

CITY RESILIENCE PROFILING PROGRAMME

Providing national and local governments with
tools for measuring and increasing resilience
to multi-hazard impacts including those
associated with climate change



UN  HABITAT
FOR A BETTER URBAN FUTURE

WHY CITY RESILIENCE PROFILES?

The cost of urban disasters during 2011 alone is estimated at over \$380 billion with the largest impacts felt in Christchurch, New Zealand, Sendai in Japan, and Bangkok. The social and economic impact on these cities was not only felt within the immediate areas, but also nationally and globally. With 50% of the world's population already in cities and substantial projected urban population increases over the coming decades, the rationale for new tools and approaches that strengthen local administrations and citizens to better protect human, economic and natural assets of our towns and cities is strong.

There is a growing network of organizations, agencies, and governments that understand the critical importance of reducing risk to populations in areas vulnerable to recognizable threats. While the global discourse on climate change has been successful in developing risk reduction through adaptation methodologies, and has driven much of this dialogue, climate change adaptation planning often ignores other hazards, including the largest killers (earthquakes and tsunamis) as well as, fires, industrial or technological disasters, and social and political crises that impact human settlements around the globe.

The current approach and planning is on methodologies for measuring risk and vulnerability, and remedial planning for mitigation. Most models are also disaggregate to sectors, as standards are either not developed or harmonized in an urban systems approach. The most advanced analysis, developed by the reinsurance industry, has no framework or incentive for urban governments and local communities to increase resilience and potentially reduce the cost of insurance as a result.

Urban planning, spatial and strategic development programmes, international aid organization programmes, international finance and private sector organizations currently focus the majority of their strategies on the basis of analyzing specific risks, and



investing in mitigation or reduction projects and programmes addressing those risks. While reasonably effective for specific threats, this approach is largely based on defining risk and retrofitting remedial reduction measures. There is no means to test the efficacy of these efforts until another disaster occurs that meets or exceeds the original mitigation design limits.

While advances are being made in shifting emphasis from risk reduction to resilience, **no means of measuring urban resilience has been developed to date** leaving city and town administrations understanding only what their inherent vulnerabilities may be. The most developed tool for building resilience is the UN-International Strategy for Disaster Reduction (ISDR) ten-point checklist associated with the global "Making Cities Resilient Campaign". This framework of principles, applied using the Local Government Self Assessment Tool developed by UNISDR and partners, has opened and led efforts by over 1100 cities seeking to make their cities safer and more resistant to natural disasters. Building on this,

and expanding the threat/hazard envelope to include economic, social and human-driven hazards, UN-Habitat will focus on establishing clear standards that planners, engineers, architects, economists, and other professionals who manage and develop cities can target and use to ensure cities actually do become **measurably more resilient and that progress can be compared**.

The primary justification for the City Resilience Profiling Programme (CRPP) therefore is developing an **integrated forward planning urban systems approach** founded on the principles of 'resilience' that dynamically underpin improved capacity to protect urban citizens and their assets and recover from all hazards. **'Urban Resilience' refers to the ability of any urban system, to withstand and recover quickly from 'catastrophic events.'** The CRPP fills a large gap providing forward-looking, integrated, multi-hazard multi-stakeholder, urban systems approach to planning and developing urban settlements.

The complex nature of disasters has led to recognition that risk reduction through increased resilience will require a strategy that is inter-disciplinary. True inter-disciplinarity only occurs where a number of separate disciplines surrender their own concepts and goals, and collectively define themselves by reference to a common set of strategic concepts and goals.

(Richard Haigh, Director of the Salford University Centre's Disaster Mitigation and Reconstruction Programme)

UN-Habitat and Resilience

The primary aim of UN-Habitat is the sustainable development of cities, towns, and other human settlements. **One key pillar of this aim is ensuring that cities are able to withstand and recover quickly from catastrophic events.** UN-Habitat continues strengthening its capacity to provide support to a variety of humanitarian response agency partners, primarily through the Inter-Agency Standing Committee which represents much of the humanitarian community, and primarily to field competent urban systems professionals who can provide much needed advisory support on how to more effectively intervene following urban crises.

The CRPP is a niche clearly within UN-Habitat's mandate and expertise within the humanitarian and development oriented communities of practice addressing urban risk reduction and resilience. Our comparative advantage is strengthened through **key partnerships** founded on integrated urban approaches, with; strategic donor partners, the ISDR Secretariat, Red Cross/Red Crescent Movement, Habitat Partner University Initiative institutions, private sector, and city networks. Private sector actors including in the IT, energy and natural resource, and insurance sectors, and city networks including UCLG and Metropolis

are targeted partners with whom the project is engaging.

