CATALYST

CAPACITY DEVELOPMENT FOR HAZARD RISK REDUCTION AND ADAPTATION

BEFORE DISASTER STRIKES: TRANSFORMATIONS IN PRACTICE AND POLICY

East and West Africa Region

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CATALYST

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EUROPEAN COMMISSION

SEVENTH FRAMEWORK PROGRAMME

CATALYST

- *CATALYST was conceived to compile and disseminate the best knowledge currently available in the fields of Disaster Risk Reduction (DRR) and Climate Change Adaptation (CCA).*
- *CATALYST's added value lies in its Think Tank: more than 120 regional experts who supported the identification of best practices and policies that could transform a region's approach to DRR/CCA.*
- *CATALYST's regional and multi-regional workshops and virtual meetings have fuelled a productive exchange and circulation of ideas, suggestions and knowledge, leading to the development of four Best Practice Papers.*
- *CATALYST's Best Practice Papers are aimed at policymakers. Based on the knowledge of the Think Tank Members, they describe what the CATALYST project considers to be key practices that could lead to transformations in a region's capacity for DRR and CCA, and to improve the early planning of regional strategies to reduce risks resulting from natural hazards and climate change.*
- *To avoid a one-size-fits-all approach to DRR and CCA, CATALYST's Best Practice Papers have been specifically tailored to four extremely disaster-prone regions of the world – East and West Africa, Central America and the Caribbean, European Mediterranean and South and South-East Asia.*
- *This Best Practice Paper examines the East and West Africa Region.*

Contents

Why CATALYST?

We cannot avoid living in the shadow of natural hazards. But we can, indeed should, take adequate measures to reduce the risks that hydro-meteorological hazards – likely to become more intensified by climate change – and geological hazards pose to our lives, and mitigate the impact on people, assets, and the environment.

CATALYST – Capacity Development for Hazard Risk Reduction and Adaptation – is an EU FP7-funded project aimed at strengthening capacity development for Disaster Risk Reduction (DRR) and Climate Change Adaptation (CCA). The project has focused on four of the most disaster-prone areas in the world – East and West Africa, Central America and the Caribbean, the European Mediterranean, and South and South-East Asia, seeking to identify the best knowledge available in DRR and CCA.

CATALYST's added value stems from a multi-regional Think Tank which is global in extent but regional in implementation: more than 120 experts from the four regions have analysed current regional DRR and CCA practices and identified some of the best approaches available today. The interdisciplinary nature of this group of experts, including representatives from intergovernmental and governmental organisations, NGOs, the scientific community and the private sector, has ensured the merging of diverse knowledge and the identification of key gaps in risk reduction measures. It has provided international networks of researchers, practitioners and policymakers with tools to strengthen existing activities, and may ultimately contribute to more focused and efficient action plans.

1.

Living in a vulnerable place

Planet Earth is a living system with natural equilibria and resilience. However, population growth, increased food demand, urbanisation, and activities with high impacts on ecosystems, are dramatically changing our world. At times, the Earth fails to cope with perturbations that challenge its balance, and the escalation in natural disasters observed worldwide during the last decades is a sign we should take into greater consideration.

Natural disasters have always swept the Earth, prompting people to learn to live with some degree of risk. With time, prosperous communities have succeeded in setting up strategies to protect themselves. But vulnerable populations who rely on natural resources to make a living have often massively suffered from the fury of natural elements.

Today, the risk posed by natural disasters is oftentimes reinforced by systemic and human-induced climate change that alters both the frequency and the magnitude of extreme events. According to the Centre for Research on the Epidemiology of Disasters (CRED, www.cred.be) at the Université Catholique de Louvain, natural disasters increased by 233% from 2000 to 2009 compared with the period 1980 to 1989, and by 67% compared with the period 1990 to 1999 (see Table 1 for more details on disaster events). As the Food and Agriculture Organization notes (FAO, 2008)[1], the expected frequency and intensity of extreme climate events is likely to worsen the scale of disasters, with multiple side effects affecting agriculture production, food availability, human health, and a potential rise in social conflicts. Since the beginning of the 1970s, public-political awareness of how disasters evolve and the scientific understanding of their causes have grown in parallel. At that time, however, approaches to mitigate their impact on society were based on previous experience and were, in general, poorly coordinated.

The risk posed by natural disasters is oftentimes reinforced by human-induced climate change that alters both the frequency and the magnitude of storms.

Today, the approaches to Disaster Risk Reduction are based on preparedness, response, and on mitigation and prevention. In addition, DRR and CCA principles are being adopted by (inter)governmental agencies and NGOs as well as private companies and research organisations.

