

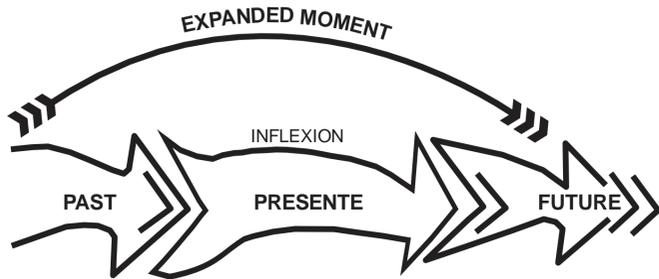
Social Ecological Resilience to River Floods and Coastal Disasters

Blumenau/Brazil - 16th-20th July 2018

OPPORTUNITIES FROM THE DISASTERS IN URBAN AREAS

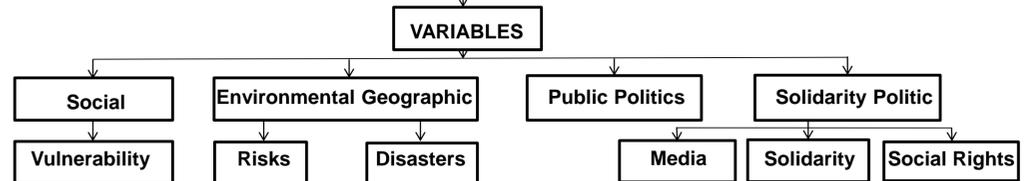
1. Methodological Instrument

DISASTER EXPANDED MOMENT



2. Analyze Cities that Suffered a Natural Disaster

METHODOLOGICAL TOOLS INVESTIGATIVE DISASTER EXPANDED MOMENT



City, typology and impact of the disaster	DISASTER EXPANDED MOMENT			
	Past	"Core" Present	Future	Potentiality
Port-au-Prince- Haiti - 12th January 2010 earthquake 7 degrees on the Richter scale; - 220 thousand deaths	<ul style="list-style-type: none"> - high rate of poverty and unemployment; - political culture with government marked by corruption; - location over geological fault highly vulnerable to quakes; - absence of anti-quake construction norms; - absence of catastrophe prevention measures; - in 2008 the scientific community announced the possibility of a magnitude 7.2 earthquake occurring; - scarcity of qualified labour; - lack of an occupation and land use policy; - suffers constantly with natural disasters; - existence of the Caribbean Catastrophe Risk Insurance Facility (CCRIF) in case of suffering damaged caused by a natural disaster; - large concentration of population in the capital. 	<ul style="list-style-type: none"> - the basics were prioritized and the qualitative aspect was diminished; - migrant flight of technicians to other countries; - appearance of opportunist and non-serious civil organizations; - the feeling of solidarity blossomed; - perception of multiple vulnerabilities: insecurity, fear; - environmental impacts; - damage to basic infrastructure; - risk of illnesses and epidemics; - exposure in the media. 	<ul style="list-style-type: none"> - international solidarity caused a possible loss of autonomy of the State and altered the level of agendas to basic demands, bureaucratizing the actions; - temporary settlements in tents became permanent; - construction of temporary schools resistant to earthquakes and storms; - slow reconstruction; - removal of encampments from flood and landslide areas; - reinforcing the role of the State towards public policies to be adopted: basic services, fighting epidemics; - study to transfer the capital to a more secure location; - treaties of international technical cooperation for disaster prevention; - verification of people living in better conditions than before the earthquake; - better perception of the population about their vulnerability; - knowledge of risk by the population; - knowledge on the part of the global community about the situation of Port-au-Prince; - awakening of the feeling of solidarity from the globalized world; - exposed the local government in observation of future actions; - lesson learned for a building a natural disaster prevention culture. 	<ul style="list-style-type: none"> - the social and economic situation of a region in which an accident occurs impacts more directly the degree of vulnerability of the affected community that the phenomenon itself; - the affected people, through experiencing and understanding the danger, acquire knowledge about their vulnerability. - possibility of boosting the local economy with the reconstruction when there is a horizontal relationship with the community, where individuals find themselves in the same situation and with equivalent power, eases the communication between members, increases trust between them and allows for swift and efficient action; - solidarity is practiced in different ways and becomes more visible in times of tragedy; - the solidarity emerging from the expanded post-disaster moment, still formed in different stages of organization, has a fundamental role in the survival of the population affected by natural disasters, especially in extremely poor countries; - the media amplifies discussion about the adverse phenomenon, between authorities and the population, and helps to build its confrontation; - knowing the history of the most frequent disaster typologies in a given region can influence the temporal dimension of the event with prevention measures and in this manner reduce the number of victims; - the international aid institutions should be prepared when they provide solidarity, in order to respect the local economy, culture, authority, and truly necessary demands; - the temporal dimension of the post-earthquake expanded moment can be more efficient if there are teams prepared which can coordinate efficient actions at the many priority scales and levels, visualizing more positive results; - the political scenario at the moment of the catastrophe can influence the dimension of the disaster; - the humanitarian