CityRAP Tool

CITY RESILIENCE
ACTION PLANNING TOOL

UN@HABITAT
FOR A BETTER URBAN FUTURE

DiMSUR
Disaster Risk Management,
Sustainability and Urban Resilience

Acknowledgements

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FIGURE 1
Aerial photo of Moroni, Comoros. Credit: Felix Volmann / UN-Habitat

INTRODUCTION

URBANISATION AND VULNERABILITY

Sub-Saharan Africa is one of the fastest urbanising regions of the world today. The urban population growth is expected to triple in absolute numbers between 2015 and 2050. Small and intermediate sized cities house the largest portion of the urban population (54%), and will continue to do so in the decades to come (UNDESA). African cities are generally ill-prepared to cater for such an explosive population growth. Similar trends are witnessed in Asia and the rest of the developing world.

Much of the urban growth in developing countries is occurring spontaneously, i.e. not following official planning frameworks, even when they exist. As a result, large numbers of urban residents live in informal settlements that are oftentimes vulnerable to natural and man-made hazards. At the same time, climate change has increased the frequency and intensity of natural hazards, affecting millions of urban dwellers. Consequently, a range of urban risks are accumulating and there is an urgent need for developing the capacity of cities in the developing world regarding risk reduction and resilience planning.

In this context, the United Nations Human Settlements Programme (UN-Habitat) and the Technical Centre for Disaster Risk Management, Sustainability and Urban Resilience (DiMSUR)[1] collaborated to develop a tool to strengthen the capacity of city managers and technicians in the developing world to build their city's resilience and effectively reduce urban risks.

The City Resilience Action Planning (CityRAP) Tool aims to enable local governments of small to intermediate sized cities, or neighbourhoods/ districts of bigger cities or metropolitan areas, to plan and undertake practical actions to strengthen the resilience of their cities. It targets local governments with limited experience in risk reduction and resilience planning and an urban population size of maximum 250,000 people.

The City Resilience Framework for Action (RFA) is the final product of the CityRAP Tool process. It allows local governments and other institutions to mainstreaming resilience into their existing and future policies, plans, budgets, institutional set-ups and actions.

