ADDRESSING CLIMATE CHANGE IN NATIONAL URBAN POLICY

A Policy Guide for Low-Carbon and Climate-Resilient Urban Development

CITIES AND CLIMATE CHANGE INITIATIVE

POLICY NOTE NO. 4

NUP Thematic Guide

UN-HABITAT
FOR A BETTER URBAN FUTURE

Addressing Climate Change in National Urban Policy: A Policy Guide for Low-Carbon and Climate-Resilient Urban Development

United Nations Human Settlements Programme (UN-Habitat)
P. O. Box 30030, 00100 Nairobi GPO KENYA
Tel: 254-020-7623120 (Central Office)
www.unhabitat.org

HS/: 057/16E

DISCLAIMER

ACKNOWLEDGEMENTS

Coordinator - Urban Planning and Design Branch: Raf Tuts

Publication Coordinators: Robert Kehew, Remy Sietchiping

Principal Authors: Robert Kehew, Jane Reid, Faderr Johm

Contributors: Raf Tuts, Bernard Barth, Marcus Mayr, Liam Fee, Themba Phakathi, Stephanie Loose, Maria Adelaida Antonette Mias-Cea, Etienne Darveau, Aisha Jallow, Eva-Katherine Ardila, Brian Osundwa

Editor: Vicky Quinlan

Design and Layout: Herbert Kimani

ADDRESSING CLIMATE CHANGE IN NATIONAL URBAN POLICY

A Policy Guide for Low-Carbon and Climate-Resilient Urban Development

UN HABITAT

FOREWORD

I am delighted to present this Guide on Addressing Climate Change in National Urban Policy, which comes out at the same time that our Habitat III conference is taking place. This thematic guide puts the spotlight on the links between climate change, urbanization and national urban policies.

While urbanization has brought immense opportunities for development and growth, it has also brought numerous challenges. Our cities consume 78 per cent of the world's energy, produce 70 per cent of energy-related green-house gas emissions and consume much more land than is needed, which will have negative consequences on the environment.

With the adoption of the Paris Agreement and the New Urban Agenda, there is a renewed impetus for action. The New Urban Agenda recognizes national urban policies as an essential instrument in responding to the challenges of urbanization and to capitalize on the opportunities. The effective implementation of the New Urban Agenda means inclusive, implementable, and participatory urban policies.

Achieving sustainable urban development requires access by governments and stakeholders to tools that empower them to meet these challenges.

I invite you to make use of this Guide, which has been developed to assist all national urban policy stakeholders to better understand the intersection between national urban policy and climate change. Let us seize this opportunity to further improve the work supporting mitigation and adaptation through national urban policies.

Dr. Joan Clos,
Secretary-General of Habitat III
and Executive Director of UN-Habitat

This Guide is No.4 in a series of Policy Notes developed by UN-Habitat's Cities and Climate Change Initiative. These Notes analyze specific topics and offer normative guidance to decision-makers on policies related to cities and climate change.

This Guide is No.2 in a series of Thematic Guides that demonstrate the important linkages between National Urban Policy and different thematic areas. As NUP acts as an "umbrella" policy for urban areas, thus inevitably impacting different sectorial topics, these Guides will give direction on how to incorporate the variety of themes in NUP.

TABLE OF CONTENTS

LIST OF GLOBAL NORMATIVE BOXES

LIST OF NATIONAL URBAN POLICY BOXES

LIST OF LOCAL EXAMPLE BOXES

LIST OF FIGURES

LIST OF IMAGES

ABBREVIATIONS AND ACRONYMS

CCCI	UN-Habitat's Cities and Climate Change Initiative
GHG	Greenhouse gas
Habitat III	Third United Nations Conference on Housing and Sustainable Urban Development
IPCC	Intergovernmental Panel on Climate Change
INDC	Intended Nationally Determined Contributions
NUF	National Urban Forum
NUP	National Urban Policy
UNEP	United Nations Environment Programme
UN-Habitat	United Nations Human Settlements Programme

SUMMARY: RECOMMENDATIONS FOR ADDRESSING CLIMATE CHANGE IN NATIONAL URBAN POLICY

National Urban Policy is a tool for government and other stakeholders that can assist with achieving more sustainable urban development. It also facilitates an enabling environment that allows stakeholders to take advantage of urban opportunity. How to address climate change in cities and human settlements represents one of the most pressing challenges facing urban policy-makers today. This Guide recommends how to mainstream such considerations into National Urban Policy, thus helping to empower national governments, local governments, and other stakeholders to effectively address climate change. Recommendations are as follows:

Promote Low-Carbon Urban Development ('Mitigation')

Recommendation 1. Encourage and support the development of local level plans and strategies to reduce greenhouse gas emissions.

Recommendation 2. (i) Increasingly obtain energy from low-carbon and renewable sources, including via the decentralized or distributed provision of energy, while also (ii) promoting the more efficient consumption of energy.

Recommendation 3. (i) Encourage development patterns that are more conducive to reduced greenhouse gas emissions, including by minimizing travel distances. At the same time: (ii) promote more sustainable modes of transportation.

Recommendation 4. Reduce greenhouse gas emissions by promoting: (i) more sustainable design and construction of new buildings, and (ii) retrofitting of existing buildings.

Recommendation 5. Make municipal management of solid and liquid wastes more sustainable.

Build Climate Resilience ('Adaptation')

Recommendation 6. Promote applied research into the risks associated with the impacts of climate change, as well as other hazards, in urban areas. Provide for the use of findings to inform decision-making.

Recommendation 7. Encourage and support the development of local level climate change vulnerability assessments that include an analysis of climate resilience and adaptive capacity, to inform policy-making at all levels. Promote multi-hazard assessments.

Recommendation 8. Promote the mapping of hazards, including of climate-related hazards that may evolve over time.

Recommendation 9. Plan human settlements, regulate land use, and provide critical infrastructure and services in a way that takes into account risks and builds resilience, including climate resilience. To this end, encourage and support local level plans and strategies to build climate resilience.

Recommendation 10. Prioritize actions that build the resilience of vulnerable and marginalized communities. When possible upgrade slums and informal settlements in situ so as to build resilience to shocks and stresses, including those brought about by climate change impacts.

Recommendation 11. As part of adaptation efforts, promote the protection and restoration of ecosystems and natural buffers.

Recommendation 12. Provide for regional planning as one means to protect ecosystems and guard against 'mal-adaptation'.

Address Urban Climate Governance

Recommendation 13. While encouraging local autonomy, coordinate national and local action in addressing climate change in urban areas. Undertake collaborative action when appropriate.

Recommendation 14. Provide resources for, and build the institutional capacity of, urban managers to address climate change.

Recommendation 15. Promote public awareness of climate change, including of co-benefits and economic opportunities.

Recommendation 16. Ensure that national urban policies, laws, regulations, investment plans and so on are fully consistent with national policies for addressing climate change.

01 INTRODUCTION

The present document is addressed primarily to decision-makers and stakeholders engaged in formulating, implementing, monitoring and evaluating National Urban Policy (NUP). This Guide offers advice on how these national policies for urbanization should address climate change, and empower local authorities as key actors in that effort.

In order to capitalize on the opportunities of urbanization many countries consider National Urban Policy as a key tool for governments to coordinate urban development. This assertion does not only come from country level. The selection of National Urban Policy as one of ten thematic Policy Units, in preparation for the third United Nations Conference on Housing and Sustainable Development (Habitat III), is demonstrative of the recognition on the international stage of the relevance of National Urban Policy to promote sustainable urban development. For NUP-relevant passages in recent global frameworks and guidance documents, see ***Boxes 1*** and ***2***.

Box 1. Global Normative Guidance – Global frameworks for sustainable urban development

Provisions in major new global frameworks that were established in 2015 that are relevant to or supportive of National Urban Policy include the following:

- The 2030 Agenda for Sustainable Development, Goal 11 (Make cities and human settlements inclusive, safe, resilient and sustainable), particularly Goal 11.3 (By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries), Goal 11.a (Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning), and Goal 11.b (By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015-2030, holistic disaster risk management at all levels);

- The Paris Agreement, the 2015 global agreement to address climate change, including the Preamble (Recognizing the importance of the engagements of all levels of government and various actors, in accordance with respective national legislations of Parties, in addressing climate change), and Article 6.8 (c) (Parties recognize the importance of integrated, holistic and balanced non-market approaches being available to Parties to assist in the implementation of their nationally determined contributions, in the context of sustainable development and poverty eradication, in a coordinated and effective manner, including through, inter alia, mitigation, adaptation, finance, technology transfer and capacity building, as appropriate. These approaches shall aim to: Enable opportunities for coordination across instruments and relevant institutional arrangements.);

- The Sendai Framework for Disaster Risk Reduction; particularly Global Target (e) (Substantially increase the number of countries with national and local disaster risk reduction strategies by 2020); Guiding Principle (f) (While the enabling, guiding and coordinating role of national and federal State Governments remain essential, it is necessary to empower local authorities and local communities to reduce disaster risk, including through resources, incentives and decision-making responsibilities, as appropriate); and Priority Action 2 (a) (To mainstream and integrate disaster risk reduction within and across all sectors and review and promote the coherence and further development, as appropriate, of national and local frameworks of laws, regulations and public policies, which, by defining roles and responsibilities, guide the public and private sectors).

Image 1. Secretary-General Ban Ki-moon plants mangrove shoots on Tarawa, the main atoll in the Pacific island nation of Kiribati. A concerted global effort is needed to reverse the effect of climate change © UN Photo/Eskinder Debebe

Box 2. Global Normative Guidance – The New Urban Agenda

In October 2016 in Quito, Ecuador, member States are expected to agree to a New Urban Agenda at the Habitat III Conference. Relevant language from the current (September 2016) draft is as follows:

- The (draft) New Urban Agenda, Paragraph 89 (We will take measures to establish legal and policy frameworks, based on the principles of equality and non-discrimination, to better enable prevailing governments to effectively implement national urban policies, as appropriate, and to empower them as policy and decision-makers, ensuring appropriate fiscal, political, and administrative decentralization based on the principle of subsidiarity); and

In the run-up to Habitat III, UN member States provided inputs to the New Urban Agenda through a series of policy papers. The Policy Paper on National Urban Policy (No. 3) advised as follows:

"Cities must… be at the centre of actions to tackle climate change…. To rise to these challenges will require coordination and alignment mechanisms across different levels of government in designing, implementing, monitoring and evaluating climate policies at the city level. In this regard, a national urban policy can be a key instrument to coordinate national and local climate policies for the implementation of the Paris Agreement achieved at COP 21 [the 21st Conference of Parties to the UN Framework Convention on Climate Change]."