[1] Climate Change and Disaster Risk Management. Technical Background Document from the Expert Consulation Held on 28 to 29 February 2008. FAO, Rome. [Online] Retrieved from: http://bit.ly/164mMtL

NUMBER OF SIGNIFICANT DISASTERS

	Drought	Extreme temperature	Earthquake	Flood	Mass movement wet	Storm	Volcano	Wildfire
East Africa	58	-	14	191	12	56	5	2
Central America and Caribbean	21	9	24	155	16	198	7	5
West Africa	15	1	-	133	4	12	-	1
South East Asia	14	-	50	259	51	155	20	7
South Asia	13	43	63	273	37	97	-	1
European Mediterranean	4	38	31	110	-	46	1	28

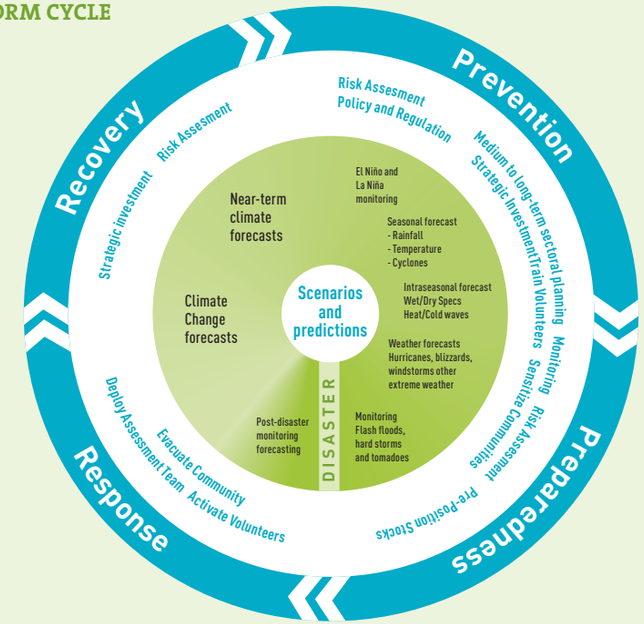
TABLE 1: *Numbers and categories of significant disasters that have plagued CATALYST's geographic sub-regions over the period 2000-2010 (based on CRED's Emergency Events Database EM-DAT, www.emdat.be).*

1.1 From emergency response to DRR planning

Until the 1990s, disaster management was essentially exercised as emergency response. Disaster management refers to measures which are implemented once a calamity has hit a region, calling for capacities to contain the damage and protect human lives. But experience has taught us that natural hazards can best be dealt with by additionally adopting a DRR approach that also builds upon adaptation and preparedness. Addressing risks with the goal of reducing them denotes the existence of an *a priori* policy objective and of strategic actions aimed at anticipating future events, to reduce exposure and vulnerability, and improving resilience.

Today, much emphasis is therefore not only placed on the avoidance of adverse impacts of hazards, but also on managing the residual risk over the long term within the framework of Disaster Risk Management (DRM). We are now witnessing the evolution of policies that include a requirement for Disaster Risk Reduction planning. In parallel, rising awareness of the role of CCA is fuelling coordinated efforts in these fields (see the figure below on the integration of climate information into the DRM cycle).

DRM CYCLE



1.2 One solution *does not* fit all

Reducing the risk of natural disasters, e.g. by lowering social vulnerabilities, requires a wide range of actions. This calls for the identification of the drivers of disasters and of strategies to decrease their impact, through coordinated and systematic efforts. At the same time, it requires the implementation of measures that enhance safety and resilience of people and their goods; the adoption of political strategies aimed at a far-sighted use of land and territory; the enhancement of preparedness and recovery, and well-devised communication plans at all levels. Today, effective strategies to reduce natural risks must consider that Climate Change Adaptation also plays an important role in Disaster Risk Reduction, as highlighted in, for example, the Hyogo Framework for Action (see QR code).

Equally important is the fact that different regions of the world have specific biophysical and socioeconomic characteristics, for example, the difference in vulnerability patterns that rural and urban communities exhibit. Rural areas have a sound heritage of traditional knowledge that often goes underestimated. It is important to keep these differences in mind and to maximise the benefits coming from both environments and experiences through policy and planning mechanisms.

THREE LEVELS OF ACTION

Actions within the frame of DRR and CCA should unfold at three different levels, merging the needs of smaller communities with policies at the international stage. If properly coordinated, these actions ensure that interventions have a continuum and develop the capacities of individuals, organisations and societies.

- **Community-level approach** – Small communities react to disasters on the bases of local concerns and priorities. Successful risk reduction measures should build upon local strategies, and promote the development of early-warning systems, policy changes and communication strategies aimed at protecting the most vulnerable groups.
- **National-level approach** – Comprehensive actions and coordination among ministries are desirable, along with *ad hoc* legislation and nationally adapted plans of action.
- **International-level approach** – It is important to identify the existing knowledge promoting cross-cutting coordination, and securing, at the same time, political commitment and financial resources.

2.