Importantly, **the CityRAP Tool puts local governments and urban stakeholders in the driver's seat of urban**
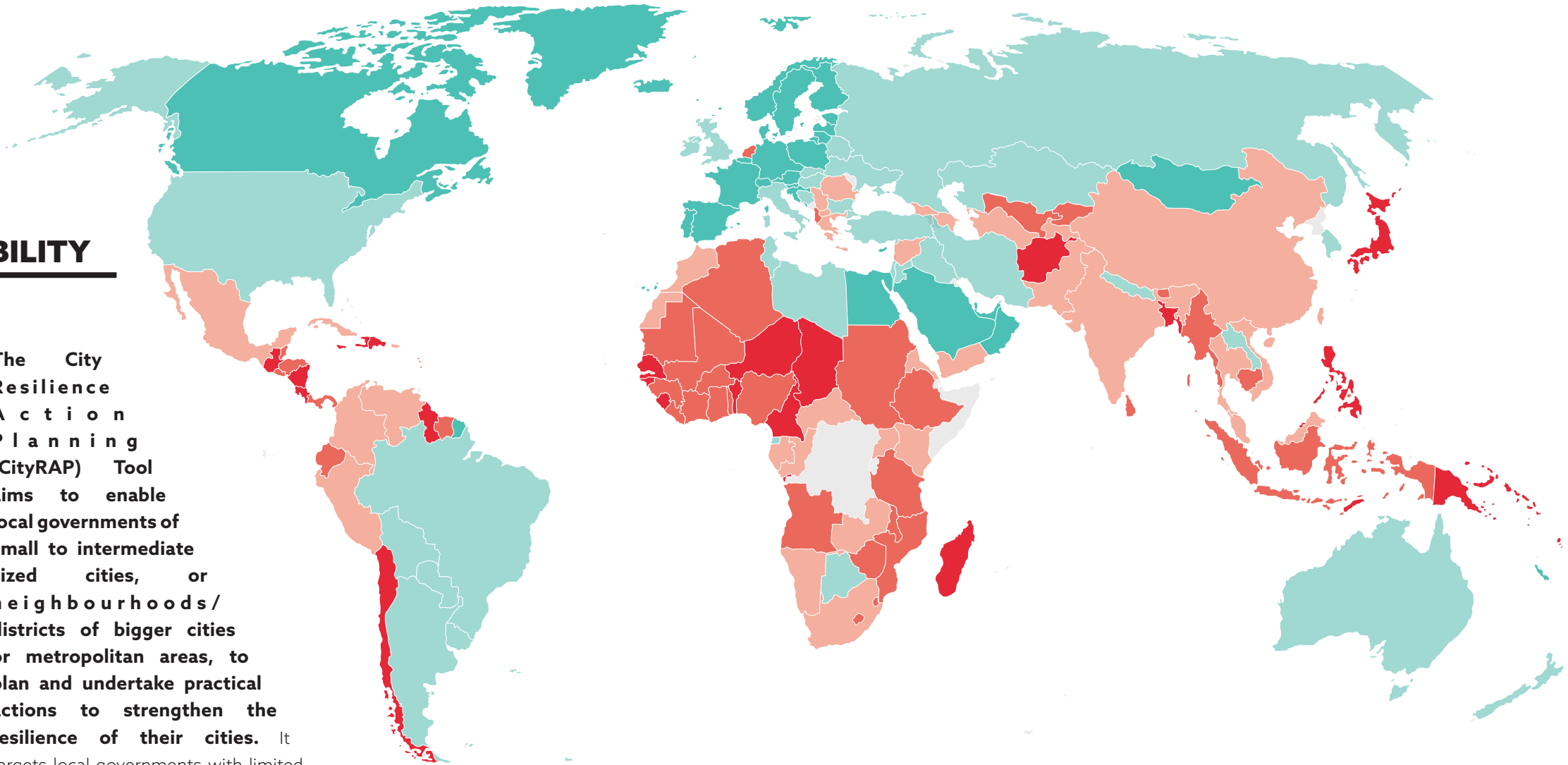
● VERY LOW	22.58 - 30.17	● MEDIUM	38.64 - 43.64	● VERY HIGH	49.60 - 66.57	MAX. VULNERABILITY - 100%
● LOW	30.18 - 38.63	● HIGH	43.65 - 49.59	● NO DATA AVAILABLE		CLASSIFICATION ACCORDING TO THE QUANTILE METHOD

FIGURE 2
World Risk Index map . Source: World Risk Index 2018

resilience planning from Day 1. The tool is designed so that local governments can adapt and implement it with minimal intervention from outside technical experts, using practical methods to leverage local knowledge.

A key principle of the tool is bottom-up planning. Relevant stakeholders, communities and urban dwellers are engaged in the process through participatory risk mapping exercises, focus group discussions and cross-sectoral action planning.

[1] Founded by the Governments of Madagascar, Malawi, Mozambique and the Union of Comoros, DiMSUR aims to develop local, national and subnational capacities for vulnerability reduction and building resilience to natural disasters in the southern Africa region. The Centre performs a wide range of services towards disaster risk reduction, adaptation to climate change and urban resilience. For additional information, kindly visit: www.dimsur.org.

URBAN RESILIENCE

The ability of any urban system, with its inhabitants,...

> " The ability of any urban system, with its inhabitants, to maintain continuity through all shocks and stresses, while positively adapting and transforming toward sustainability'' (UN-Habitat)

...to maintain continuity through all shocks...

...and stresses,...

...while positively adapting and transforming toward sustainability.