(United Nations General Assembly, 2016, p.5)

Analysts estimate that cities emit between 37 and 49 per cent of the world's greenhouse gases (IPCC 2014b). Focusing in on the energy sector, the International Energy Agency estimates that the urban proportion of energy-related global greenhouse gases will rise from around 67 per cent today to 74 per cent by 2030 (IEA 2008). At the same time cities are home to many of the communities (spatial and social) and critical infrastructure most vulnerable to the effects of global warming.

Through the Intended Nationally Determined Contributions (INDCs) that form the heart of the Paris Climate Agreement (2015), many Parties have identified cities and urban settlements as key implementing partners for achieving their targets[1]. It is essential, therefore, that National Urban Policy address climate change. With input from the regional and local levels and with a balanced sectorial approach, a coordinated effort from national level

1 Comparative research shows that roughly two-thirds of INDCs do so; see forthcoming research from UN-Habitat (2016; pending).

government through a National Urban Policy provides an opportunity for the development of a coordinated and thorough nation-wide urban vision and development plan. NUPs offer an excellent vehicle to mainstream the principles of climate change mitigation and adaption – two deeply interconnected topics – in urban areas, and to coordinate this mainstreaming with other urban sectorial policies such as infrastructure development, housing, basic services, etc. (see **Recommendation 16**).

Box 3. Global Normative Guidance – National Urban Policy A Guiding Framework

"A coherent set of decisions derived through a deliberate government-led process of coordinating and rallying various actors for a common vision and goal that will promote more transformative, productive, inclusive and resilient urban development for the long term".

(UN-Habitat, 2015b, p.7)

The National Urban Policy Process

A National Urban Policy is an important tool available to governments that seek to manage and direct rapid urbanization, and to turn urbanization to positive effect while accommodating its inevitable stresses. According to UN-Habitat, a NUP is:

The UN-Habitat NUP process has five phases and three pillars. As shown in Figure 1, the NUP phases are: feasibility, diagnosis, formulation, implementation, and monitoring and evaluation. The three pillars are: participation, capacity development, and acupuncture projects. See National Urban Policy: A Guiding Framework for descriptions and further background on these phases and pillars.

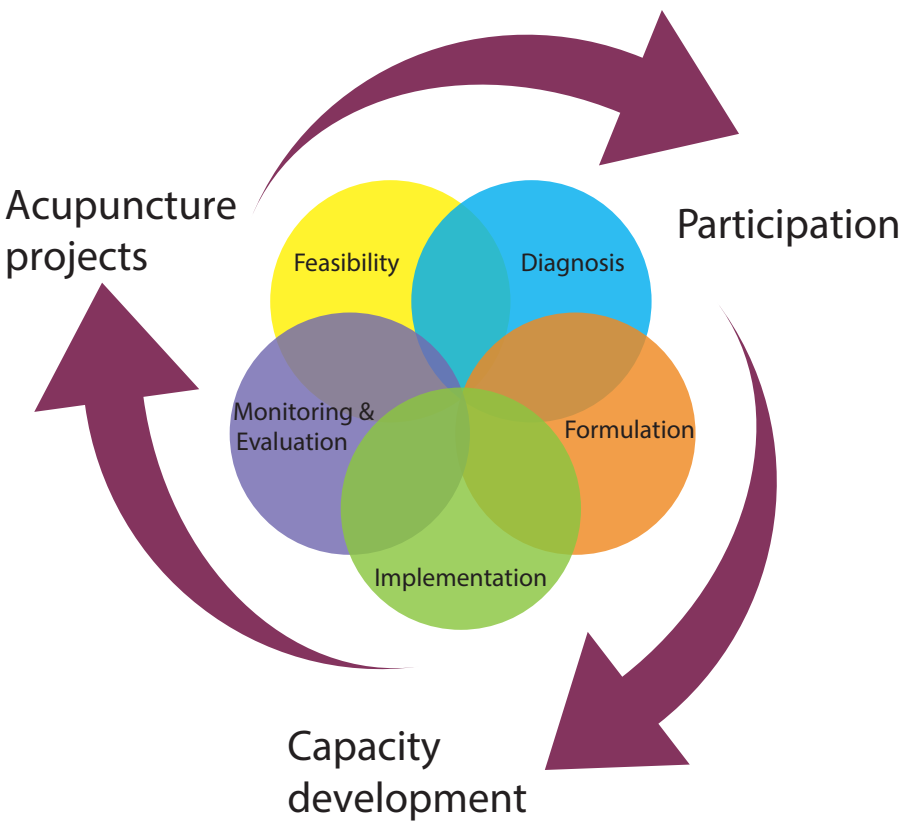


Figure 1: National Urban Policy Process

Study Methodology

The development of this Guide (as shown in Figure 2) involved a review of 34 NUPs (13 in Africa, 13 in Asian and the Pacific, 5 in Latin America, and 3 in Europe). From 26 of those documents we have extracted examples of how policy-makers around the world are helping to pave the way for effective climate action in urban areas, and for engagement of local authorities in those efforts. These excerpts appear in green Boxes.

The Guide does not necessarily recommend copying these policies verbatim; however these excerpts do show how various countries actually address climate change in their National Urban Policy documents, and so may be appropriate to adapt to local contexts as necessary. Other (tan-colored) Boxes offer short case studies that illustrate how implementing such policies can lead to action on the ground, and highlight the applicability of specific recommendations within different phases of NUP process. The purple Boxes provide excerpts from global normative guidance. The Guide also provides links to a limited number of further resources.

Following this (1) introduction, recommendations in this guuide are organized as follows: (2) promoting low-carbon urban development ("mitigation"), (3) building climate resilience ("adaptation"), and (4) urban climate governance, including on the important topic of multi-level governance. This is followed by (5) a discussion of how to apply these recommendations during the policy-making process and (6) conclusion.

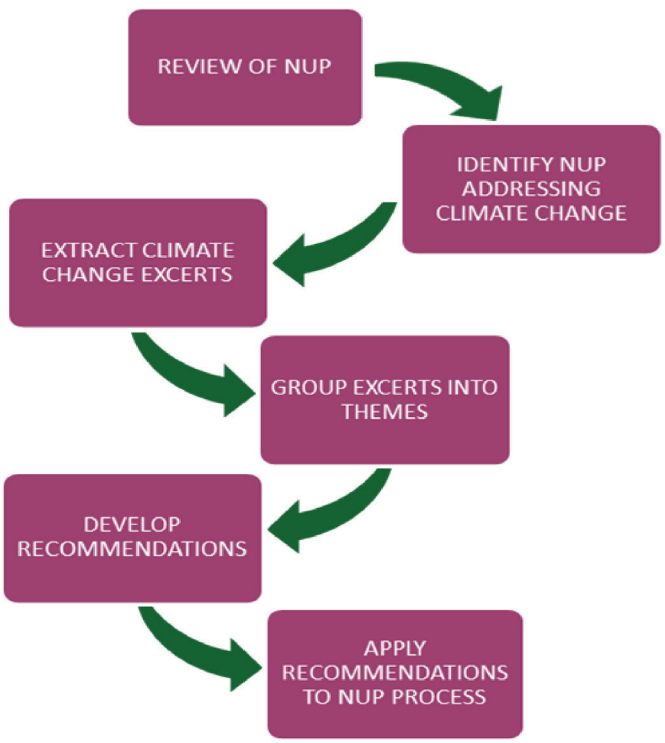


Figure 2: Methodology

02 PROMOTE LOW-CARBON URBAN DEVELOPMENT ('MITIGATION')

The Global Report on Human Settlements (UN-Habitat, 2011b) reports that the proportion of human-induced greenhouse gas (GHG) emissions from cities is between 40 and 70 per cent, using production-based figures (i.e., figures calculated by adding up GHG emissions from entities located within cities), and between 60 to 70 per cent if a consumption-based method is used (i.e., figures calculated by adding up GHG emissions resulting from the production of all goods consumed by urban residents, irrespective of the geographic location of the production). Many of these emissions are attributed to a handful of sectors with a strong urban dimension, including buildings, transport, and waste management. Low-carbon development seeks to 'decouple' emissions from economic growth, and provide for reductions in greenhouse gas emissions while supporting the socio-economic growth that should stem from a well-planned urbanization process. National Urban Policy can promote low-carbon urban development in several important ways, as follows.

Recommendation 1. Encourage and support the development of local level plans and strategies to reduce greenhouse gas emissions.

Local strategies and plans offer a fundamental tool for reducing greenhouse gas emissions (see ***Box 4***). Such plans offer a roadmap of multi-sectoral actions that can lead to the achievement of ambitious reduction targets. Planning thus seeks to avoid a scattershot, unmanageable, non-strategic approach to reducing emissions. Promoting greenhouse gas emissions reductions at the local authority level, and coordinating local action at the national and regional level can strongly advance national greenhouse gas emissions reduction targets. A participatory approach is encouraged to ensure inclusive and efficient planning.

Box 4. National Urban Policy Excerpt – Chile: National Urban Development Policy (2014)

"Encourage the development and implementation of **local sustainability strategies**… for the efficient consumption of energy, water, and **fossil fuels**.... Encourage incorporating energy efficiency and bioclimatic technologies into human settlements at **different scales** – dwellings, buildings, land plots, neighborhoods, or cities – and in the **various urban systems**… as appropriate to each location".

(Sections 3.3.1 & 3.3.4, **bold** added)

Larger, mid-sized and even some smaller cities and towns may well find it helpful to base their emission reduction strategy or plan on baseline greenhouse gas emission inventories. Such a baseline study, which can reveal for example which sectors are the biggest emitters, can provide for more strategic decision-making.

While the present recommendation is important, policymakers should apply it with caution, so as not to unduly burden local planners with new planning requirements. Planning frameworks can either mandate the development of stand-alone climate action plans, or else mainstream climate action into existing regulatory plans. Both approaches have their advantages and drawbacks: a stand-alone plan may, for example, provide for more direct access to climate finance, while mainstreaming climate action may place less of an additional administrative burden on municipal planners. For one example of a country that recently streamlined its local planning requirements while at the same time mandating climate action planning as a local function, (see ***Box 5***).

Box 5. The Philippines: Streamlining climate action planning mandates for Local Government Units

Street view Sorsogon, Philippines © UN-Habitat/John Palma

In 2009, the **Philippines** passed its groundbreaking Climate Change Act. This Act considers Local Government Units (LGUs) to be "frontline agencies" in addressing climate change. It requires municipal and city governments to "consider climate change adaptation as one of their regular functions", and requires LGUs to prepare and regularly update Local Climate Change Action Plans. At the same time the Act declares that "It shall be the responsibility of the national government to extend technical and financial assistance to LGUs for the accomplishment" of those plans (Sec. 14).

Following passage of this law, the Department of the Interior and Local Government (DILG) set about building capacity for local officials in climate action planning. This effort began at a time when the Government was concluding a process of streamlining its local planning requirements. This latter process consolidated a disparate group of local-level planning requirements into two major planning tools: the Comprehensive Land Use Plan, and the Comprehensive Development Plan.