The East and West Africa Region

The increased frequency and magnitude of extreme events sadly take their toll not only across East and West Africa. Recurrent, often deadly droughts, urban fires, floods, storms, landslides and earthquakes are transformed into disasters by precarious social conditions. In addition, climate change is likely to put millions more people at risk from natural hazards. This has prompted many countries and organisations to adopt proactive approaches to managing their disaster and climate risks.

2.1 Key hazards and vulnerabilities

While Africa is well-known for the impacts of natural hazards and human-induced crises in rural areas, new knowledge is emerging on the vulnerability of urban areas. At 3.3-3.7% annually, African urban population growth rates have been the highest in the world. It is estimated that, by 2030, half of the population will live in urban areas.

Many other drivers influence the vulnerability of people, organisations, and infrastructure, all of them being dependent on contextual factors: unplanned and unregulated land use, poor enforcement of building and environmental standards, a lack of basic resources, etc. These lead to high concentrations and exposures of disproportionally susceptible individuals, groups and assets that exhibit often insufficient degrees of coping and adaptive capacities. In addition, repeatedly occurring disasters invalidate hard-won developments and fuel migration towards the urban centres. These newcomers tend to be marginalised and hardest hit by disasters.

The 1984-1985 drought in the Horn of Africa took over 1 million lives. In 2011, drought claimed again about 100,000 lives, distressing 13 million people.

While Africa is prone to several hazards – ranging from unusual snowfall in the mountains to tsunamis and volcanic eruptions – many disasters are caused by several, cascading natural hazards which subsequently lead to anthropogenic hazards such as epidemics and infrastructure failure.

With climate change increasing the frequency and intensity of weather-related events, inland cities suffer more often from flooding or higher temperatures. If coastal cities are facing storm surges and sea-level rise, mountain cities are threatened by diseases hitherto confined to lowlands, caused by extensions of the habitats of insects and germs. Countryside scenarios are equally ominous, as droughts, floods, or landslides continue to take their toll (see Table 2).

NUMBER OF NATURAL DISASTERS	Drought	Earthquake	Extreme temperature	Flood	Dry landslides	Wet landslides	Storm	Volcano	Wildfire	TOTAL
West Africa	59	1	3	196	1	3	26	1	5	295
East Africa	109	20	0	283	1	14	110	9	3	549
TOTAL	168	21	3	479	2	17	136	10	8	844

TABLE 2: *Number of natural disasters by category in East and West Africa for the period 1975-2011. Source: EM-DAT: The OFDA/CRED International Disaster Database http://www.emdat.be – Université Catholique de Louvain.*

3.

Paths are made by walking

Much of the input by CATALYST's Think Tank Members focused on the identification of gaps and needs that prevent DRR and CCA from being successfully mainstreamed into national and local policies. Despite lack of coordination, institutional and knowledge gaps, and the scarcity of funds, positive examples can be found, that might turn what is now a good approach into a measure that makes a difference.

1983/84
- Droughts in Ethiopia, Sudan, and Mozambique caused together more than 550,000 deaths

2000
- Floods along the Zambezi River in Mozambique led to 800 deaths and costs estimated at US$550 million

2004
- African Ministerial Conference on Environment (AMCEN) adopted the Africa Regional Strategy for Disaster Risk Reduction, which was endorsed by the AU Assembly of Heads of State and Government

2005
- First African Ministerial Conference on Disaster Risk Reduction in Addis Ababa adopted the Programme of Action for the Implementation of the African Regional Strategy for Disaster Risk Reduction (2005-2010)

Major natural disasters and milestones in DRR and CCA since 1983

3.1 Changes in governance

Governance is the umbrella under which DRR and CCA take place. It expresses the ways in which diverse actors are willing and able to coordinate their actions to manage the risks related to natural hazards and climate change. These strategies and measures to be implemented, maintained and monitored, should take into account the institutional and organisational context and rely on the principles of "good governance". As the uneven distribution of impacts presented by climate change and disasters come into sharper focus, it is necessary to develop and employ the coping and adaptive capacities of societies, and to make DRR and CCA underlying principles in all development sectors.

"Good governance" of disasters risk is associated with stakeholder participation in decision making, democratic access to knowledge as well as transparency and accountability of policy decisions.

At the continental level, strategic decisions are mainly made by the African Union Commission and its building blocks, the Regional Economic Communities, which are committed to assisting member states also in coping with disasters and building resilience. These organisations, supported by other international development actors, act on the basis of the newly endorsed Extended Programme of Action for the Implementation of the Africa Regional Strategy for Disaster Risk Reduction (2006-2015).

The 2nd African Ministerial Conference on DRR in 2011 resulted in the constitution of the African Working Group on DRR[2] that is providing fresh energies to the adoption of DRR/CCA policies and strategies at the regional and national levels.