FIGURE 3
Illustrations of urban resilience. Credit: Eduardo Feuerhake

THE FIVE RESILIENCE PILLARS OF THE CITYRAP TOOL[2]
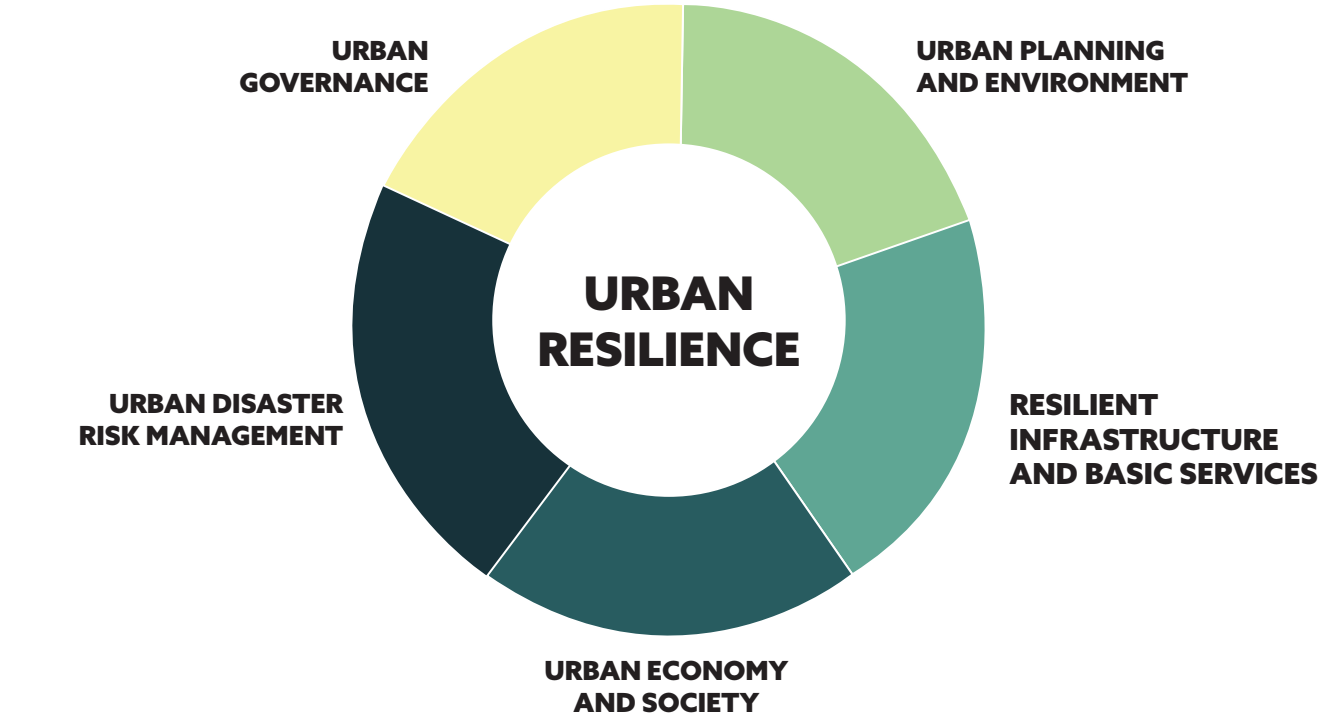
FIGURE 4
The 5 pillars of urban resilience by DiMSUR

URBAN GOVERNANCE

Urban governance refers to the processes and structures that allow all local actors participating in the decision-making process and influencing public policies and strategies for improved urban planning, management and development. This pillar focuses on the relationship between citizens and the local government, and requires adequate and efficient legal, policies, administrative and operational frameworks. Urban governance is the "software" that enables urban "hardware" to function.

URBAN PLANNING AND ENVIRONMENT

This pillar includes all aspects related to planning and design of the urban space, the quality of the natural environment (air, water, soil), public/green spaces and climate change.

RESILIENT INFRASTRUCTURE AND BASIC SERVICES

Ensuring equal access to infrastructure and basic services is crucial to meet vital needs of the urban population and to allow a city to function and develop properly. This pillar refers to the urban "hardware" mentioned in the previous pillar and includes, among others: streets and roads, bridges, drainage, water and electricity supply, sanitation and solid waste management, hospitals, schools, etc. Considering the increasing number of shocks and stresses that affect cities around the world in recent years, it is essential that the design and management of infrastructure and basic services fully integrate the concept of resilience.

URBAN ECONOMY AND SOCIETY

This pillar refers to the processes, mechanisms and activities that allow cities to becoming drivers of socio-economic development in a country or region, by creating jobs, increasing households' income, generating investments, reducing social tensions and crime, increasing equality and inclusion, promoting social mix, and enhancing security and safety, among other aspects.