Following that impetus, in its implementation of the Climate Change Act DILG emphasized through its capacity building the mainstreaming of climate action planning into those two statutory plans. In Guidelines issued in October 2014, DILG called on LGUs to "mainstream or incorporate the identified priority [climate] actions and policies in existing mandated LGU Plans and Investment Programs". At the same time it allowed that LGUs can opt to "create a stand-alone plan on climate change action that can be used in proposal write or project development for fund sourcing" (DILG 2014). Building capacity so that local officials can fully comply with such planning requirements is an ongoing process.

Sources: Kehew et al., (2013), and UN-Habitat Regional Office for Asia and Pacific (2016).

Reduction of greenhouse gas emissions should not be seen as an additional duty for stakeholders, but rather an opportunity to address key development priorities through low-carbon development. Considered more broadly, NUP can actively promote a green economy, providing an opportunity for the participation of the private sector and civil society in greening the economy. The United Nations Environment Programme (UNEP) defines the green economy as "one that results in improved human wellbeing and social equity, while significantly reducing environmental risks and ecological scarcities" (UNEP 2011). NUP may promote such initiatives.

Selected **resources** for city-level low-carbon planning are as follows:

- **Earth Hour City Challenge** spotlights cities that are implementing ambitious climate action plans (http://www.worldwildlife.org/pages/earth-hour-city-challenge).
- Mayors who sign up to the **Compact of Mayors** (https://www.compactofmayors.org/) commit to planning for climate action over a three year period.
- The **Guiding Principles for City Climate Action Planning** offer guidance on climate action planning, including suggested contents for such a plan. The Annex to this publication offers links to further resources, including more detailed decision-support and capacity-building tools (http://unhabitat.org/books/guiding-principles-for-climate-city-planning-action/).
- The **Promoting Low Emission Urban Development Strategies (Urban-LEDS) Project** offers tools and resources for low emission urban development (http://urbanleds.iclei.org/).
- The **Carbon Neutral Cities Alliance** promotes very long-term planning for deep reductions in carbon emissions (http://usdn.org/public/page/13/CNCA).
- The **Global Protocol for Community-scale Greenhouse Gas Emissions** offers a methodology for inventorying emissions in a way that is consistent with national-level reporting (http://www.ghgprotocol.org/city-accounting).
- The **Green Economy Initiative** that aims to motivate policymakers to support environmental investments as a way of achieving sustainable development (http://web.unep.org/greeneconomy/).

Recommendation 2. (i) Increasingly obtain energy from low-carbon and renewable sources, including via the decentralized or distributed provision of energy, while also (ii) promoting the more efficient consumption of energy.

In 2010, more than one-third (35 per cent) of anthropogenic greenhouse gases were emitted by the energy supply sector (IPCC AR5 WGIII, 2014). Thus, switching from fossil fuels to alternative energy sources represents a fundamental (radical) approach to reducing emissions and achieving energy modernization (see ***Box 6***).

In most countries, the generation of energy has long been a national-level responsibility, with energy distributed over long distances. However the world is changing. Improvements in photovoltaic cells, accompanied by the plummeting price of solar panels and other developments, are expanding the opening for decentralized ('distributed') energy, with a potentially larger role for local governments.

Box 6. National Urban Policy Excerpt: Germany – National Urban Development Policy (2012)

"Only with **greater energy efficiency and the use of renewable energies** can the era of cheap fossil energy be left behind. And only by doing so will an effective contribution be made to fight climate change. By means of an **energy-appropriate strategy plan, high urban design standards, energy-efficient building and the provision of energy from renewable sources** will be linked to a concept for renewal in order to include inhabitants in the existing housing estate in socially just energy modernization".

(Sections 3&4 ; **bold** added)

Denmark represents one country that has empowered local authorities and energy companies to play a role in providing energy from decentralized sources; this decades-old national policy has emboldened cities such as Copenhagen to take ambitious action in reducing emissions (see ***Box 7***). Today such approaches may be appropriate in the Global South as well. Climate researchers point out that, for developing countries faced with an energy infrastructure gap, decentralized generation may represent an apt strategy for increasing access to energy *while at the same time* transitioning to renewables (IPCC AR5 WGIII, 2014). Already numerous such examples exist (see ***Box 8***).

Box 7. Denmark: Transforming the energy supply as a way to achieve low-carbon development in Copenhagen

Wind turbines along the coast line of Copenhagen © ckarlson

For decades the Government of Denmark has empowered local authorities and local energy companies to play a role in providing energy from decentralized sources. In recent years this circumstance (along with other factors) has emboldened **Copenhagen** to be ambitious in its efforts to curtail emissions. It has publicly announced a target to become net carbon neutral by 2025. By 2014, it had already decreased its total annual emissions from the 2005 base year by 31 per cent.

Transforming the city's energy supply represents an important part of Copenhagen's strategy. This city's plans for continuing to curb emissions include establishing around 100 wind turbines, and making its district heating system carbon neutral.

Box 8. Cote D'Ivoire, China, and Kenya: Promoting decentralized, low-carbon energy generation

Solar water heaters on newly built apartment blocks in Hunchun, China © UN-Habitat/Alessandro Scotti

Examples of decentralized, low-carbon energy generation outside of OECD countries include:

- Developing municipal solid waste-to-energy projects, e.g., in **Abidjan**, Cote D'Ivoire
- Installing solar water heaters, e.g., in **Hunchun**, China
- Regulating for solar water heaters, e.g., **Nairobi** in Kenya

Even while switching from fossil fuels to renewable sources of energy is a fundamentally important strategy, promoting the more efficient use of energy obviously is a valuable complementary approach.

The next three ***Recommendations (Nos. 3-5)*** address three urban sectors – transportation, buildings, waste – that are major emitters of greenhouse gases. Moreover, mature technologies exist in these sectors; their adoption can often result in net financial savings over time, even while they reduce emissions. These sectors are thus prime targets for concerted action. Additionally ***Recommendation 3*** explores the important spatial relationship between land use and transportation planning.

Recommendation 3. (i) Encourage development patterns that are more conducive to reduced greenhouse gas emissions, including by minimizing travel distances. At the same time: (ii) promote more sustainable modes of transportation.

Land use and **transportation** systems are intricately linked. Ensuring that land use and transportation plans work together toward the same goals represents a powerful, long-term approach to reducing emissions (see ***Box 9***). In particular, such approaches can cut transportation-related emissions, which represented some 14 per cent of anthropogenic greenhouse gas emissions in 2010 (IPCC AR5 WGIII, 2014).

Box 9. Singapore and New York City: Regulating land use so as to sustain high usage of public transportation and curb greenhouse gas emissions

Transport system interchange in Singapore © The Strats Times

In **New York**, 36 per cent of commuting trips use public transport. This fairly high proportion of public transport use in a high-income city is a result of a deliberate policy of spatial concentration through high floor area ratios and diversification of land use through mixed zoning. These measures have been coordinated with progressive removal of street parking and constant improvements to the transit system to encourage increasing public transport use.

Likewise, **Singapore**, another high-income city, has prioritized transit-oriented development and compact urban structure with mixed-use zoning in its long-term development planning. Measures that discourage the use of private cars include relatively high taxes on private vehicles and fuel, parking management, a vehicle quota system and congestion pricing. At the same time the city has invested in improvements to its public transport system. In Singapore, 52 per cent of commuting trips are made with public transport.

In both cities the level of public transport use has been holding relatively steady.

Source: Bertaud et al., (2009), [pp. 32-39]

Depending on circumstances, some of the planning approaches that can promote more sustainable land use and transportation patterns include:

- Transit-oriented development;
- Compact development;
- Densification, including through in-fill;
- Mixed-use development; and
- Redevelopment of brownfields.

Transport policy should prioritize walking, cycling, and then public transport above private vehicles. Active transport also serves the purpose of improve public health. In addition to promoting more efficient urban mobility, compact development (see ***Box 10***) may also promote efficiencies in the provision of other networked services as well, e.g., potable water, district heating. Densification (see ***Box 11***) should be encouraged in established but sprawling or underutilized urban areas.

Box 10. National Urban Policy Excerpt: Nepal – National Urban Development Strategy (2015)

"Compact settlements are prioritized as opposed to scattered settlement".

(Section 1.2.6; **bold** added)

Box 11. National Urban Policy Excerpt: Vietnam – National Urban Upgrading Programme (2008)

"Policies on **densification of inner cities** – Underutilized sections of the inner cities may have the capacity to accommodate higher densities, but densification must be critically evaluated to ensure efficient, optimum and sustainable use of land".

(Section 6.5; **bold** added)

Recommendation 4. Reduce greenhouse gas emissions by promoting: (i) more sustainable design and construction of <u>new</u> buildings, and (ii) retrofitting of <u>existing</u> buildings.

In 2010, the building sector directly accounted for 6.4 per cent of total anthropogenic greenhouse gas emissions. Adding in indirect emissions increased this proportion to 19 per cent (IPCC WG III 2014). At the same time analysts for McKinsey and Company conclude that "approximately 75 per cent of the total abatement potential in the building sector shows net economic benefits, with the remainder available at very low cost" (McKinsey 2009).

National Urban Policy can help to curb emissions from this sector, firstly by promoting more sustainable design and construction of <u>new</u> buildings that contribute to reduced emissions (see ***Boxes 12*** and ***13***).

Box 12. National Urban Policy Excerpt: Uganda – National Urban Policy (2013)

"Promote the use [of] **productive rooftops** to reduce heating and cooling requirements and thus [reduce] emissions and save costs, reduce run-off and enable water collection, improve aesthetic value and air quality".

(Section 5; **bold** added)

Box 13. Brazil: Providing for green building in Recife

Vegetation planted on rooftop in Recife © Apartamento

In December 2014, the City Council of **Recife**, Brazil passed the Municipal Green Roof Law (18.112/15). This law requires that the roofs of all buildings of more than four floors, and commercial buildings of more than 400 square meters, be covered in native vegetation.

Green roofs represent just one part of Recife's Low Emission Development Action Plan. A Green Building Certification Scheme for commercial, residential and public buildings will come into force in 2016. This initiative promotes rainwater capture, energy efficiency, sustainable design, and the use of recyclable materials in buildings. Additional measures address other sectors. From 2012 to 2016, Recife participated in the Promoting Low Emission Urban Development Strategies (Urban-LEDS) Project, funded by the European Commission and implemented by UN-Habitat and ICLEI – Local Governments for Sustainability *(http://urbanleds.iclei.org/)*.

Source: UN-Habitat and ICLEI, (2015)

Secondly, National Urban Policy can promote the retrofitting of existing buildings (see ***Box 14***). Retrofitting government building can serve as a demonstration of the benefits of such acts and encourage the general public and private sector to follow suit.

