

CITIES AND CLIMATE CHANGE INITIATIVE
TOOL SERIES

PLANNING FOR CLIMATE CHANGE

A STRATEGIC, VALUES-BASED APPROACH FOR URBAN PLANNERS



PLANNING FOR CLIMATE CHANGE: A STRATEGIC, VALUES-BASED APPROACH FOR URBAN PLANNERS
Copyright © United Nations Human Settlements Programme (UN-Habitat), 2014

HS Number: HS/001/14E
ISBN Number(Series): 978-92-1-132400-6
ISBN Number:(Volume) 978-92-1-132596-6

DISCLAIMER

The designations employed and the presentation of material in this document do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries, or regarding its economic system or degree of development. The analysis conclusions and recommendations of this publication do not necessarily reflect the views of the United Nations Human Settlements Programme or its Governing Council.

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

ACKNOWLEDGEMENTS

EcoPlan International, Inc. (www.ecoplan.ca) and Compass Resource Management (www.compassrm.com) from Vancouver, Canada developed the original version of this guide in 2011. *Planning for Climate Change – Version 1: for field testing and piloting in training* was released and extensively reviewed and tested in numerous Cities and Climate Change Initiative (CCCI) countries around the globe by UN-Habitat. Detailed testing of the tools (including versions of most of the tools that are now in this version) was undertaken in the Philippines. Global, regional and national training events were held, as well as an Expert Group Meeting in the Republic of Korea in November 2012, on which many of the revisions are based. A ten-day intensive training based on an earlier draft of the current document was held in May 2013, which brought together advanced users of climate change vulnerability assessment and planning tools. Feedback from these sessions and their participants was invaluable.

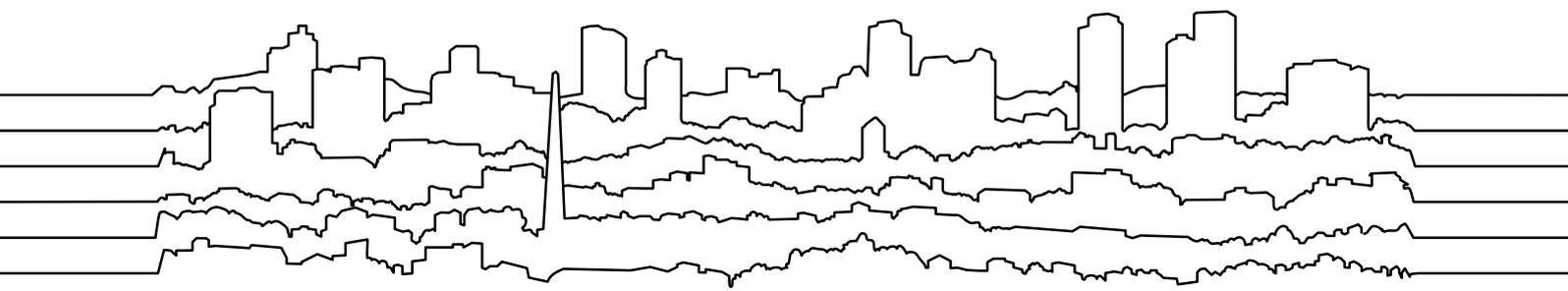
Bernhard Barth shepherded the tool through multiple rounds of review during both the field-testing and final version. A review committee assembled for production of *Planning for Climate Change – Version 1* provided invaluable feedback, resources and suggestions. UN-Habitat reviewers during this phase included Debashish Bhattacharjee, Bruno Dercon, Robert Kehew, Cecilia Njenga, Laura Petrella, Frederic Saliez and Raf Tuts. Other reviewers include Marni Cappe (President, Canadian Institute of Planners), JoAnn Carmin (Environmental Policy and Planning Department of Urban Studies and Planning, Massachusetts Institute of Technology), Charles Davies (United Nations Environment Programme), Johannes Flacke (Faculty of Geo-Information Science and Earth Observation, University of Twente), Stelios Grafakos (Institute for Housing and Urban Development Studies), Masahiko Haraguchi (World Bank), Timothy McDaniels (School of Community and Regional Planning, University of British Columbia), Rutger Perdon (ARCADIS), Scott Phillips (ARCADIS), Christine Platt (President, Commonwealth Association of Planners), Malcolm Pirnie (ARCADIS), Dory Reeves (School of Architecture and Planning, University of Auckland), Bert Smolders (ARCADIS), Rob Steijn (ARCADIS), John Taylor (Rockefeller Foundation/ Mercy Corps) and Stephen Tyler (International Institute for Sustainable Development).

Peer reviewers for the final version of *Planning for Climate Change* included Stelios Grafakos (Institute for Housing and Urban Development Studies), Robert Kehew (UN Habitat), Samuel Kernaghan (Arup) and J. Jorge Ochoa (Bond University).

Principal authors: John Ingram and Colleen Hamilton
Contributors: Bernhard Barth, Maria Adelaida Cea, Liam Fee, Julian Gonzalez, Dan Ohlson, Paul Siggers, William Trousdale and Taylor Zeeg.
Coordinator: Bernhard Barth.
Editors: Bernhard Barth, Maria Adelaida Cea, Liam Fee, Kim Koch, Lorien Nesbitt, Vicky Quinlan.
Design and layout: Trevor Coghill, EcoPlan International, Inc.
Printer: UNON, Publishing Services Section, Nairobi.
ISO 14001:2004-certified.

