









## GLOBAL REPORT ON HUMAN SETTLEMENTS 2011 CITIES AND CLIMATE CHANGE

UNITED NATIONS HUMAN SETTLEMENTS PROGRAMME



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United Nations Human Settlements Programme

### **UN@HABITAT**



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United Nations Human Settlements Programme (UN-Habitat) PO Box 30030, GPO Nairobi 00100, Kenya Tel: +254 20 762 3120 Fax: +254 20 762 3477 / 4266 / 4267 Web: www.unhabitat.org

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### FOREWORD

In the decades to come, climate change may make hundreds of millions of urban residents – and in particular the poorest and most marginalized – increasingly vulnerable to floods, landslides, extreme weather events and other natural disasters. City dwellers may also face reduced access to fresh water as a result of drought or the encroachment of saltwater on drinking water supplies. These are the forecasts, based on the best available science. Yet none of these scenarios needs to occur, provided we act now with determination and solidarity.

This year's edition of UN-Habitat's *Global Report on Human Settlements* elucidates the relationship between urban settlements and climate change, and suggests how cities and towns that have not yet adopted climate change policies can begin to do so. The report details the possible impacts of climate change on cities and towns. It also reviews mitigation and adaptation steps being taken by national and local authorities, and assesses their potential to shape future climate change policy.

Urban development has traditionally been seen as a national concern. This report shows its international relevance. Cities and towns contribute significantly to climate change – from the fossil fuels used for electricity generation, transport and industrial production, to waste disposal and changes in land use.

I commend this report to all concerned with improving the ability of towns and cities to mitigate climate change and adapt to its impacts. How cities and towns are planned affects not just the health and well-being of their inhabitants, but the global environment and our prospects for sustainable development.

Ki Moor Ban

Ban Ki-moon Secretary-General United Nations

### INTRODUCTION

The effects of urbanization and climate change are converging in dangerous ways that seriously threaten the world's environmental, economic and social stability. *Cities and Climate Change: Global Report on Human Settlements 2011* seeks to improve knowledge, among governments and all those interested in urban development and in climate change, on the contribution of cities to climate change, the impacts of climate change on cities, and how cities are mitigating and adapting to climate change. More importantly, the Report identifies promising mitigation and adaptation measures that are supportive of more sustainable and resilient urban development paths.

The Report argues that local action is indispensable for the realization of national climate change commitments agreed through international negotiations. Yet most of the mechanisms within the international climate change framework are addressed primarily to national governments and do not indicate a clear process by which local governments, stakeholders and actors may participate. Despite these challenges, the current multilevel climate change framework does offer opportunities for local action at the city level. The crux of the challenge is that actors at all levels need to move within short time frames to guarantee long-term and wide-ranging global interests, which can seem remote and unpredictable at best.

An important finding of the Report is that the proportion of human-induced (or anthropogenic) greenhouse gas (GHG) emissions resulting from cities could be between 40 and 70 per cent, using production-based figures (i.e. figures calculated by adding up GHG emissions from entities located within cities). This is in comparison with as high as 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). The main sources of GHG emissions from urban areas are related to the consumption of fossil fuels. They include energy supply for electricity generation (mainly from coal, gas and oil); transportation; energy use in commercial and residential buildings for lighting, cooking, space heating, and cooling; industrial production; and waste.

However, the Report concludes that it is impossible to make accurate statements about the scale of urban emissions, as there is no globally accepted method for determining their magnitude. In addition, the vast majority of the world's urban centres have not attempted to conduct GHG emission inventories.

The Report argues that, with increasing urbanization, understanding the impacts of climate change on the urban environment will become even more important. Evidence is mounting that climate change presents unique challenges for urban areas and their growing populations. These impacts are a result of the following climatic changes:

- Warmer and more frequent hot days and nights over most land areas;
- Former cold down and mights in many master of the second.

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