Box 14. National Urban Policy Excerpt: Czech Republic – Principles of Urban Policy (2010)

"Active measures must be directed into reducing greenhouse gas emissions, saving fuel and energy, **upgrading buildings and increasing their energy efficiency**, installing thermal insulation…"

(Section 5. Principle 5; **bold** added)

Developmental differences may influence where the greatest opportunities lie for emissions abatement in the building sector. Developed countries may find greater such opportunities in retrofitting existing buildings and increasing use of energy-efficient technologies, whereas developing countries have an opportunity to design energy-efficient new construction, which is significant in light of the building booms underway or anticipated in a number of nations in the Global South (McKinsey 2009).

Resource

Green Building Councils are private-sector-led professional organizations that can play an important role in a country's transition to low-carbon building. Such councils can adapt building rating systems to local conditions, support improved building regulation and build the capacities of its members in new technologies (http://www.worldgbc.org/).

Recommendation 5. Make municipal management of solid and liquid wastes more sustainable.

Analysts have estimated the total amount of municipal solid wastes generated globally as 1.5 gigatonnes per year (IPCC WG III 2014). Landfills are a major source of methane – a particularly potent greenhouse gas.

NUP can aim to reduce emissions from municipal solid waste (see ***Box 15***), as well as wastewater (see ***Box 16***), through better management. In the waste management hierarchy, the most desirable solution is avoiding and reducing waste altogether, followed in turn by the re-use of materials, and the recycling of waste. The recovery of energy from waste, including methane recovery from landfills (see ***Box 17***), is greatly preferable to allowing methane to escape from such landfills, open burning or he dumping of waste (IPCC WG III 2014). The citation from Nepal's NUP (***Box 15)*** also encourages a couple of other practices that are appropriate to this sector: partnering with both the community and private sector to provide services, and the building of municipal capacity to better manage waste (also see ***Recommendation 14*** on building institutional capacity).

Box 15. National Urban Policy Excerpt: Nepal – National Urban Development Strategy (2015)

"In terms of **solid waste management**, complete waste management collection coverage is proposed for urban areas. The strategies include a focus on community-led waste segregation and collection; public-private partnership in waste collection and management; adopting sanitary landfill sites as a transitional strategy with the aim of promoting and mandating **3R** (**reduce, reuse, recycle**) at household/community level; and establishing dedicated and capacitated solid waste management units in all municipalities".

(Section 4.9; **bold** added)

Box 16. National Urban Policy Excerpt: Morocco – Policy of the City (2012)

"Make universal the system of **treatment of solid and liquid wastes**".

(p.14; **bold** added)

Box 17. South Africa: Sourcing energy from landfill in Durban

Durban landfill gas to electricity project © Fountain Green Energy

Durban Solid Waste has worked with the World Bank to establish two local Landfill Gas to Electricity Projects (LG2EP) in **Durban**. The first, a pilot project at Mariannhill, consists of a single one Megawatt (MW) engine, and takes in between 450 and 700 tons daily. The project has 13 vertical wells and six horizontal wells but the number of wells and engines will expand as more waste is deposited. The second landfill site, Bisasar Landfill, is one of the largest in South Africa: it consists of six 1.0 MW engines and one 0.5 MW engine, with capacity for an additional engine. Bisasar takes in between 3500 tons and 5000 tons daily. The project has 77 vertical wells and 77 horizontal wells.

The LG2EP project was the second registered Clean Development Mechanism project in South Africa and first of its kind in Africa. As of 2012, the project had generated electricity worth South African R48 million and, over the 21-year lifetime of the project, it is expected to contribute 3.8 million tons of CO_2e emissions reductions. Additionally, as of April 2013, 39,472 Certified Emissions Reductions (CERs) credits have been issued to the project.

Source: UN-Habitat, (2012), [pp. 33-35]

03 BUILD CLIMATE RESILIENCE ('ADAPTATION')

Climate-related impacts on cities are expected to increase over the course of the twenty-first century. Those impacts include: coastal flooding, sea-level rise and storm surge (with Asian deltaic cities such as Mumbai, Guangzhou and Ho Chi Minh City singled out by the IPCC as among the most vulnerable cities); inland flooding (in cities such as Kampala); heat waves (exacerbated by urban heat island effects); and drought and water scarcity (with large increases in urban dwellers living in cities with perennial water shortages expected by 2050; IPCC, 2014a). The impacts of climate change will be particularly severe in low-elevation coastal zones, which account for only 2 per cent of the world's total land area but are home to approximately 13 per cent of the world's urban population and largest cities.

Urban climate resilience is a more comprehensive concept than adaptation. Resilience is defined as "the capacity of cities (individuals, communities, institutions, businesses and systems) to survive, adapt and thrive in the face of stress and shocks, and even transform when conditions require it" (UN-Habitat, 2015c, p.18). Building the resilience of urban areas to climate change is not the responsibility of a single decision-maker. It requires changes in the ways that various levels and sectors of government, businesses and households behave and invest. National urban policy can support urban areas to build climate resilience in several important ways, as follows.

Recommendation 6. Promote applied research into the risks associated with the impacts of climate change, as well as other hazards, in urban areas. Provide for the use of findings to inform decision-making.

Policy-makers should recognize that climate science is rapidly evolving. Global and regional projec tions about the impacts of climate change exist and are constantly being refined. As resources permit, to frame an appropriate and localized response each country should contribute to this global research effort – including on climate impacts in urban areas (see ***Box 18***).

Box 18. National Urban Policy Excerpt – Chile: National Urban Development Policy (2014)

"Promote **research** into the study of natural and manmade risks associated with using the territory for human settlements. **Incorporate the research findings** into the Territorial Planning Instruments".

(Section 3.2.1; **bold** added)

To provide a useful input into local decision-making, including on land-use regulation (see ***Recommendation 9***), global projections need to be downscaled *and* harmonized with local observations, e.g. historical meteorological and hydrological records of extreme weather events. This is a way to ground-truth downscaled climate projections.

Recommendation 7. Encourage and support the development of local-level climate change vulnerability assessments that include an analysis of climate resilience and adaptive capacity, to inform policy-making at all levels. Promote multi-hazard assessments.

Local vulnerability assessments begin to lay the foundation for informed decision-making about building climate resilience. Such assessments should not only review scientific projections about climate change, but also capture local and even traditional knowledge about hazards, build understanding about climate change among participants, and begin to capture the opinions of residents about priorities in building climate resilience. They should also assess current adaptive capacity and means (at the community or household levels) of coping with climate-related hazards. Such assessments should pay particular attention to the vulnerabilities of marginalized groups, such as women, the elderly, youth, refugee populations and so on.

The Sendai Framework for Disaster Risk Reduction 2015-2030 encourages *multi-hazard* assessments, i.e. assessments that do not focus exclusively on climate-related hazards, but also address other natural and even man-made hazards. This is also reflected in normative guidance developed in preparation for Habitat III (see ***Box 19***).

Box 19. Global Normative Guidance – United Nations Policy Paper 3: National Urban Policy

"Conducting urban vulnerability assessments and making residents aware of their environment must be part of a national urban policy. These assessments must recognize the social capital inherent in the city and region (including rural areas), and cover social, economic, physical and environmental factors".

(United Nations General Assembly, 2016, p.11)

Robust enabling frameworks should not only require local officials to assess climate vulnerabilities. They should also actively *support* local action – through capacity-building, access to appropriate tools, adequate resources and so on (see ***Box 20***).

Box 20. National Urban Policy Excerpt – Colombia Nations Policy to Consolidate the System of Cities (2014)

"(Various national entities), together with international technical cooperation, will offer **technical assistance to cities in generating data and information regarding vulnerabilities to the varying impacts of the climate and climate change**. Based on such data they will support the preparation of agendas and programmes to assist the System of Cities to adapt to and mitigate climate change".

(Section 7.5; **bold** added)

Recommendation 8. Promote the mapping of hazards, including of climate-related hazards that may evolve over time.

The mapping of hazards such as floods and landslides represents an important step towards – almost a precondition of – regulating land use to reduce risks (see ***Box 21***). Ideally, such mapping precedes and informs land-use regulation prior to development (see ***Recommendation 9***, below). These maps should also contribute to sectoral adaptation actions. Ideally, a participatory approach to mapping hazards should be encouraged. Local residents are aware of the risks their communities face and are able to offer viable solutions.

Box 21. National Urban Policy Excerpt – Turkey: Integrated Urban Development Strategy and Action Plan 2010 - 2023 (2010)

"It is required to draw up the **integrated hazard maps covering all kinds of natural disaster hazards** in settlements, keep these studies up to date and integrated to decision-making processes at all levels".

(Section 7.5; **bold** added)

A widely accepted approach to spatially identifying flood hazards adjacent to rivers and other water bodies involves mapping flood plains with a certain return period, e.g. a 50-, 100- or 200-year flood (see ***Image 2***). This approach to defining the spatial dimensions of risk can be translated into land-use regulations. Before mandating such mapping across-the-board, however, policy-makers should first ascertain current in-country capacities for undertaking such studies, as well as the costs involved and so on. They should consider phasing in such mapping requirements, beginning with areas where (without adequate regulation) flood risk may coincide with densely populated or high-value land uses.

Whether an "acceptable" level of risk (e.g. protection from a 100-year flood event) is set at the national or local level requires consideration. One option could be for national governments to set a *minimum* level of acceptable risk (a floor), but allow local authorities to set higher levels of acceptable risk if they so choose.

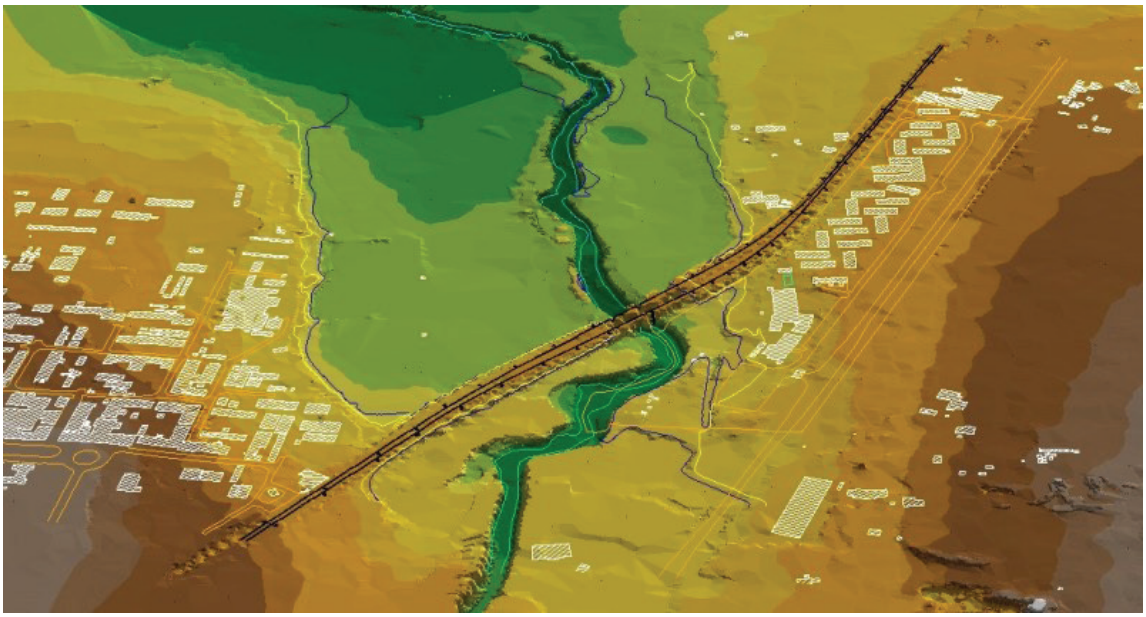


Image 2. A Computer generated image of a river, the 50- and 100-year flood lines (blue and yellow lines), a double line railway bridge and the existing surface infrastructure in the vicinity of the river © African Environmental Development

Recommendation 9. Plan human settlements, regulate land use and provide critical infrastructure and services in a way that takes into account risks and builds resilience, including climate resilience. To this end, encourage and support local-level plans and strategies to build climate resilience.