[2] http://www.disasterriskreduction.net/africa-working-group

2007
- The Economic Community of West African States (ECOWAS) approved a sub-regional common policy and mechanisms for DRR
- Establishment of the Climdev-Africa Programme

2008
- Establishment of the African Climate Policy Centre at UNECA, also acting as the secretariat of the Climdev-Africa Programme

2009
- Establishment of the Ethiopian Ministry of Agriculture's Disaster Risk Management and Food Security Sector (DRMFSS)

2010
- Second Ministerial Conference on Disaster Risk Reduction in Nairobi endorsed the Extended Programme of Action for the Implementation of the Africa Regional Strategy for Disaster Risk Reduction (2006-2015)

2011
- The African Working Group on DRR (AWGDRR) was formed to provide coordination and technical support for the implementation of the Africa Regional Strategy for DRR and its Programme of Action (POA)
- UN Climate Change negotiations (COP17) in Durban, South Africa

2012
- African Cities Making Cities Resilient Campaign

2013
- 4th Africa Regional Platform on DRR
- AAP came to an end

Major natural disasters and milestones in DRR and CCA since 1983

3.2 Steps forward

During the last years the African continent has made quite some progress in addressing problems related to DRR and CCA.

An activity covering several countries was the Africa Adaptation Programme (AAP)[3] launched by the United Nations Development Programme in partnership with UN agencies. Running from 2008 to 2013, it was financially supported by Japan to create an environment in which informed and appropriate CCA practices can be undertaken within the context of sustainable development. Today, many African countries are receiving assistance on a wide range of CCA activities. However, the latter intervene often at a small scale, through single sector projects that occur independently of each other and with little coordination with national development plans. AAP therefore focused on five capacities that are crucial to designing and implementing a resilient development agenda: data and information management, institutions and leadership, analysis and implementation, knowledge management, and innovative finance.

Another example is the Climate for Development in Africa Programme (ClimDev-Africa, see QR code), a joint initiative of the African Union, the United Nations Economic Commission for Africa (UNECA), and the African Development Bank (AfDB) launched in April 2006. The programme intends to respond to the urgent challenges that climate change poses to the achievement of Africa's development objectives, and to spot the best actions needed to fill the existing gaps in climate information. Being an integral part of ClimDev-Africa, the African Climate Policy Centre (ACPC) of the UNECA was set up to generate demand-led knowledge on climate change and serves as the secretariat for the programme.

When conceiving DRR and CCA measures, the engagement of communities is among the most vital steps for the successful implementation of plans and projects. Local communities, in fact, offer invaluable experience and insight, both of which can enrich scientific knowledge and multiply the effectiveness of actions. Communities in East and West Africa, as a 2008 study by UNEP reported[4], have a vast fund of indigenous knowledge on early warning: people from a certain region are well aware of signals predicting the onset of wet and dry periods. By observing natural systems like plants and animals, they have devised ways to cope with environmental changes, as well as agricultural measures to face land degradation and food security. Recognising and including this precious knowledge into projects is a good start. However, it needs to be coupled to wider dissemination in the scientific community, and receive public acknowledgement, in order to be able to reach decision makers in a form that may help them to take more appropriate actions.

[3] http://www.undp-aap.org/about-us

[4] http://www.icsu.org/icsu-africa/news-centre/news/Appendix9IndigenousBookletUNEP.pdf

[5] http://www.wmo.int/pages/prog/wcp/wcasp/RCC-Africa.html

TOWARDS FRUITFUL INTEGRATION

The Regional Climate Centres of the World Meteorological Organization are regional institutions mandated to strengthen the capacities of National (Hydro)Meteorological Services to deliver better climate services to national users. At the interface between international mechanisms and national data they are in a good position to integrate both local and scientific knowledge. In Africa[5], the first two centres are the African Center of Meteorological Applications for Development (ACMAD) and the IGAD Climate Prediction and Applications Centre (ICPAC).

4.

From goodwill to best practices

CATALYST's Think Tank Members (TTMs) have examined the state-of-the-art measures and actions employed by people and governments in East and West Africa to reduce risks associated with natural disasters and cope with climate change. The following pages provide a selection of the practices that TTMs recommend with the aim of promoting the transformative process that, building on local experience, may be further implemented using scientific knowledge.

4.1 BP 1: institutionalising DRR and CCA at various levels

DRR and CCA should be formally included in development strategies and be embedded in legislative frameworks, with clear responsibilities and sound participatory decision-making processes. Despite a generally weak institutionalisation of DRR and CCA, however, some positive examples witness great potentials in this part of Africa.

The Disaster Risk Management System of Ethiopia is an example for such a comprehensive legal and institutional framework on the national level. Led by the Disaster Risk Management & Food Security Sector (DRMFSS)[6] of the Ministry of Agriculture, the initiative marks a paradigm shift from an emergency-focused system largely oriented towards the management of droughts with conventional, mostly ad-hoc responses, to a proactive system based on long-term risk management.