view due to the catastrophe allows the recovery of human dignity; - catastrophes allow the improvement of a minimum standard of habitation for those who did not even have the basics, with the help of various non-governmental organizations; - the efficiency of institutions and actions of government agents in the post-disaster moment can minimize the disaster; - planning and prevention norms contribute towards minimizing the disaster; - catastrophes make evident the understanding of planning as a dual form: as organizer of use and occupation of land and as an instrument of action in the face of social demands; - the same typology of disaster can have a very differentiated dimension in terms of damages and gains; - the regular outline of cities facilitates the visualization of escape routes; - the behavior of structures that resisted a high magnitude quake can be utilized as a parameter for construction norms which resist seismic activity; - rainwater can be contained in parks through the creation of lakes which help to regulate surges by draining rainwater, and the construction of drainage canals. This potentiality is allied to the matter of prevention (to the flood and the water reserve) and security against natural disasters; - science and technology, allied to efficient legislation, with committed authorities and population, can minimize catastrophes; - the more there is knowledge and analysis of the probability of risks occurring, the better the chances of internalizing them positively
Curitiba- Brazil - 1995 flood with 121 mm of rainfall in 1 day it rained the equivalent precipitation of 1 month of rain; - 16,655 people affected; - 3,999 flooded houses.	<ul style="list-style-type: none"> - floodplain region subject to inundation; - El Niño phenomenon: great amount of rainfall, especially in the summer; - land-use planning considering the environmental matter; - pressure from the occupation em APA irregular occupation in the risk areas; - cut through by rivers; - history of floods; - existence of a flood prevention project; - possesses legislation to protect environmental preservation areas with policies implementing parks to control the floods; - public policy to prevent floods. 	<ul style="list-style-type: none"> - the State declared a State of Emergency in the metropolitan region; - the Curitiba City Government declared a State of Public Calamity; - damage to physical integrity; - material and property losses; - momentary political vulnerability. 	<ul style="list-style-type: none"> - construction of drainage canal; - hastening the liberation of resources; - efficiency of the institutions; - developed political culture; - relocation of families from risk areas; - re-urbanization of the area; - there was no more flood of that magnitude; - implementation of the Japanese Immigration park; - mapping of the risk areas; - organization of the civil defense. 	<ul style="list-style-type: none"> - the international aid institutions should be prepared when they provide solidarity, in order to respect the local economy, culture, authority, and truly necessary demands; - the temporal dimension of the post-earthquake expanded moment can be more efficient if there are teams prepared which can coordinate efficient actions at the many priority scales and levels, visualizing more positive results; - the political scenario at the moment of the catastrophe can influence the dimension of the disaster; - the humanitarian view due to the catastrophe allows the recovery of human dignity; - catastrophes allow the improvement of a minimum standard of habitation for those who did not even have the basics, with the help of various non-governmental organizations; - the efficiency of institutions and actions of government agents in the post-disaster moment can minimize the disaster; - planning and prevention norms contribute towards minimizing the disaster; - catastrophes make evident the understanding of planning as a dual form: as organizer of use and occupation of land and as an instrument of action in the face of social demands; - the same typology of disaster can have a very differentiated dimension in terms of damages and gains; - the regular outline of cities facilitates the visualization of escape routes; - the behavior of structures that resisted a high magnitude quake can be utilized as a parameter for construction norms which resist seismic activity; - rainwater can be contained in parks through the creation of lakes which help to regulate surges by draining rainwater, and the construction of drainage canals. This potentiality is allied to the matter of prevention (to the flood and the water reserve) and security against natural disasters; - science and technology, allied to efficient legislation, with committed authorities and population, can minimize catastrophes; - the more there is knowledge and analysis of the probability of risks occurring, the better the chances of internalizing them positively