Once urban vulnerabilities and hazards (including their spatial dimensions) are adequately understood, urban policy-makers can begin to craft responses (see ***Box 22***). Providing for new development in low-risk areas and curtailing development in high-risk areas are some of the most cost-effective approaches to adaptation. While providing for housing and other land uses elsewhere, on safer lands, local authorities can reserve flood- and landslide-prone areas for uses such as parks or urban agriculture; this will help to minimize losses and damage during extreme weather events. Such proactive measures may be far less costly to society than trying to relocate at-risk families or responding to an urban disaster where development has been permitted on high-risk lands (see ***Box 23***).

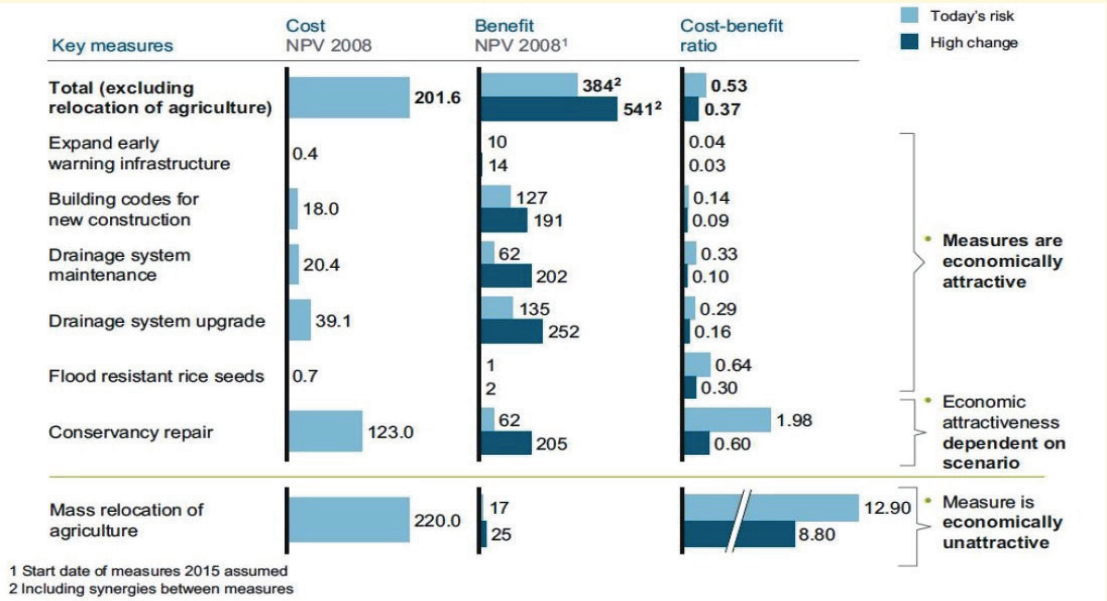
A rights-based approach to urban development should be undertaken that respects citizens' rights to adequate and affordable housing. Furthermore, a participatory approach is encouraged to ensure more inclusive planning, particularly of the marginalized (see ***Recommendation 10***, below).

Box 22. National Urban Policy Excerpt – Nepal: National Urban Development Strategy (2015)

"Incorporate disaster risk management component in urban development plans… Settlements are encouraged in the safer locations, which are hazard free and where infrastructure provisions become viable… Prepare land-use regulations, and review building code and by-laws in all urban areas from [a] resilience perspective".

(Section 4.3.1; 1.2.6 **bold** added)

Box 23. Using cost curves to inform resilience-building in South Florida, United States, and Georgetown, Guyana



Georgetown, Guyana adaptation cost curve © Swiss Re

As discussed above, cost curves are a well-accepted tool for helping to prioritize mitigation measures (see discussion of ***Recommendation 4***, above).

Planners are also increasingly using this economic tool to help rank adaptation measures. Analysts working under the auspices of the Economics of Climate Adaptation Working Group have begun to quantify the net, discounted, economic benefits of adaptation, with important implications for building climate resilience in urban areas, as follows.

In **South Florida** (US), analysts assessed the costs and benefits of a series of possible adaptation measures previously identified. The analysis found strong net economic benefits for proactive planning measures directed at new construction, e.g. requiring improved design of the roofs and elevations of new homes. On the other hand, the retrofit of existing roofs yielded only slightly positive net economic benefits over time. The retrofit of home elevations was definitely not cost-effective.

Similar results obtained in **Georgetown** (Guyana), where "building codes for new construction" represented one of the most "economically attractive" measures. On the other hand, economists found the "mass relocation of agriculture" to be "economically unattractive".

Economists caution against basing sweeping conclusions upon such initial findings. Firstly, the marginal cost curves for both adaptation and mitigation measures may vary from city to city, based on local circumstances. Secondly, members of the Economics of Climate Adaptation Working Group advise: "The cost curve is a quantitative tool to assist decision-makers in selecting adaptation measures – it is not a prescriptive answer on what suite of measures ought to be implemented to address climate risk".

Source: Economics of Climate Adaptation Working Group (2009)

Infrastructure should also be resilient and provided in a way that takes risks into consideration. This is particularly the case with *critical* infrastructure such as medical facilities, energy substations and so on (see ***Boxes 24*** and ***25***).

Box 24. National Urban Policy Excerpt – The Philippines: National Urban Development and Housing Framework (2009)

"**Scenarios of rising sea levels should be considered in long-term planning** and, whenever possible, appropriate consideration is given to **lifeline system redundancy** (e.g. defining alternative higher elevation routes to **key public facilities** such as airports, hospitals and along low-lying sections of strategic roads and highways, etc.)".

(Section 5.E.5; **bold** added)

Box 25. National Urban Policy Excerpt – Australia: National Urban Policy (2011)

"In order to **ensure new infrastructure investments are not unduly vulnerable to climate change, the siting of infrastructure, operational life and design standards needs to be carefully considered**, alongside matters such as heat stress, inundation and extreme storm events".

(Section 4; **bold** added)

Recommendation 10. Prioritize actions that build the resilience of vulnerable and marginalized communities. When possible, upgrade slum and informal settlements in situ so as to build resilience to shocks and stresses, including those brought about by climate-change impacts.

Urban policy-makers should pay particular attention to the needs and considerations of the poor and marginalized. That includes those living in informal settlements or slums (see ***Box 26***), as well as other groups that may be disproportionately affected by the impacts of climate change, e.g. women, the elderly and so on. These people, particularly the urban poor, are more vulnerable to climate-change impacts as a result of the location of their settlements, their limited resources and access to social safety nets, their frequent dependence on natural resources for a livelihood, and the fragility of their houses. Thus, building their resilience should be prioritized rather than, for example, protecting the seaside second homes of the affluent. Local planners should actively solicit and obtain the inputs of these communities throughout the planning cycle, through effective participatory processes.

Box 26. National Urban Policy Excerpt – Honduras: Housing and Urban Development Policy (2005)

"[Promote] programmes of neighbourhood improvement…, directed at **families that live in informal settlements**…, under an arrangement that promotes the active participation and shared responsibility of the beneficiary families, as well as the **coordinated application of resources from and efforts of national and municipal governments**".

(Section 2; **bold** added)

The upgrading of slums and informal settlements reflects people's right to adequate housing; this forms part of the right to an adequate standard of living. From the residents' perspective, *in situ* upgrading is (in general) greatly preferable to relocation. Consider measures such as relocation of residents from high-risk areas *only* as a last resort, to be undertaken with adequate consultation, community involvement in decision-making, notice, compensation and follow-up to ensure an adequate standard of living and attention to human rights.

A climate sensitive NUP should include a strong gender perspective. It is argued that women are generally more vulnerable to the impacts of climate change due to their often limited roles in urban planning, land ownership and management, and other reasons. However, women are also key actors in building urban climate resilience. For example, recent history has shown that women are heavily involved in post-disaster recovery, especially in cases where natural disasters increase the number of women-headed households (Denton, 2002; UNDP, 2010).

Some climate specialists have begun to recognize adaptation as "transformative" if it goes beyond merely addressing exposure to hazards and tries to address more fundamental social justice concerns such as the root causes of poverty (Pelling, 2011). One such approach is to increase security of tenure – a particularly transformative action if it allows households to begin to treat land as an asset and use it to build wealth (see ***Box 27***).

Box 27. National Urban Policy Excerpt – Nigeria: National Urban Development Policy (2015)

"**Empower disadvantaged groups** through access to land and **security of tenure**".

(Section 7.4.1; **bold** added)

Recommendation 11. As part of adaptation efforts, promote the protection and restoration of ecosystems and natural buffers.

Human settlements are built within – and often act to displace, damage or destroy – existing ecosystems. In addition to their intrinsic value, such ecosystems provide services to people, which decision-makers may overlook or undervalue. These benefits may include protection from natural hazards, as well as benefits associated with ecotourism and so on. Therefore, when building climate resilience, decision-makers should fully consider ecosystem-based approaches to adaptation (see ***Box 28***).

Box 28. National Urban Policy Excerpt – South Africa: Integrated Urban Development Framework (2016)

"**Protecting ecosystems and natural buffers** should also be a key consideration, since it can lessen the risk and impact of floods, storm surges and other hazards. **Conservation or restoration of ecosystems** provides cost-effective options for climate change adaptation and disaster risk reduction. Healthy catchment areas outside cities and green open spaces within cities help to slow the flow of water and increase its infiltration".