Among the outcomes of the Rio+20 conference will be a new set of global targets supporting, in the short term, the continued progress against the Millennium Development Goals while setting new Sustainable Development Goals for the coming 20 years. Among the thematic areas of interest, a focus on building resilience as a key pillar for sustainable development has emerged. Together with key partners, especially UN-ISDR and UCLG, UN-Habitat's CRPP contributes to a unique niche in responsively addressing this thematic area for urban settlements.



Programme Overview

OVERALL GOAL and EXPECTED ACCOMPLISHMENTS:

The **overall goal** of the CRPP is that “cities are safer places to live and work as urban managers are able to implement strategic development planning and programmes that target specific indicators of resilience to multi-hazard catastrophic events”. The Programme will deliver the following five unique tangible **accomplishments** within its 4-5 year implementation time frame:

1 An adaptable urban systems model suitable for all human settlements:

To date, the closest approximation to an urban systems model is the capacity assessment framework for the Rapid Urban Sector Profiling tools developed by UN-Habitat in the early 2000's. However, it has not been further developed as a modeling system for testing other aspects of urban management and governance and is only one methodology developed for specific use. Others include: the World Bank risk assessment methodology; the ISDR 10-point checklist; and, several insurance-based risk analysis systems. The urban systems model will be adaptable to any settlement, cover all aspects of urban systems (physical, organizational, spatial and functional), and include attributes for multi-hazards, risk, vulnerability and preparedness.

2 A set of indicators, standards, profiles to support cities for calibrating urban systems ability to withstand and recover from crisis:

Linked to the emergence of a comprehensive urban systems model, the project will produce a set of profiles and indices allowing calibration of resilience, based on a factored evaluation of: all hazards, risk, vulnerabilities and preparedness leading to urban resilience scores that can be used to base future planning and development trajectories in urban areas.

3 Software systems that produce city resilience profiles:

While many software systems currently exist for assisting urban managers in all tasks from planning to management, there are no integrated resilience tracking, planning, or management tools freely available to the widest array of urban managers. In order to analyze, quantify and determine outcomes from a limited number of key indices, and a

very high number of data inputs, appropriate, accessible and reliable computer software will be developed, and provided on request for use by urban managers.

4 Global standards set for urban resilience:

Most current development standards including building codes and regulations, planning standards, infrastructure and development regulations attempt to balance risk reduction with cost. All risk management tools focus on specific hazard-risk calculations. The programme will produce an integrated urban systems based set of planning and development standards specifically measuring settlements-based resilience.

5 A new UN-Habitat normative framework for monitoring urban systems globally:

UN-Habitat has a large set of indices that are used to monitor the state of development of urban settlements globally. However, there are only three proxy indicators of risk, not nearly enough to quantify resilience or assist urban managers and developers in future planning or allow UN-Habitat to monitor urban systems capacity to absorb and recover from disasters whatever their origin. In line with the outcomes of the Rio + 20 dialogues related to risk reduction and resilience, the programme will produce a normative framework to monitor resilience within the ambit of the new Sustainable Development Goals.

Implementation Strategy:

The CRPP will be implemented in 4+ Phases starting consecutively and running concurrently as follows:

>> Inception Phase: consisting of a series of meetings of experts drawn from the areas noted below, organization of the main stakeholder forum(s), establishment of a representative steering group, and consolidation of resources required for implementation, the inception phase will run for 8 months, and conclude with a comprehensive report outlining the status of the above objectives, outstanding challenges, and contributions from each of the stakeholder organizations. Key outcomes include: Global launch of the CRPP by the Executive Director during Rio +20 - **June 2012**; Agreement of the final project document, work-plan, governance structure and operational budget during the first Steering Committee meeting held on the margins of the WUF 6 in Naples - **September 2012**; Letters of Cooperation, Agreement; Financing Agreements; and administrative system in place - **December 2012**; 8-10 pilot cities nominated and selected to lead/champion their respective regions in developing the programme - **January 2013**; commencement of operational programming is initiated including staff recruitment, premises secured, administration and management Secretariat in place - **March 2013**; and, preparation of inception report by Secretariat for endorsement by the Steering Committee and recommendations phased into a revised work plan during the UN-Habitat Governing Council - **April 2013**.

>> B. Phase 1, Research and development: Working with Habitat Partner Universities, a research agenda is developed and agreed with the objectives of: determining what resources are currently available or under development addressing urban resilience; and, preparing a detailed urban systems model upon which to overlay a hazard/risk/resilience analytic framework. The key outcomes include: Terms of reference, budgets and letters of agreement are negotiated, pilot cities identified and agreed at initial Steering Committee meeting - **August 2012**; 12-18 month research and development initiative begins at Delft, Barcelona, and elsewhere on specific aspects of the urban systems model - **October 2012**; First consortium coordination meeting held mid-December 2012 to present research streams, coordinate progress, and address potential challenges limiting integration of effort, timing or output and prepare reports to Steering Committee meeting - **April 2013**; production of an adaptable urban systems model integrating key functional elements of human settlements that are affected by all potential hazards - **December 2013**.