The procedure

The new multi-hazard DRM approach adopted in Ethiopia addresses pivotal questions related to where and why disasters take place, who is affected and what are the vulnerabilities, and includes the full range of actions from prevention and mitigation, preparedness to response, recovery and rehabilitation. Accordingly, DRMFSS has drafted the National Policy and Strategy on DRR to support the national Growth and Transformation Plan and the Agricultural Sectoral Policy and Investment Framework. The initiative is based on an innovative programme, called Disaster Risk Profiling, which is applied in every district (Kebele) of the country and uses a standard method of looking at risk. The Disaster Risk Profiles give real-time information that helps decide what hazards need to be monitored, and redesign the early warning and response tools to suit relevant requirements in different contexts.

DRMFSS' multi-sectoral and multi-hazard contingency planning process involves five steps: risk analyses; identifying and prioritising contingencies; analysing scenarios; preparing a plan for each selected scenario; and maintaining and updating the plans.

Applicability of the practice

This programme presents a classic case of streamlined capacity development for governments at all levels. Once the methodologies, indicators and study tools were developed and tested in the field, data was collected and trainings were conducted at the federal level that were cascaded down to the lowest administrative levels. Besides community involvement, due attention was given to gender issues. The programme

[6] http://www.dppc.gov.et/

is being funded by a series of donors, and the government and the GFDRR[7] are putting the implementation of this activity at the top of their agenda. Such risk profiles also work as baselines for project implementation by NGOs and other agencies. Having standardised the risk assessment procedures and implemented coordination mechanisms, Ethiopia stands out among other African countries. It is a virtuous example also because this nation is planning to establish a "multi-donor trust fund" and an online database for risk baselines and risk assessments.

4.2 BP 2: building legal preparedness for disasters

Despite efforts by several governments to strengthen institutions, plans and mechanisms aimed at increasing capacities for managing disasters, many African countries still need effective disaster laws. Although these legal issues are often invisible in emergencies, in fact, such laws might dramatically improve not only the safety of homes, but also the efficiency of emergency operators and the success of recovery efforts.

Good – and enforced – legislation is critical to reducing disaster risks. Laws can set the stage for early warning, financing, community empowerment and accountability, or they can obscure and obstruct the necessary steps.

For example, house building regulations are among the most effective ways to safeguard lives and property against major natural disasters. In many countries such regulations do exist. In countries where they are not in force, buildings are more easily destroyed. In this case, it is difficult to create new, safe and temporary shelters to recover affected populations. Regulatory barriers, in fact, are among the toughest problems that shelter experts face, as they hamper speedy and fair assistance to people made homeless by a disaster.

Examples of feasible strategies to overcome this problem may be retrieved from UN-Habitat's Sustainable Relief and Reconstruction Approach (SRR Policy)[8], which aims at creating appropriate human settlement conditions to ease the transition from emergency relief to durable development, and encourages governments to allocate adequate financial resources to reduce risk.

Goals are pursued by taking into consideration if short-term interventions have a long-term impact on populations and the territory; by linking the recovery processes with long-term development strategies; by implementing individual capacities of all the stakeholders; and by revisiting past practices in the light of the acquired experience and the present situation. Among the key point it addresses, UN-Habitat suggests re-defining strategic spatial planning and urban re-growth.

UN-Habitat's newly launched City Resilience Profiling Programme (CRPP)[9] is another example of good practice application. It is devised to generate an adaptable urban system model suitable for all human settlements, with indicators and standards that calibrate the recovery capacity of urban settlements. This programme, in addition, is expected to produce software systems that draft urban resilience profiles, global standards for urban resilience and a new normative framework able to monitor urban systems as a whole.

Under the umbrella of an International Federation (IFRC), the National Red Cross and Red Crescent Societies are playing a key role in supporting their authorities to develop and strengthen disaster laws. Their actions mainly lean on community-based networks of volunteers. IFRC has put into action a Disaster Law Programme (DLP) that seeks to reduce human vulnerability by promoting legal preparedness for disasters. Created in 2001, under the name of International Disaster Response Laws, Rules and Principles Programme, the DLP has now broadened its focus, enfolding legal issues related to all phases of DRM.

The procedure

The Disaster Law Programme[10] covers three major areas:

1. Technical assistance: it promotes collaborations with National Societies and other partners to assist governments in strengthening their domestic legal preparedness for disasters.
2. Capacity development: it enhances the advising capacity of National Societies towards their governments to promote the development of disaster management law.
3. Advocacy, dissemination and research: it fuels international and regional partnerships on legal preparedness, disseminating the IDRL Guidelines and Disaster Law Database, and fosters innovative research.