(*Section 3, pp.66; Section 4, pp.74*; **bold** added)

One of the purposes of pre-feasibility studies is to adequately consider various alternative means to achieve given goals, so as to find the optimal solution. In that spirit, when considering different ways to build resilience, planners should fully consider – and value – ecosystem-based approaches to adaptation, and indeed the various benefits conferred by ecosystems, rather than immediately jumping by default to a conventional engineering solution. Sometimes mixed solutions may be optimal (see ***Box 29***).

The protection of ecosystems as an adaptation strategy should be carefully considered alongside another potential (and related) strategy for building resilience: promoting urban agriculture. Urban agriculture can confer considerable resilience-type benefits, including by helping to build food security and providing livelihoods. However, these two approaches are by no means the same: introducing crops onto a given piece of land does not act to protect ecosystems and may even act against that goal. When proposing or proscribing certain uses for a given piece of land, including such green space alternatives, planners need to weigh and bear in mind a range of considerations, ranging from providing sufficient land to accommodate future growth to the need to protect biodiversity and so on; a full discussion of this topic is outside the scope of this document.

The issue of protecting the sources and quality of water is very central to any discussion of ecosystems. Water demand management, achieved through means such as the design of more sustainable housing and urban drainage systems, represents an important complementary strategy; see ***Recommendation 4*** for some further discussion *vis-a-vis* housing.

In a limited number of cities (e.g. Oslo, Portland), planners have girdled urban development with green belts to promote more compact development patterns and provide other benefits (see ***Box 30***). Despite its merits, this strategy has not gone unquestioned. Rather than contain development, critics argue, urban development may merely leapfrog the green belt, resulting in dispersed settlement patterns. Then again, satellite communities well serviced by public transport are another possible outcome. In planning for expected future population increases, alternative scenario modelling can yield insights into the spatial development patterns that will likely result from such policies.

Box 29. Fiji: Ecosystem-based adaptation in Lami Town

Map of Lami Town, Fiji, showing a mix of the conventional engineering and ecosystem options identified and evaluated by the team © Secretariat of the Pacific Regional Environment Programme

UN-Habitat's Cities and Climate Change Initiative (CCCI), in collaboration with the United Nations Environment Programme (UNEP) and with the expert support of the Secretariat of the Pacific Regional Environment Programme (SPREP) and Conservation International, assisted **Lami Town**, Fiji, to assess its vulnerability to climate change and compare the costs and benefits of varying adaptation options.

The assessment offered a head-to-head comparison of conventional engineering approaches with ecosystem-based approaches to adaptation, as well as mixes of the two approaches. In terms of specific scenarios, the study concluded that the highest cost-benefit ratio is for the pure ecosystem-based adaptation scenario. However, the study also recognized that engineering options, while less cost-effective in reducing potential damages than ecosystem-based alternatives, produce greater results overall, with an assumed damage avoidance of 25 to 50 per cent compared to only 10 to 25 per cent for the purely ecosystem-based approach. In the end, when alternatives were considered for different parts of the town in a more fine-grained analysis, a recommendation of mixed ecosystem and engineering options appeared to be the most appropriate for reducing risk.

Source: Rao, et al., (2012)

Box 30. National Urban Policy Excerpt – Nigeria: National Urban Development Policy (2001)

"Increase the proportion of **urban green belt** and open areas".

(*Section 19.4.1*; **bold** added)

Recommendation 12. Provide for regional planning as one means to protect ecosystems and guard against 'mal-adaptation'.

Municipal governments can, and do, play a leading role in using land-use regulation as a way to provide for more resilient development. However, other subnational public authorities charged with

protecting watersheds or other natural features more holistically, and at a more regional scale, may well be best positioned to protect such ecosystems (see ***Box 31***). By taking this broader perspective they can help to guard against "mal-adaptation". Mal-adaptation can occur when local governments look too narrowly at considerations within their (often narrowly circumscribed) boundaries and unintentionally exacerbate risks downstream. Poorly designed flood control devices, for example, may yield such undesirable results for communities downstream. At the same time, as the issue of "climate refugees" grows, guiding rural-urban migration as part of adaptation efforts will become increasingly important to regional planning in some parts of the world.

Box 31. National Urban Policy Excerpt – Colombia: National Policy to Consolidate the System of the Cities (2014)

"Bearing in mind the importance of preserving the strategic ecosystems of the countries, primarily the sources of water [...]a Master Plan for Potable Water and Basic Sanitation will be prepared as an instrument designed to strengthen the **holistic and sustainable management** of these services in the System of Cities".

(*Section 6.A*; **bold** added)

04 ADDRESS URBAN CLIMATE GOVERNANCE

Some climate change policy concerns related to governance address both mitigation and adaptation equally; those we address in the following discussion. Several such matters of climate governance, which affect a range of actors that is broader than those active in the urban arena, are appropriately addressed most comprehensively in national *climate change* policies, not urban policies (see ***Recommendations Nos. 16-19*** of UN-Habitat's "Addressing Urban Issues in National Climate Change Policies", *CCCI Policy Note No. 3*, 2013). However, at a minimum, NUP should not contradict climate change policies in these areas. Moreover, certain climate governance issues – particularly those that pertain to local authorities – can be reinforced through reference in National Urban Policy, as follows.

Recommendation 13. While encouraging local autonomy, coordinate national and local action in addressing climate change in urban areas. Undertake collaborative action when appropriate.

One area of coordination on climate action that is of particular relevance to urban areas involves supporting the piloting of promising practices, to ensure that they work in local contexts before upscaling. Here innovative local authorities can take the lead – but the national government can actively support such piloting. Firstly, the national government can provide financial and technical support to the pilot activities. Secondly they can help monitor progress, and otherwise help to manage knowledge (see ***Box 32***). Thirdly, national entities can support the dissemination, replication or roll-out of successful pilot experiences to other local authorities.

Box 32. National Urban Policy Excerpt – South Africa: Integrated Urban Development Framework (2016)

"**Pilot projects** should be used to **identify best practices** for use in all urban areas. The pilot projects should be monitored for operational consequences [and] cost implications".

(*Section 2*; **bold** added)

Recommendation 14. Provide resources for, and build the institutional capacity of, urban managers to address climate change.

NUP should not assign new responsibilities to local authorities (including climate action) without understanding local capacity to fund these activities and then addressing any shortfalls. Cities need funding to support their climate change activities. These may come from national level, international funding platforms, the private sector or local government income streams; however, there is need for a concerted effort to support urban climate financing. This may include providing cities with access to resources from climate funds, e.g. through a transfer formula or the establishment of a national climate fund from which cities can compete for resources.

Moreover, the national government can and should also build the capacity of, and otherwise support, local officials and others charged with carrying out such new mandates (see ***Box 33*** as well as previous ***Boxes Nos. 19*** and ***26***). In a number of countries, urban management is a responsibility shared between national and local levels of government. Thus, policy-makers should also consider the financial and capacity-building needs of urban managers both at the local and national levels (see ***Box 34***).

Box 33. National Urban Policy Excerpt – Turkey: Integrated Urban Development Strategy and Action Plan 2010-2023 (2010)

"It is necessary to **prepare the methods for the institutions authorized for planning** in relation to the processes, methods and approaches of mitigation planning".

(*Section 11.3.2*; **bold** added)

Box 34. National Urban Policy Excerpt – Cambodia: National Urban Development Strategy 2014-2018 (2014)

"Mobilize funds and technical assistance for implementing the main activities outlined in the action plan and strategic plan to address the sectoral climate change issues of the relevant ministries/institutions, including research activities, to support policy development".

(Section 4.88; **bold** added)

Recommendation 15. Promote public awareness of climate change, including of co-benefits and economic opportunities.

Addressing climate change so as to achieve ambitious global targets will require sustained political support. Generally, this involves maintaining a groundswell of *public* support to underpin political action.

Much work remains to be done to sensitize residents about the global dimensions of climate change: the scientific basics, essential terminology, international commitments and so on (see ***Boxes 35*** and ***36***). Equally, residents require sensitization about the *local* benefits, the so-called "co-benefits" (in terms of improved air quality, health benefits and so on) that taking climate action can confer. National urban policy can call for such outreach.

Box 35. National Urban Policy Excerpt – Nigeria: National Urban Policy Framework (2012)

"**Sensitize the public** on climate change effects, adaptation and mitigation best practices…. **Stakeholder participation**… in our cities shall include **public enlightenment programmes**".

(Section 8.4.1; 19.4.1; **bold** added)

Box 36. National Urban Policy Excerpt – Ghana: National Urban Policy Framework (2012)

"Intensify p**ublic information and awareness campaigns** on energy conservation, climate change and mitigation strategies…. Generate **public awareness** on climate change and mitigation strategies through **mass media educational campaigns**".

(*Section 3.10 (i)*; **bold** added)

One important type of "co-benefit" of climate action involves helping the private sector to identify and seize on the massive economic opportunities that changes in the global economy, due to decarbonization and resilience-building, have begun to unleash (see ***Image 3***). It is in the interest of countries – not least from a fiscal perspective – for their private sector actors to grasp those opportunities. The national government can play a role in sensitizing the private sector to these opportunities (see ***Box 37***).

Image 3. Electric car at a charging station in Hamburg, Germany. Improvements in technology and public policy over electric vehicles make it an economic opportunity for the private sector. © Shutterstock

Box 37. National Urban Policy Excerpt – South Africa: Integrated Urban Development Framework (2016)

"Anticipate the **changing nature of global economic competitiveness**, as international measures… come into force to deal with climate change".

(*Section 1;* **bold** added)

Recommendation 16. Ensure that national urban policies, laws, regulations, investment plans and so on are fully consistent with national policies for addressing climate change.

This recommendation, which calls for consistency between two different realms of public policy, requires little elaboration. NUP should ensure that the urbanization process supports national and local climate change policy objectives. This can be accomplished in part by mainstreaming the relevant parts of national climate change policies into national urban policy.

05 IMPLICATIONS OF RECOMMENDATIONS ON NUP PROCESS

The mainstreaming of climate change into urban policy at all levels, but particularly in National Urban Policy, has been highlighted in global guidance on urbanization (see ***Box 38*** and ***Box 39***). In order to mainstream considerations for climate change in national urban policy, it is necessary to understand how the recommendations can be **actioned** in the NUP process. Below are action-oriented suggestions for how the recommendations can be incorporated into the phases and pillars of NUP[2]. This section provides additional support to help technical officials to operationalize the recommendations laid out in ***Sections 2-4***. It is also important to note that as with the recommendations above, it is important to tailor the following discussion to the national context.

5.1. The NUP Phases

5.1.1 Feasibility

The feasibility phase allows for a mapping of stakeholder linkages necessary in order to understand the policy terrain prior to embarking on the policy making process. This phase should be used to identify stakeholders and their interrelationships, and to build a case for the development of a national urban policy.