Concepción- Chile - 27th February 2010 at 3:26 AM earthquake 8.8 degrees on the Richter followed by a tsunami; - 795 deaths; - 500 injured; - 19 missing; - 500 thousand houses destroyed.	<ul style="list-style-type: none"> - intense seismic activity region; - located in a risk area; - history of earthquakes; - possesses prevention norms and laws to lessen the vulnerability to earthquakes; - does not possess tsunami norms; - despite there being escape routes, they were not signaled; - emergency services located away from the risk area; - political vulnerability due to government transition; - the population does not feel vulnerable to quakes; - the outline of the city favors mobility and access to escape routes; - suffers strong housing pressure to occupy along the Pacific coast; - the population and government agents are trained to face situations of seismic activity; - the buildings are prepared to endure seismic activity; - political centralization with the capital, without much autonomy; - was going through a government transition. 	<ul style="list-style-type: none"> - shortened the length of the day by 1.26 microseconds; - moved the axis of the earth by 8cm; - giant waves demolished buildings on the coast; - houses were dragged 150m and thrown into the sea; - State of Calamity declared by the President; - fires and gas leaks; - collapse of communication lines. 	<ul style="list-style-type: none"> - there was a failure by the authorities to evaluate the occurrence of a tsunami; - delay in rescuing victims due to communication failure; - utilization of public spaces as escape areas; - the population had no time to protect themselves from the tsunami; - reduced number of victims; - emergency services were not affected and saved many lives; - people were psychologically shaken; - lack of security; - shortage of food and water; - government applied curfew; - solidarity between neighbors; - governments in transition had to unite; - elaborating tsunami risk map with escape routes; - defining land use and occupation on the coast; - normalizing construction material on the coast; - regional land-use planning with the community; - new earthquake and tsunami alert system equipment; - increasing emergency services; - equipping parks for shelter in disaster situations; - exchanging experiences with other countries which experienced similar disaster situations. 	<ul style="list-style-type: none"> - the international aid institutions should be prepared when they provide solidarity, in order to respect the local economy, culture, authority, and truly necessary demands; - the temporal dimension of the post-earthquake expanded moment can be more efficient if there are teams prepared which can coordinate efficient actions at the many priority scales and levels, visualizing more positive results; - the political scenario at the moment of the catastrophe can influence the dimension of the disaster; - the humanitarian view due to the catastrophe allows the recovery of human dignity; - catastrophes allow the improvement of a minimum standard of habitation for those who did not even have the basics, with the help of various non-governmental organizations; - the efficiency of institutions and actions of government agents in the post-disaster moment can minimize the disaster; - planning and prevention norms contribute towards minimizing the disaster; - catastrophes make evident the understanding of planning as a dual form: as organizer of use and occupation of land and as an instrument of action in the face of social demands; - the same typology of disaster can have a very differentiated dimension in terms of damages and gains; - the regular outline of cities facilitates the visualization of escape routes; - the behavior of structures that resisted a high magnitude quake can be utilized as a parameter for construction norms which resist seismic activity; - rainwater can be contained in parks through the creation of lakes which help to regulate surges by draining rainwater, and the construction of drainage canals. This potentiality is allied to the matter of prevention (to the flood and the water reserve) and security against natural disasters; - science and technology, allied to efficient legislation, with committed authorities and population, can minimize catastrophes; - the more there is knowledge and analysis of the probability of risks occurring, the better the chances of internalizing them positively

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