Guidance is also specifically tailored to African needs and issues, and is provided for key disaster law issues such as:

- Law and DRR
- International Disaster Response Laws, Rules and Principles[11]
- Regulatory barriers to post-disaster shelter
- Law and volunteering in emergencies

[7] https://www.gfdrr.org/

[8] http://bit.ly/189Jyjq; http://bit.ly/19N4wbV

[9] http://www.unhabitat.org/pmss/listItemDetails.aspx?publicationID=3448

[10] http://www.ifrc.org/en/what-we-do/idrl/

[11] International disaster operations are becoming increasingly complex, but regulatory frameworks have not kept up.

Applicability of the practice

Relevant documents are available through the IFRC website, mostly in several major languages of the world. A legislative toolbox provides guidelines, a "Model Emergency Decree for the Facilitation and Regulation of International Disaster Relief and Initial Recovery Assistance"[12], and an online disaster law database searchable by region, language, disaster, sector, etc.

4.3 BP 3: assessing urban vulnerabilities

Especially in larger urban agglomerations, individuals, organisations and assets are increasingly at risk from natural and human-induced hazards. This calls for a sound assessment of their vulnerabilities as a fundamental part of any risk analysis and thus of DRM. A plethora of approaches exists, employed by actors as diverse as universities, NGOs, governments or development banks.

Extensive participatory vulnerability assessments are carried out within the EU-FP7 project CLUVA[13] – Climate Change and Urban Vulnerability in Africa – in the cities of Addis Ababa (Ethiopia), Dar-es-Salaam (Tanzania), Douala (Cameroon), Ouagadougou (Burkina Faso), and Saint-Louis (Senegal). The developed comprehensive vulnerability framework focuses on four specific dimensions:

1. assets (when people face a disaster they need to have specific resources to work with);
2. institutional dimension (urban governance at local level must be involved);
3. attitudinal aspects (trust and social inclusion, network and risk awareness are key items to understand the urban dynamics when a disaster occurs);
4. physical dimension (the state of the urban environment within which all the previous elements interact).

This framework starts from the proposition that (1) vulnerability assessment needs to be embedded in the socio-economic, political, environmental and cultural contexts in order to be effective, that (2) it should rather follow a bottom-up approach, considering how households and communities are vulnerable to and adapt to climate change induced hazards; and that (3) the use of mixed methods (participatory – qualitative, indicator-based – quantitative) is better able to explain who is vulnerable, how vulnerability manifests itself among those at risk and for which reasons.

[12] http://www.ifrc.org/en/what-we-do/idrl/model-act-on-idrl/

[13] http://bit.ly/12ZQb9R

[14] http://preventionweb.net/go/21619

[15] http://endatiersmonde.org

[16] http://www.africa-adapt.net

[17] http://www.ecbproject.org/home/home

[18] http://www.ecbproject.org/participatory-disaster-risk-assessment-program-pdra-/pdra

[19] http://bit.ly/QIS3cz

[20] http://bit.ly/1erMzoi

On a more global level, the World Bank in its Urban Risk Assessments Report[14] acknowledges that the rapid expansion of cities is exposing even more people to natural disasters and to the humours of climate change. The report proposes a framework for carrying out urban risk assessment in order to strengthen coherence and consensus in how cities can plan for natural disasters and climate change.

The procedure

Two further noteworthy examples, that will now be focused upon, come from the francophone NGO Environment Development and Action in the Third World (Enda TM)[15]. Enda TM, which is based in Dakar, Senegal, operates in 40 countries from Africa and Asia, to Latin America and Europe, mainly focusing on improving the lives of vulnerable groups. At the international level, it carries out action-oriented research and capacity development, and promotes initiatives on topics such as climactic change, fair trade, and human rights.

A good resource is "Weathering the Storm: Participatory risk assessment for informal settlements" (see ref. no. 20, 23).

Enda TM is also one of the three host organisations of the independent AfricaAdapt network[16] whose aim is to facilitate the flow of knowledge on Climate Change Adaptation between researchers, policy makers, civil society organisations and communities.

This organisation has assessed local vulnerability in two densely populated cities: Banjul (Gambia) and Pikine, in the region of Dakar (Senegal).

Banjul is located in low-lying coastal lands, exposed to climate vari-

JOINING FORCES TO ACHIEVE RESULTS

In 2004, emergency directors of seven large NGOs joined forces to meet the persistent challenges of humanitarian aid delivery in disasters and emergencies. This resulted in the Emergency Capacity Building (ECB)[17] Project which aims to improve the speed, quality and effectiveness of humanitarian aid. Out of ECB's many relevant activities, the Participatory Disaster Risk Assessment and Planning Program[18] aims at developing innovative approaches to impact on DRR. The project is now testing, developing, and refining risk reduction tools in Niger, the Horn of Africa, and Uganda. These tools are collated in ECBs recent publication "Toward Resilience: A Guide to Disaster Risk Reduction and Climate Change Adaptation"[19], available in English, French, and Spanish.

ability, coastal erosion, saline infiltration of ground water, seasonal flooding by the Gambia River, and biodiversity loss. Here, solid waste was used to fill in wetlands, which turned out to be a bad practice. Problems stemming from the procedure included poor sanitation of the dumping areas, impact of waste on humans, as well as on fauna and flora environments, and the production of noxious methane emissions.