Recommendation 13. While encouraging local autonomy, coordinate national and local action in addressing climate change in urban areas. Undertake collaborative action when appropriate.

Action: To effectively address climate change in national urban policy it is necessary to undertake action collaboratively, so as to coordinate national and local climate change adaptation and mitigation efforts.

During the process of mapping stakeholders in the NUP feasibility phase, those actors, both at the national and subnational levels, with a role in climate-related actions can be highlighted. Relevant subnational and national officials can be designated to oversee and guide NUP development in order to facilitate the development of the policy in a way that facilitates collaborative action towards addressing climate change.

Recommendation 15. Promote public awareness of climate change, including of co-benefits and economic opportunities.

Action: The development of a national urban policy represents an opportunity to communicate to stakeholders about important urban issues in their communities. The development of a communications strategy for the national urban policy provides the opportunity to disseminate specific information to the public and other stakeholders about NUP and other sectorial issues in the urban environment.

The development of a communications strategy for the national urban policy is also an excellent way to share information on climate change to the general public. Doing so can raise their understanding and awareness of climate challenges, therefore allowing them to more fully engage in the policy process by, for example, being able to identify and explain how climate change is affecting their communities.

5.1.2 Diagnosis

Addressing climate change in national urban policy necessitates the development of an evidence base that is sensitive to efforts to address climate change. The NUP diagnosis phase is where key evidence is collected to act as the foundation for choices and decisions that will be made by policy-makers and stakeholder later in the NUP process. This phase, therefore, is instrumental in forming an evidence base of climate change related data. For complementary information on considering climate change in the diagnosis phase of national urban policy, see UN-Habitat's *National Urban Policy Framework for a Rapid Diagnosis* (2015c), particularly section 4.11.6 Climate Change.

2 Again see **Figure 1**, above, for those phases and pillars; see National Urban Policy: A Guiding Framework for more details and background.

Box 38: Global Normative Guidance – United Nations Policy Paper 3: National Urban Policy

"A national urban policy complements rather than replaces local urban policies by…assisting governments to address challenges such as integration and climate change through national and local development policy frameworks".

(United Nations General Assembly, 2016, p.5)

Box 39: Global Normative Guidance – The (Draft) New Urban Agenda

"We commit to promote international, national, subnational and local climate action, including climate-change adaptation and mitigation, and to support cities and human settlements, their inhabitants and all local stakeholders to be important implementers. We further commit to support building resilience and reducing emissions of greenhouse gases, from all relevant sectors".

(Habitat III, 2016, p.11)

Recommendation 4. Reduce greenhouse gas emissions by promoting: (i) more sustainable design and construction of new buildings, and (ii) retrofitting of existing buildings.

Action: Promoting mitigation through sustainable building in NUP will require a high-level assessment of the current building stock and building legislation in order to make informed recommendations in the NUP. The diagnosis phase can be used to conduct a national housing profile in order to gather and analyse the needed data. To this end, UN-Habitat has developed a practical guide to conducting comprehensive national housing profiles with a direct objective of understanding the housing sector, while offering evidence-based data to inform policy reform (UN-Habitat, 2011a). Criteria should be created to assess the sustainability of the current building stock and to take an inventory of design innovations in the current building stock.

This data can then be used to highlight current good practices and to identify weaknesses, both of which can be used during the definition of policy options in the formulation phase to promote climate change mitigation through sustainable building.

"An assessment of climate change should aim at exploring opportunities to include mitigation measures for reducing the contributing factors, especially GHG emissions, for climate change" (UN-Habitat, 2015, p.43).

Recommendation 6. Promote applied research into the risks associated with the impacts of climate change, as well as other hazards, in urban areas. Provide for the use of findings to inform decision-making.

Action: Any spatial planning (such as a national spatial plan) that is done in conjunction with or to inform the development of a NUP must be cognizant of outcomes of data collected from hazard mapping, particularly climate-related hazards that will evolve and change over time. National urban policy provides an opportunity to make medium- and long-term goals and plans in regards to urbanization. However, in the context of climate change, medium- and long-term goals and plans must be based on reliable evidence and projections of climate-related hazards.

In order to collect this information during the diagnosis phase, hazard mapping can be undertaken, particularly for vulnerable areas, and projections can be generated in order to ensure that the policy is as informed as possible about evolving climate hazards.

Recommendation 8. Promote the mapping of hazards, including of climate-related hazards that may evolve over time.

Action: Any spatial planning (such as a national spatial plan) that is done in conjunction with or to inform the development of a NUP must be cognizant of outcomes of data collected from hazard mapping, particularly climate-related hazards that will evolve and change over time. National urban policy provides an opportunity to make medium- and long-term goals and plans in regards to urbanization. However, in the context of climate change, medium- and long-term goals and plans must be based on reliable evidence and projections of climate-related hazards.

In order to collect this information during the diagnosis phase, hazard mapping can be undertaken, particularly for vulnerable areas, and projections can be generated in order to ensure that the policy is as informed as possible about evolving climate hazards.

Recommendation 16. Ensure that national urban policies, laws, regulations, investment plans and so on are fully consistent with national policies for addressing climate change.

Action: A national urban policy should complement, and not compete with, sectorial policies, strategies and laws, such as those related to climate change. During the diagnosis phase, a map of institutions and sectorial strategies (both national and subnational) must be undertaken in order to have a comprehensive picture of the environment in which the NUP is being developed.

To ensure that a NUP is aligned with any national or subnational sectorial climate change strategies (if they exist), a mapping of sectorial strategies pertaining to climate change will highlight the implementing institutions and the strategies' actions and targets. Doing so can help to ensure that any climate-related activities and targets in the national urban policy work with, and not against, sectorial or subnational strategies for climate-change adaptation and/or mitigation.

5.1.3 Formulation

National urban policy with a strong consideration of climate change requires that recommendations and actions be implementable. The formulation phase of the NUP process consists of the prioritization of policy options for the NUP but also the development of strategies to facilitate their implementation.

Recommendation 10. Prioritize actions that build the resilience of vulnerable and marginalized communities. When possible, upgrade slum and informal settlements in situ so as to build resilience to shocks and stresses, including those brought about by climate change impacts.

Action: Vulnerable and marginalized communities are often those that feel the impacts of climate change most keenly. In order to ensure that the NUP considers and addresses the needs of these communities, they must not only be involved in the validation of the policy but in the formulation of the policy itself.

Holding workshop(s) to define policy problems and policy priorities is one way of beginning to define what the priorities of NUP will be and what policy solutions will be proposed to address these priorities. Ensuring that representatives from vulnerable communities attend these workshops is an excellent way to ensure their inputs are considered when policy problems and solutions are defined.

In order to build the resilience of vulnerable communities it is also possible to undertake capacity development activities during the workshops in order to ensure that vulnerable communities are informed regarding 1) why a NUP is being developed and how they can engage and 2) how and why climate change is affecting their communities and how they can work with policy makers to develop solutions.

Recommendation 14. Provide resources for, and build the institutional capacity of, urban managers to address climate change.

Action: Ensuring the financial and institutional capacity of subnational governments to implement NUP is an essential part of the NUP policy process. Through a NUP which addresses climate change, the capacities of subnational governments to address climate change can be targeted.

A financial strategy for the national urban policy must be developed in tandem with the policy itself. Not doing so can risk the development of a policy which is not implementable. Based on findings from the diagnosis phase, the financial strategy can allocate resources to local climate actors to support them in addressing climate change. Allocating funds for local authorities to undertake local climate action planning or to retrofit existing building stocks are examples of actions where subnational governments can contribute to addressing climate change, but where they may need to be supported financially to do so.

For further information on addressing institutional and human capacities see Section 5.2.

5.1.4 Implementation

Implementation of NUP is the phase in which the policy plan is put into practice. However, like most complex public policies, implementation will normally happen in phases, thus giving opportunity to adjust the short-, medium- and long-term goals of specific activities in the NUP.

Recommendation 1. Encourage and support the development of local level plans and strategies to reduce greenhouse gas emissions.

Action: A national urban policy implementation plan should set short-term, medium-term and long-term goals for the policy. It is important for a NUP not only to advocate for, but also to support, the development of subnational strategies for addressing climate change,

particularly for reducing greenhouse gas emissions. Integrating the development of local-level plans to reduce greenhouse gas emissions in the overall implementation plan for the NUP will help to give national level recognition to the priority of these initiatives. Furthermore, it can assist with planning for short-, medium- and long-term goals for the local-level plans and strategies and with estimating the human and financial resources that will be needed in order to reach these goals.

Recommendation 9. Plan human settlements, regulate land use, and provide critical infrastructure and services in a way that takes into account risks and builds resilience, including climate resilience. To this end, encourage and support local level plans and strategies to build climate resilience.

Action: Implementing a national urban policy that is effective in addressing climate change will inevitably require a strong partnership with subnational governments. At the national level, national urban policy should promote the development of local-level plans that can support the processes of planning for urban patterns, land use and infrastructure development that is sensitive to climate risks and builds resilience. One way to ensure that local governments are empowered to build resilience is to support and encourage the development of climate resilience action plans at the local level. It is important to ensure through a national urban policy that local-level climate resilience action plans work in conjunction with any national-level climate adaptation and resilience strategies.

For information on local-level climate action planning, refer to UN-Habitat's Guiding Principles for City Climate Action Planning (2015a). More information on planning for sustainable urban patterns can be found in UN-Habitat's Urban Patterns for a Green Economy series (2012a, b, c, d).

5.1.5 Monitoring and Evaluation

The monitoring and evaluation of the NUP is a long-term process that benefits from consistent research and updating of data, and from a regular forum in which to present and evaluate this data with a broad group of stakeholders. In order to assess the impact of NUP on climate change, it is necessary to have regularly updated data which can be used to compare to baseline studies. Furthermore, the monitoring framework for the NUP should establish climate change indicators to assess impact.

Recommendation 6. Promote applied research into the risks associated with the impacts of climate change, as well as other hazards, in urban areas. Provide for the use of findings to inform decision-making.

Action: The development of a national urban policy which addresses climate change is an opportunity to enhance and further promote a research agenda on climate change in urban areas.

Providing a regular forum where findings can be presented, during a national urban forum (NUF) for example, will promote a stronger research agenda on climate change in urban areas. A regular forum, such as a NUF, can also work to establish a regular monitoring mechanism that is informed through an applied research agenda, thus providing a public outlet through which to monitor and evaluate the impact of the national urban policy, particularly on climate change matters.

For more information on NUP and NUF see UN-Habitat's brochure National Urban Forum to support Participatory and Inclusive National Urban Policy (UN-Habitat, 2016b).

Recommendation 14. Provide resources for, and build the institutional capacity of, urban managers to address climate change.