URBAN DISASTER RISK MANAGEMENT

This refers to the ability of the local government and communities, in terms of capacity, knowledge, processes and systems in place, to prevent, anticipate, respond to, and recover rapidly from the impacts of natural or man-made threats in the city.

[2] The hereby-proposed resilience framework with five inter-related pillars is specific to the CityRAP Tool and does not intend to be fully comprehensive or to replace other existing frameworks in literature. The intention is just to define a theoretical structure to collect data at city level related to resilience. Other frameworks could be proposed.

OVERVIEW OF THE CITYRAP TOOL

The CityRAP Tool is a step-by-step participatory resilience planning methodology that includes a set of training exercises and activities targeting municipal authorities, communities and local stakeholders. The implementation of the tool lasts approximately two to three months that are divided into four phases, as described below. A team of external trainers kicks-off the process and supports it throughout each phase, at different levels- sometimes directly on-site and at other times by being available as a remote resource. A small group of at least three people should be trained to lead the process at the city level, hereafter referred as the Municipal Focal Points. They play a very important role as they lead the CityRAP Tool roll-out process, thus collecting data, supporting data analysis, facilitating discussions, ensuring effective communication with partners/stakeholders, actively engaging with communities through participatory approach, and drafting the City RFA.

PHASE 1	PHASE 2	PHASE 3	PHASE 4
UNDERSTANDING URBAN RESILIENCE	**DATA COLLECTION AND ORGANISATION**	**DATA ANALYSIS AND PRIORITISATION**	**DEVELOPMENT OF THE CITY RESILIENCE FRAMEWORK FOR ACTION (RFA)**
A four-day crash course is delivered by a team of external trainers to introduce municipal staff and local stakeholders to key concepts related to urban risk and resilience. A subsequent one-day training session prepares the Municipal Focal Points to carry out Phase Two of the tool.	This three-week phase is entirely led by the Municipal Focal Points. They collect the necessary information on the resilience challenges and opportunities of their city by interviewing all municipal departments and undertaking participatory planning with communities living in vulnerable neighbourhoods. Afterwards, they organize the collected data for analysis in Phase Three.	This phase lasts one week and is supported by the trainers. Two and a half days are dedicated to presenting and analysing the collected information through focus group discussions (one per resilience pillar), one day to organizing a prioritization workshop, and one day for training the Municipal Focal Points to carry out the next phase.	The final phase lasts three to four weeks and involves carrying out a baseline assessment of the identified priority issues for building the city resilience, drafting the City RFA, reviewing it with all local stakeholders (with the support of the trainers), and validating it with the concerned authorities.

PREPARATORY PHASE (vertical label on left)

DURATION (vertical label on left)

5 DAYS	3-4 WEEKS	5 DAYS	7-8 WEEKS

PREPARATORY PHASE

Proper preparation is fundamental prior to the implementation of the CityRAP Tool. In particular, the target municipality or local government should be fully informed and committed to the process, with a clear understanding that the City RFA is ultimately meant to serve the city to enhance its resilience. The active engagement of the city government, especially through the designated Municipal Focal Points, is crucial to ensuring a successful outcome.

During the Preparatory Phase, the training team providing support to the exercise collects general data about the city in order to adapt the CityRAP Tool process to the local context (see the detailed activities under this phase in the following table). It is recommended that contact with the target city is established at least one month prior to commencing Phase One.

ACTIVITY	DESCRIPTION
Preparatory meeting with the Mayor and city management	An initial meeting is held with the Mayor and his/her office to explain the CityRAP Tool process and ensure high-level engagement for its smooth implementation. The Mayor signs a Term of Commitment (Annex 1, available at: http://dimsur.org/elementor-12886/) confirming the city's commitment to the CityRAP Tool exercise.
Selection of Municipal Focal Points	As mentioned earlier, the CityRAP Tool process is implemented mainly by the Municipal Focal Points, with support from the training team. The municipality selects a minimum of three staff members (at least one should be female) who will be responsible for leading all tasks from Phase Two to Phase Four. Alternates should be appointed to cover them when they are not available.
Completion of the preliminary questionnaire	A range of information is needed to contextualize the CityRAP Tool process to local conditions and to adequately prepare for its implementation. The municipality provides this information by completing the preliminary questionnaire (Annex 2, available at: http://dimsur.org/elementor-12886/).
Preliminary stakeholder analysis	To identify the relevant individuals and entities to be part of the CityRAP Tool process, a stakeholder mapping and analysis is carried out (Annex 3, available at: http://dimsur.org/elementor-12886/). To ensure representation and inclusivity, these groups should be invited to the training and consultative workshops.