>> C. Phase 2, Profiling and assisting cities to measure resilience: Working primarily with partners drawn from the

(re-) insurance industry, developing and transforming current risk prediction models used for liability analysis, into resilience measuring systems quantifying and indexing urban systems elements. Key strategic milestones are: Private sector insurance anchor identified and supporting Steering Committee – **November, 2012**; Provision of advisory support to Phase 1 research and development through to – **December 2013**; Design and development with pilot cities representatives, of a quantifiable urban systems resilience framework that integrates a multi-hazard impact model, a risk/vulnerability assessment model, a preparedness (including all stakeholders) model, and production of a set of sub-indices from which city governments can derive forward planning/development targets – **December 2014**.

>> D. Phase 3, City pilots, profiling and operational tools development: Working with partners from the IT Sector, integrating the urban systems model, with the resilience quantification model, and developing algorithms to develop appropriate software programmes enabling all moderately equipped urban managers to create their resilience index scores as baseline information for future urban development programming. Key outcomes include: Private

sector IT anchor identified and supporting Steering Committee – **March 2013**; Terms of reference, scope of work and oversight on Phase 1 and 2 agreed – **December 2013**; Software systems development integrating the urban systems model, and quantification systems developed and tested within all pilot cities – **December 2014**; Beta system launched during World Conference on Disaster Reduction – **January 2015**; Final city resilience profiles and global urban resilience framework for measurement launched at Habitat III Conference – **June 2016**.

>> E. Phase 4, Normative dialogue and consensus building: Functioning primarily at an Inter-Agency level, introducing and promoting the use of the City Resilience Profiling as a tool for planning safer more resilient towns and cities, UN-Habitat will focus on deriving a range of standards, regulations, and legal targets for planning/building codes, engineering and architectural standards, as well as social and environmental targets. UN-Habitat will focus initially on developing standards applicable to all urban systems, reflect forward-looking targets applicable to all potential hazards, and negotiated, test and refine these during the period of the programme. Over the coming 4 years, and working with technical partners, academia,

local government networks, champion cities, and linked to the UNISDR- Making Cities Resilient and UN-Habitat World Urban Campaigns, the outcomes of the programme will reviewed during the **2015 World Conference on Disaster Reduction** in Japan; and launched during the **Habitat III Conference in 2016**; UN-Habitat will develop a new core function monitoring and backstopping city-based resilience planning and development, within the context of the Agency vision and programming to ensure long term continuity and support for this aspect of sustainable urban development.

While coordinated and managed by the Urban Risk Reduction Unit in the Risk Reduction and Rehabilitation Branch, **several or all Phases may be hosted outside of Headquarters** both for ease of communication, and to reduce travel costs for stakeholders. This will be determined through the inception phase of the project, and the indicative budget adjusted as necessary. For each Phase, terms of reference, letters of agreement and specific task allocations will be undertaken in consultation with the Steering Committee of the Programme and monitored over the course of their implementation. There are no major risks associated with implementing the Programme.

GOVERNANCE/MANAGEMENT STRUCTURE:

The CRPP is managed by the Urban Risk Reduction Unit of the Risk Reduction and Rehabilitation Branch. The Chief of the Risk Reduction Unit (URRU) will chair the Secretariat of the CRPP Steering Committee, composed of a representative of each of the programme stakeholder groups. These include the Academic Consortium, insurance sector, IT sector (to be determined), and interagency representative (UNISDR); as well as one or more representatives from UCLG-Metropolis, contributing donors, and pilot cities. Operationally, the project elements will be coordinated by UN-Habitat URRU project staff both for partner driven outputs, as well as for internal substantive coordination with specific units and branches as necessary. These will include select Units within all Branches, and the External Relations Office in the early stages, and the Offices of the Executive Director, and Deputy Executive Director specifically regarding Phase 4 activities.

For participating urban centers, strong emphasis will be placed on enabling an operational framework that assists cities/governments in understanding urban resilience and making responsive improved resilience decisions and plans.

MONITORING, EVALUATON and REPORTING:

The project will be overseen by a Steering Committee which meets twice annually to review progress, challenges, and performance in terms of achievement of objectives. An Advisory Panel comprised of organizations with an interest in the Programme will be convened through a call by the Steering Committee for expressions of interest. Performance and financial management schedules will be set through individual donor/contributor cooperation agreements. The Programme is intended to function on the basis of multiple donors providing both financial resources, and considerable in-kind contributions. Regular external evaluations will be undertaken analyzing progress against objectives, and delivery of results. Auditing will be undertaken according to the schedule of donors, internal UN-Habitat audit structures, and periodic UN Secretariat audits.

BUDGET	
The indicative budget for CRPP is summarized as follows:	
Personnel and support costs	USD 4,400,000
Research, development and pilots	3,600,000
Total	8,000,000

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