knowledge is superior, more practicable and developmental and traditional knowledge is basically backward and irrelevant. Even if this were true – the reality on the ground is just the opposite. There has been little appreciation that apart from explicit modern scientific knowledge that there exist a very large informal use of tacit local and indigenous knowledge which is critical to the livelihood and survival of millions of Tanzanians. With this KM, experience and skills, entire communities