TABLE I
Main activities to carry out during the preparatory phase

DURATION

5 days, including 4 days to deliver the Crash Course and one day to train the Municipal Focal Points.

OBJECTIVE AND BRIEF DESCRIPTION

A training team is mobilized to carry out a crash course targeting municipal and local stakeholders. The objective of the course is to reach a common basic understanding of urban risk and resilience concepts, focusing on demystifying their complexity. The course is organized as a series of interactive sessions which includes group exercises, games, audio-visual materials, debates, etc. The last day of Phase One is dedicated to training the Municipal Focal Points to prepare them to lead Phase Two.

EXPECTED RESULTS

- All participants of the crash course understand, and are comfortable using, key concepts related to urban risk and resilience;
- Participants are familiar with a wide range of issues and potential solutions for strengthening their city's resilience;
- Participants understand the logic of the CityRAP Tool process;
- Municipal Focal Points are prepared to autonomously lead Phase Two of the CityRAP Tool;
- A risk map of the city is produced in a participatory manner.

PHASE ONE

UNDERSTANDING URBAN RESILIENCE

The agenda below indicates how all activities of Phase Three could be organised in a week.

HOUR	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
9:00-13:00	Introduction to the key concepts of urban risk and resilience Screening of "The Change" movie and discussion	"How to build the resilience of your city?" - Presentation of the 5 pillars of urban resilience	"How to build the resilience of your city?" - Presentation of the 5 pillars of urban resilience (cont.)	Participatory mapping at the city level exercise: environmental and risk mapping	Municipal Focal Points training for Activity 1 (municipal self-assessment) and Activity 2 (participatory planning at the neighbourhood level) of Phase 2
13:00-14:00	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH
14:00-17:00	Presentation of the CityRAP Tool	"How to build the resilience of your city?" - Presentation of the 5 pillars of urban resilience (cont.)	Introduction to the importance of the participatory planning Participatory mapping at the city level exercise: baseline mapping	Field visit to the selected vulnerable neighbourhoods (team of trainers and Municipal Focal Points only)	Municipal Focal Points training for Activity 3 (data compilation and organization) of Phase 2

TABLE 2
Suggested Agenda for Phase One.

ACTIVITY 1:
KEY CONCEPTS OF URBAN RISK AND RESILIENCE

By the end of the session, participants will:

> Understand the concepts of risk probability, vulnerability, exposure, sensibility, coping and adaptive capacity;

> Be aware of the different types of risks and their impacts on cities;

> Obtain knowledge of urban trends in the region and in the country, as well as of main urban challenges and vulnerabilities.

1. A hazard (an extreme natural or man-made event) does not trigger a disaster by itself. Disasters occur when people and assets are exposed to hazards and are unable to cope with them (see figures 5A and 5B).

2. Rapid and unplanned urbanization, as observed in developing countries, increases the level of vulnerability to hazards in cities.

3. The most vulnerable groups in a city are generally poor communities living in informal settlements, often located in high-risk areas prone to flooding, erosion, fire, landslides, etc.

4. Natural or human-made disasters can have wide-ranging implications in multiple areas, such as health, environment, infrastructure, society, economy, etc.

5. Climate change is increasing the frequency, severity and uncertainty of disasters. This poses serious challenges to cities, which, especially in the developing world, are often unprepared for those
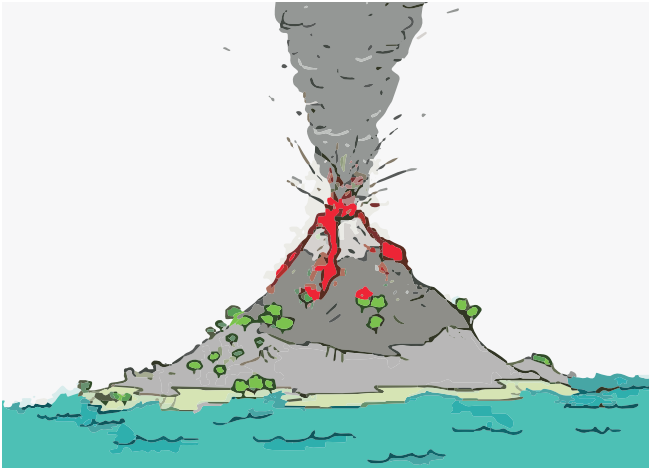

