



## **The impact of environmental inequalities on the resilient potential of a coastal city subjected to natural hazard**

Nathalie Long (1), Pierre Cornut (2), and Virginia Kolb (1)

(1) UMR LIENSs, Université de La Rochelle – CNRS, La Rochelle, France, (2) Faculté d'Architecture et d'Urbanisme, Université de Mons, Mons, Belgique

The increase of coastal populations and activities in the face of the rise of natural hazards for several decades have conducted to different adaptation strategies: managed realignment, hold the coastal line (seawall) and mitigation. All these strategies intend to increase the resilience of coastal cities, but however pay little attention to the consequences on the urban population and in particular, environmental inequalities within this population.

It has been shown that solidarity is a required condition to the sustainability of all social system, according to Durkheim's theory; presence of strong social inequalities can thus compromise the expression of this social solidarity (Uslaner and Brown, 2005) because of the increase of the social distance. What is however witnessed in case of environmental crisis such as an extreme meteorological event like Xynthia storm of 2010, is that the social solidarity within inhabitants, affected or not by the storm, rises indeed immediately after the event, but disappears after a few years. Our argument is that solidarity in the face of environmental crisis is dependent on the real and perceived impact of the adaptation measures on the different social categories.

For example, the legislation and the insurance system related to the adaptation strategies implemented by French Governments in coastal areas generate different costs and benefits for inhabitants given their social categories. This could strengthen social inequalities and in consequence, reduce the resilient potential of these areas which are thought of high importance with regards to climate change.

In this paper, we propose to analyze the impacts of these strategies, managed realignment, hold the coastal line and mitigation, on two social categories: housing owners on the coast and inhabitants in the municipalities near the coast.

The costs of these strategies are based on national solidarity. This solidarity is supported by local Municipalities and the French State through a fund, fed by a percentage collected from all French insurance contracts. People unaffected by natural coastal hazards start questioning this national solidarity system, however, since they see as unfair to pay to maintain coastal owners in their 'expensive' houses, without any benefits for themselves. This loss of social cohesion is not in favor of resilience of urban coastal population, which is why, we demonstrate, the choice of adaptation strategies should consider environmental inequalities in addition to the other technical or economical parameters.