The other case study refers to Pikine, another densely populated, peri-urban and low-lying area with a high water table. Here, the socio-ecological vulnerability takes the form of informal settlements, encroachment on wetlands, disappearance of the vegetation cover, poor waste management and drainage systems, seasonal flooding, and frequent outbreaks of parasitic diseases.

Aiming to improve the situation in these case studies, Enda TM has engaged national, district and local stakeholders from the start through participatory approaches (e.g. CRiSTAL[21], Adaptation Decision Explorer[22], Climate Information Portal), with the ultimate goal of drafting a susceptibility, resource and capacity map. Through specific surveys, Community-Based Organisations (CBOs) were asked to provide indications on what they need to build flood-proof houses. In addition, risk communication training for journalists, communities and students were made available, along with a platform that offers workshops aimed at creating dynamic interactions among community leaders, government agencies and departments, city councils, NGOs, CBOs, and the media.

Applicability of the practice

Assessing and mapping urban vulnerability was a major goal of these studies, as to have enough information to ultimately suggest possible adaptation measures. Other goals were raising awareness to climate change as well as identifying and assessing existing and past local knowledge systems and coping strategies for DRR, and to develop mechanisms by which successful work undertaken can be reproduced in a flexible and sustainable manner by CBOs, using methodologies that they themselves have been instrumental in developing.

CORDAID

Cordaid – the Catholic Organisation for Relief & Development Aid, a member "Partners for Resilience"[23], is a major Dutch development organisation with 890 partners in 28 countries in Africa, Asia, the Middle East and Latin America. It focuses on disaster preparedness and response especially in informal urban settlements[24].
A good example for DRR procedures managed at community level is the City of Dire Dawa in Ethiopia[25]. The project was undertaken within the Africa Climate Change Resilience Alliance (ACCRA) [26], where many more such examples can be found.

4.4 BP 4: grafting DRR and CCA onto urban planning

In theory, the actor with the single greatest potential to contribute to urban DRR is the local government – it has access to local knowledge as well as to national governments and to international support. Sadly, across Africa, local governments are often unable to fulfil this role and there is still insufficient integration of DRR and CCA issues into urban planning, while urban planning itself is often weak.

Therefore, DRR and CCA in urban areas are now high on the agendas of development actors from all levels. In line with that, UNISDR launched the campaign "Making Cities Resilient: My City is Getting Ready"[27], in 2010. By joining the campaign, cities commit to take specific actions to build their resilience. A ten-point checklist of factors called "Ten Essentials for Making Cities Resilient", developed by UNISDR in conjunction with various stakeholders and partners, guides actions that are deemed fundamental to improve cities' resilience. In 2012, in the context of this campaign, two tools were published to help local governments in the implementation of the Ten Essentials: *The Handbook for Local Government Leaders* and the *Local HFA-Local Government Self-Assessment*. Also in 2012, the UNISDR Regional Office for Africa in Nairobi, launched a pilot project[28] to operationalise the Campaign in Narok and Kisumu (Kenya) and in Moshi (Tanzania).

Other positive examples can be found. "Views from the Frontline"[29] is a biennial participatory monitoring programme of the Global Network for Disaster Reduction (GNDR) that provides an independent global review of progress towards the implementation of DRR at the local level. This multi-

[21] http://www.iisd.org/cristaltool/download.aspx - available in English and Spanish

[22] Also see http://www.climateplanning.org/ for a guide to climate compatible development tools.

[23] http://www.partnersforresilience.nl

[24] http://www.cordaid.org/en/topics/urban-matters/

[25] http://community.eldis.org/.5b44f6cb/Cordaid%20case%20study%20-%20revised.pdf

[26] http://www.ecbproject.org/africa-climate-change-resilience-alliance/accra

[27] http://www.unisdr.org/campaign/resilientcities/

[28] http://www.unisdr.org/we/inform/publications/29935

[29] http://www.globalnetwork-dr.org/views-from-the-front-line.html

stakeholder process of reflection, learning and action with the aim to link "every day disasters", climate change and development, focuses on underlying risk factors and seeks to build community resilience.

Another example is the "Sub-Saharan African Cities: A Five-City Network to Pioneer Climate Adaptation through Participatory Research and Local Action" a project that ran between 2009 and 2012 in the context of the ICLEI Africa's Climate Change Adaptation Programme (see QR code). *ICLEI – Local Governments for Sustainability*, is the world's leading association of cities and local governments dedicated to sustainable development. Key environmental activities carried out by ICLEI's Africa Office, which is based in Cape Town, South Africa, include climate resilience, low emission development, integrated urban water management, urban biodiversity and integrated urban planning.