FIGURE 5A
The existence of an extreme threat or hazard is not enough to trigger a disaster. A volcanic eruption in an uninhabited island, for example, will not result in a disaster.
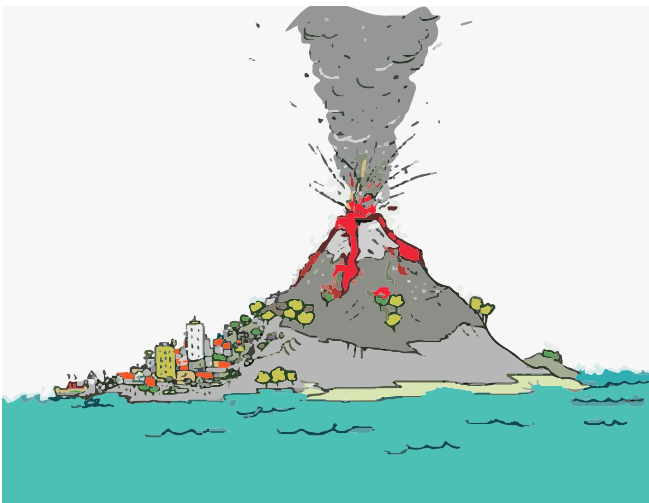

FIGURE 5B
Disasters occur when people and assets are exposed to threats and are unable/were not designed to cope with them. Hence, if the island is inhabited, the volcanic risk is follow...

ACTIVITY 3:
HOW TO BUILD THE RESILIENCE OF YOUR CITY?

During this session, the five pillars of urban resilience are presented. Examples of actions within each resilience pillar are presented in table 3 below. This session also includes exercises, games and interactive activities to facilitate productive discussions on issues related to urban risk and resilience and apply its key concepts.

By the end of this session, the participants will have acquired knowledge of concepts and best practices for each resilience pillar of the CityRAP Tool: Urban governance; Resilient infrastructure and basic services; Urban economy and society; Urban disaster risk management; and Urban planning and environment.

RESILIENCE PILLAR	EXAMPLES OF GOOD PRACTICES
URBAN GOVERNANCE	> Increase the organisational capacity of the different stakeholders (city council, community, civil society organizations, etc.) > Guarantee participation during key decision-making processes > Set up functioning municipal finance systems > Critically review/enforce municipal by-laws
URBAN PLANNING AND ENVIRONMENT	> Generate data and establish effective information systems for planning > Promote participatory planning, especially for upgrading informal settlements in-situ > Improve/disseminate/enforce building codes > Design and create safe public spaces > Take environmental care/protection under serious consideration while planning for the future city's growth
RESILIENT INFRASTRUCTURE AND BASIC SERVICES	> Improve access to basic/social services, such as water, sanitation, schools and health services, especially targeting underserviced areas of the city > Design, build and maintain adequate drainage conditions > Promote the 3 R (reduce, re-use and re-cycle) for solid waste management, as well as access to clean/renewable energy > Ensure more efficient mobility in the city by re-thinking the road network and promoting public transport services
URBAN ECONOMY AND SOCIETY	> Create employment/income generation opportunities in the city, suiting different profiles including non-skilled/trained labour > Promote social inclusion and cohesion through social mix in the city, i.e. different social categories living in the same neighbourhood > Improve urban safety and women empowerment through awareness raising, proper design of public spaces, better public lightning and promotion of community policing > Promote peri-urban agriculture to establish a solid basis for strengthening food security in the city
URBAN DISASTER RISK MANAGEMENT	> Raise awareness about the different types of urban risks at community level, as well as the identification of feasible solutions for disaster prevention and preparedness > Promote the culture of "build back better"

TABLE 3
Examples of good practices within each resilience pillar