Action: As highlighted above, ongoing climate-change research can support the monitoring and updating of the NUP as needed. In NUP, an iterative policy design is one where lessons learned from monitoring and evaluation are fed back into the policy in order to make adjustments and revisions going forward. In the context of climate change, ongoing research should be used by urban managers to update and revise the policy in order to ensure its goals and activities are based on the most current data and projections.

In order to do so, resources must be allocated to ensure an ongoing climate research agenda and an adequate budget for urban managers to be able to undertake monitoring, updating and periodic evaluations of the policy. Having these resources, and ensuring that urban managers have the capacity to undertake ongoing monitoring and evaluation and integrate findings into the policy, can help to ensure that the policy is addressing climate change needs in the long run.

5.2. The Cross-Cutting Pillars of the NUP Process

There are three pillars that should be considered through the five phases of national urban policy development. Consideration for participation, capacity development and acupuncture projects should occur at all stages of developing a NUP, and will contribute to the overall sustainability and effectiveness of the policy.

5.2.1. Participation

In order to have broad support and engagement during the national urban policy process, participatory processes must be integrated throughout the policy process. The ways and the extent to which stakeholders are engaged in the process will change the degree to which their needs are ultimately reflected in the policy.

Recommendation 10. Prioritize actions that build the resilience of vulnerable and marginalized communities. When possible, upgrade slum and informal settlements in situ so as to build resilience to shocks and stresses, including those brought about by climate change impacts.

Action: National urban policy provides the opportunity to engage a broad base of stakeholders in the policy making process. Ensuring populations in the most vulnerable locations and marginalized groups are included and considered could require targeted outreach in order to ensure vulnerable communities have both the capacities to engage in the process and are given a space to do so. In this way, it is important for the NUP process to not only be participatory but also inclusive.

In order to ensure that the effects of climate change on vulnerable populations are appropriately considered in NUP, it will be necessary to ensure that those communities are included in any initial diagnosis data collection, both by using participatory data collection methods and also by ensuring the communities are considered and included in any climate-related assessments. Using tools such as UN-Habitat's Participatory Climate Change Vulnerability Assessment Toolkit (2010) can provide an inclusive and participatory environment in which to collect climate data for the NUP.

Furthermore, it is imperative to include representatives of these populations during the development and selection of policy options during the feasibility phase, so that they can give input to the development of the policy and not only be asked to provide validation following the drafting of policy options.

More information on the development of a pro-poor national urban policy can be found UN-Habitat's Quick Guide for Urban Managers: Supporting National and City-wide Slum Upgrading and Prevention Through National Urban Policy (UN-Habitat, 2016a).

Image 4. Stakeholder consultation in preparation for the Adaptation Fund in Laos. © UN-Habitat

5.2.2. Capacity Development

Integrating the development of capacity for all stakeholders and all levels of government is necessary for building sustainable policy. Through both the assessment and development of human, financial and institutional capacity, it is possible to more thoroughly ensure that a national urban policy can be successfully developed, implemented and monitored and evaluated by all necessary stakeholders.

Recommendation 14. Provide resources for, and build the institutional capacity of, urban managers to address climate change.

Action: While Recommendation 14 provides explicit guidance on the need to assess and enhance the capacities of local authorities to address climate change, the need for capacity development at all levels of government and for other stakeholders is implicit to many of the other recommendations. Indeed, assessing and providing necessary capacity development for NUP, particularly related to the integration of climate change into the policy, is one of the most integral components of the policy development process.

In order to do so, it is recommended that a capacity assessment of stakeholders can be undertaken following the initial drafting of the NUP in the formulation phase. By doing so it will be possible to assess the capacity needs of government and other stakeholders and ensure their ability to implement the policy and its related activities.

5.2.3. Acupuncture Projects

The aim of grounding national urban policy through acupuncture (or demonstration) projects is to ensure that policy action is being translated into direct action. Translating policy into direct action ensures that policy directives are relevant and implementable. In this context, it also provides concrete examples of how the recommendations can translate into actionable projects.

Recommendation 13. While encouraging local autonomy, coordinate national and local action in addressing climate change in urban areas. Undertake collaborative action when appropriate.

Action: Development of local-level climate change vulnerability assessments can be encouraged and supported through the provision of financial and human resources and by ensuring local-level planners have the technical capacities to undertake the assessment.

Undertaking this concrete project can have effects at both the local and national levels of planning and policy.

Image 5. Under CCCI rooftop gardening was first piloted in Kathmandu Metropolitan City, Nepal, and then targeted for replication via a joint Kathmandu/Ministry decree. © UN-Habitat/Marielle Dubbeling

06 CONCLUSION

Current urban development trends have meant that cities are significant emitters of greenhouse gases and are homes to sizeable populations that are vulnerable to the impacts of climate change. This recognition underlines the idea that choices that are made regarding urban development policies will be crucial to successfully combating climate challenges in cities and achieving sustainable urban development.

For this reason, addressing climate change through NUP should not only be seen as possible but also as necessary. Together with other policies, using the overarching and coordinating nature of NUP can allow climate change to be addressed effectively in urban areas. The NUP process also contributes to the development of an enabling environment that can facilitate indirect ways of addressing climate change, such as through enhancing the capacities of policy makers and planners to address climate change, and engaging a broad base of stakeholders in efforts to plan for the effects of climate change.

The above recommendations and actions propose ways in which national urban policy can be used as a vehicle to combat the effects of climate change in urban areas. Through considering the above recommendations and learning from the inspiring practices and case studies presented in this policy guide, it is hoped that decision makers will be better equipped to mainstream climate change in national urban policy and empower local authorities as key actors in that effort.

REFERENCES

Bertaud, A., B. Lefevre and B. Yuen (2009). *GHG Emissions, Urban Mobility and Efficiency of Urban Morphology: A Hypothesis*. World Bank, Urban Research Symposium 2009. Marseille, pp. 1-52.

Denton, F. (2002). Climate change vulnerability, impacts, and adaptation: why does gender matter? *Gender & Development*, vol 10. No 2, pp. 10-20.

Habitat III (2016). *New Urban Agenda.* Draft outcome document for adoption in Quito. United Nations Conference on Housing and Sustainable Urban Development. September 2016.

International Energy Agency (2008). *World Energy Outlook 2008*. Paris.

Intergovernmental Panel on Climate Change (2014a). 5th Assessment Report 2014, *Impacts, Adaptation and Vulnerability* (Working Group II).

Intergovernmental Panel on Climate Change (2014b). 5th Assessment Report 2014, *Mitigation of Climate Change* (Working Group III).

Kehew, R., M. Kolisa, C. Rollo, A. Callejas, G. Alber and L. Ricci (2013). Formulating and Implementing Climate Change Laws and Policies in the Philippines, Mexico (Chiapas) and South Africa: A local government perspective. *Local Environment: The International Journal of Justice and Sustainability*, vol. 18, No 6, pp. 305-315.

McKinsey & Company (2009). Pathways to a Low-Carbon Economy – Version 2 of the Global Greenhouse Gas Abatement Cost Curve.

Pelling, M. (2011). Adaptation to Climate Change: From resilience to transformation. Routledge. New York

Rao, N.S., T. Carruthers, P. Anderson, L. Sivo and T Saxby (2012). A comparative analysis of ecosystem-based adaptation and engineering options for Lami Town, Fiji. A synthesis report by the Secretariat of the Pacific Regional Environment Programme.

Swiss Re (2009). Shaping Climate-resilient Development: A framework for decision-making. Economics of Climate Adaptation Working Group.

UNDP (2010). Gender, Climate Change and Community-Based Adaptation. New York: United Nations Development Programme

United Nations Environment Programme (2011). Forests in a Green Economy – Synthesis Report. Nairobi.

United Nations General Assembly (2016). *Policy Paper 3: National urban policy. A/CONF.226/PC.3/16*. Surabaya.

UN-Habitat (2010*). Participatory Climate Change Assessments: A toolkit based on the experience of Sorsogon City, Philippines*. Nairobi.

UN-Habitat (2011a). *A Practical Guide for Conducting Housing Profiles*. Nairobi.

UN-Habitat (2011b). *Global Report on Human Settlements 2011: Cities and climate change*. Nairobi.

UN-Habitat (2012). *Urban Patterns for a Green Economy - Optimizing Infrastructure*. Nairobi.

UN-Habitat (2012). *Addressing Urban Issues in National Climate Change Policies: Cities and Climate Change Initiative Policy Note No. 3*. Nairobi.

UN-Habitat (2015a). Guiding Principles for City Climate Action Planning. Nairobi.

UN-Habitat (2015b). *National Urban Policy: A guiding framework*. Nairobi.

UN-Habitat (2015c). *National Urban Policy Framework for a Rapid Diagnosis*. Nairobi.

UN-Habitat (2015c). *The State of Asian and Pacific Cities 2015: Urban transformations – Shifting from quantity to quality*. Nairobi.

UN-Habitat (2016a). *Quick Guide for Urban Managers: Supporting National and City-wide Slum Upgrading and Prevention through National Urban Policy*. Nairobi.

UN-Habitat (2016b). *National Urban Forum to support Participatory and Inclusive National Urban Policy*. Nairobi.

UN-Habitat and ICLEI-Local Governments for Sustainability (2015). *Urban-LEDS: Cities in Action - Low Emission Development in Brazil, India, Indonesia and South Africa, 2012-2016 Final Report*. Bonn: ICLEI.

"Addressing Climate Change in National Urban Policies," is addressed primarily to decision-makers and stakeholders engaged in the formulation, implementation and monitoring and evaluation of National Urban Policy. The Guide contains action-oriented Recommendations that can assist all National Urban Policy stakeholders to better understand the intersection between National Urban Policy and climate change.

The United Nations Human Settlements Programme (UN Habitat) is the United Nations programme for sustainable urban development. It is mandated to promote socially and environmentally sustainable towns and cities while advocating adequate shelter for all. This Guide has been jointly prepared by two UN Habitat Units, the Regional and Metropolitan Planning Unit and the Climate Change Planning Unit.

Your feedback on the Guide, including whether you found this tool useful when mainstreaming climate change during the development of a National Urban Policy, is welcome and would be appreciated. Feedback can be sent to updb@unhabitat.org.

Cover photo credits

Top left: Kampala City Authority workers clear drainage along the Mulago-Kalerwa Road, Kampala, Uganda © UN-Habitat/Nicholas Kajoba

Top right: Solar power street light, Ras al Khaimah, United Arab Emirates © Flickr/Gordontour

Bottom left: Mangrove rehabilitation on the coast of Sorsogon, Philippines © UN-Habitat/Joselito Derit

Bottom right: Bike share, Washington DC, USA © Flickr_Clark

HS/: 057/16E

UN HABITAT

United Nations Human Settlements Programme (UN-Habitat)
P.O. Box 30030, GPO Nairobi, 00100, Kenya
Telephone: +254 20 762 3477
Fax: +254 20 7623715
updb@unhabitat.org

www.unhabitat.org