PLANNING FOR CLIMATE CHANGE

A STRATEGIC, VALUES-BASED APPROACH FOR URBAN PLANNERS



Contents

FOREWORD	vii
1 INTRODUCTION	1
1.1 Who should use this guide	2
1.2 How to use this guide	3
1.3 Climate change adaptation and mitigation	3
1.4 Key principles and terms	6
2 PLANNING FOR CLIMATE CHANGE: A STRATEGIC, VALUES-BASED APPROACH	9
2.1 The planning framework	9
2.2 Time requirements of climate change planning	13
3 CLIMATE CHANGE: A REVIEW	14
3.1 The challenge of climate change	14
3.2 Cities and climate change	17
3.2.1 <i>Urban climate change impacts</i>	17
3.2.2 <i>Urban population vulnerability</i>	22
3.2.3 <i>Climate planning and city planning</i>	23
4 PLANNING FOR CLIMATE CHANGE: THE PLANNING CYCLE	30
Module A: What is happening?	31
<i>Step 1: Getting started</i>	32
<i>Step 2: Stakeholders and participation</i>	37
<i>Step 3: Vulnerability assessment</i>	45
Module B: What matters most?	83
<i>Step 4: Issues and objectives</i>	84
Module C: What can we do about it?	95
<i>Step 5: Option identification</i>	96
<i>Step 6: Option assessment</i>	109
<i>Step 7: Implementation</i>	118
Module D: Are we doing it?	127
<i>Step 8: Monitoring and evaluation</i>	129
<i>Step 9: Adjust and modify</i>	136
APPENDICIES	137
Appendix 1: Tools	137
Appendix 2: Other resources	138
Appendix 3: Glossary of terms	145
Appendix 4: Global climate initiatives, programmes and funding	147

List of Tables

Table 1: Guide organization and framework	12
Table 2: Climate change impacts	19
Table 3: Major climate threats and some of the countries most at risk	21
Table 4: City/town plans and climate change	27
Table 5: Stakeholders and potential climate change planning contributions	40
Table 6: Engagement – common goals and activities	44
Table 7: Climate change exposure (current and future) – information sources	49
Table 8: Tool 3-B Climate change observation template (example)	50
Table 9: Examples of climate change-related changes, primary and secondary impacts	52
Table 10: Tool 3-A Weather and climate change summary (example)	54
Table 11: Tool 3-D Overview – exposed people, places, institutions and sectors (example)	55
Table 12: Example sectors	56
Table 13: Socio-economic sensitivity considerations and variables.	58
Table 14: Tool 3-I Sensitivity thresholds template (example)	61
Table 15: Tool 3-J Sensitivity assessment summary (example)	63
Table 16: Threat level: example sensitivity scale	64
Table 17: Determinants of adaptive capacity and their relation to climate change planning	66
Table 18: Tool 3-L General adaptive capacity assessment (example)	67
Table 19: Tool 3-M Hazard-specific adaptive capacity assessment	70
Table 20: Tool 3-N Rapid institutional assessment questionnaire (example)	73
Table 21: Tool 3-O Summary vulnerability rating matrix (example)	74
Table 22: Tool 3-P Summary vulnerable population ratings matrix (example)	75
Table 23: Vulnerability assessment tools	81
Table 24: Tool 4-C Objectives analysis: relevance to climate change (example)	89
Table 25: Indicator types	91
Table 26: Examples of quantitative indicators	92
Table 27: Tool 4-D Constructed scale descriptive indicators (example)	93
Table 28: Potential climate change adaptation options	98
Table 29: Tool 5-B Objectives to options worksheet (example)	100
Table 30: Tool 5-C Organizing potential actions by sector and timing (example)	104
Table 31: Tool 5-D Screening and ranking options worksheet (example)	106
Table 32: Tool 6-B Technical ranking matrix (example)	110
Table 33: Consequence table trade-offs within and between options	111
Table 34: Comparison of a range of evaluation tools and methods	112
Table 35: Tool 6-C Objective ranking and weighting matrix (example)	114
Table 36: Tool 6-D Weighted ranking matrix (example)	114
Table 37: Tool 7-B Action plan worksheet (example)	124
Table 38: Tool 8-A Indicator development (example)	130
Table 39: Example indicator benchmarks	131
Table 40: Tool 8-B Monitoring framework (example)	132
Table 41: Tool 8-C Evaluating actions against objectives (example)	133
Table 42: Tool 8-D Evaluation questions (example)	134

List of Figures

Figure 1: World greenhouse gas emissions flow chart (2010 data)	5
Figure 2: Planning for climate change	11
Figure 3: Climate Change Planning Process – Potential time requirements	13
Figure 4: Global and continental temperature change	15
Figure 5: Predicting changes in temperature and precipitation	16
Figure 6: The vulnerability framework	46
Figure 7: Example climate change-related weather changes dialogue	50
Figure 8: Tool 3-C Climate change influence diagram (example)	51
Figure 9: The “Why Game”	51
Figure 10 & 11: Ho Chi Minh City areas subject to flooding	57
Figure 12: Tool 3-H Community-based sensitivity mapping (example)	59
Figure 13: The relationship between change to a climate variable and risk thresholds	60
Figure 14: Photo simulations of sea level rise scenarios	60
Figure 15: Hazard mapping Davao, Philippines	61
Figure 16: Tool 3-K Climate threat plotting (example)	65
Figure 17: Tool 3-Q Vulnerability Assessment Report – sample table of contents	78
Figure 18: A hierarchy of objectives	87
Figure 19: Tool 7-C Climate Change Action Plan – sample table of contents	125



预览已结束，完整报告链接和二维码如下：

https://www.yunbaogao.cn/report/index/report?reportId=5_18694