Dar-es-Salaam, the capital of Tanzania, provides an example of how the outcomes of joint efforts of academics (Ardhi University), municipal and national governments and development partners (UN-Habitat) are mainstreamed into an urban master plan.

The procedure

This Sub-Saharan project has focused on five African cities, through a programme that strengthened their ability to plan for, and adapt to, the impacts associated with climate change. The five urban centres were: Cape Town, South Africa, for increasing temperatures; Dar es Salaam, Tanzania, for drought; Maputo, Mozambique, for flooding; Port Louis, Mauritius, for tropical cyclones; Walvis Bay, Namibia, for permanent and non-permanent increases in sea level.

The above-mentioned project has developed five tailor-made adaptation frameworks, and established a standardised approach for collecting and analysing climatic baseline data. Specifically, multi-disciplinary, multi-sectoral local stakeholder platforms were established or built upon, comprising of academics, communities and the local government in order to facilitate knowledge sharing and to promote proactive climate adaptation and resource opportunities available for African cities with the view to ensure long-term sustainability. To this purpose, ICLEI Africa has devised an Interactive Adaptation Participatory Process Tool to ease decision-makers' participation. This tool is freely accessible on the project website[30].

[30] http://www.resilientafrica.org/page.php?ID=100.

[31] http://acds.co.za/

[32] http://riskreduction-africa.org/en/rra-ddr-per/rra-whatisperiperi

[33] http://plan-international.org/about-plan/resources/publications/emergencies/plans-disaster-risk-management-strategy-2009-2013

Applicability of the practice

Thanks to the global outreach of ICLEI, its extensive networks and close partnership with UN-Habitat, the activities carried out within this project have a high potential for replication in different countries, providing that understanding of the situation, information sharing and final decisions are fully circulated.

4.5 BP 5: training trainers on DRR and CCA

Universities play a key role, both in educating future risk managers and in offering broader trainings and engagement to many stakeholders. In this context, e.g. the African Centre for Disaster Studies (ACDR)[31] uses innovative approaches such as a so-called knowledge shop to address multi-disciplinary research as well as training needs in DRR. Another example for South-South cooperation at the interface of research and practice is the newly established African Center for DRM in Ethiopia.

The network PeriPeri U[32] – Partners Enhancing Resilience to People Exposed to Risks – is an example of cross-country cooperation among ten African universities, aimed at advancing and integrating DRR in academic curricula.

The procedure

PeriPeri U members such as Bahir Dar University in Ethiopia offer education in the form of higher education programmes as well as short courses (held in local languages and in English, French, or Portuguese) for practitioners. The courses focus on applied research and policy advocacy in both rural and urban settings, as well as partnership development and exchange visits within and beyond Africa.

Applicability of the practice

These country-specific programmes can act as role models for other academic institutions that are not covered by PeriPeri U. In general, however, incorporating DRR and CCA issues into education should not stay on the academic level. It needs to be introduced also in child education and in lifelong learning. Therefore, DRR and CCA are being seriously taken into account by organisations focussing on children, such as Plan International[33] or UNICEF.

Take home messages

Years of experience "on the ground" in DRR and CCA confirm that these two fields have conceptual overlaps and need to merge into planning and management. CATALYST has analysed the recent knowledge in these fields and extracted recommendations that should be adopted in order to minimise the risks and damages to people and property.

- **DRR and CCA must enter institutions** – DRR and CCA activities need to become well-embedded in regulatory and legal frameworks in which responsibilities and accountability are defined. This calls for political commitment for DRR/CCA as well as for prioritising the most at-risk, poorest and marginalised people. Stronger disaster laws may be a tool to strengthen infrastructures and urban planning.
- **Overcome lacking coordination** – Many actors from all levels and fields often work accidently or deliberately side by side. However, it would be counterproductive to found new organisations, networks and consortia. Many platforms already exist that should be strengthened, taking advantage of synergies.
- **Urban vulnerability must be mapped** – A sound assessment of vulnerabilities to sudden natural and human-induced hazards as well as to slow-onset, creeping changes is a fundamental part of DRM. Results may then officially and continuously feed into decision-making processes and be applied to other places with similar features.
- **Urban planning must consider DRR and CCA** – The rapid and sustained growth of African cities creates new patterns of risk: this should prompt urban planners to take DRR and CCA aspects into account. This is valid for every day decisions, contingencies and strategic long-term plans. Projects should include a comprehensive, evidence-based monitoring and evaluation strategy, for which donors should also provide funding, even if the benefits are not as immediate.
- **Training trainers to disseminate knowledge** – All generations and groups must become aware of the risks posed by natural hazards and climate change. Training trainers, journalists and future risk managers is a key component of capacity development. Training needs to start with children in schools and needs to continue with higher education and also with less formal offers for adults.

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