

GENDER AND CLIMATE CHANGE FINANCING

COMING OUT OF THE MARGIN

MARIAMA WILLIAMS

ROUTLEDGE IAFEE ADVANCES IN FEMINIST ECONOMICS



GENDER AND CLIMATE CHANGE FINANCING

This book discusses the state of global climate change policy and the financing of climate-resilient public infrastructure. It explains the sources of tensions and conflict between developing and developed countries with regard to global climate protection policies, and highlights the biases and asymmetries that may work against gender equality, women's empowerment and poverty eradication.

Gender and Climate Change Financing: Coming out of the margin provides an overview of the scientific, economic and political dynamics underlying global climate protection. It explores the controversial issues that have stalled global climate negotiations and offers a clear explanation of the link between adaptation and mitigation strategies and gender issues. It also maps the full range of public, private and market-based climate finance instruments and funds.

This book will be a useful tool for those engaged with climate change, poverty eradication, gender equality and women's empowerment.

Mariama Williams is Senior Programme Officer at the South Centre, Geneva, Switzerland.

ROUTLEDGE IAFFE ADVANCES IN FEMINIST ECONOMICS

IAFFE aims to increase the visibility and range of economic research on gender; facilitate communication among scholars, policymakers, and activists concerned with women's wellbeing and empowerment; promote discussions among policy makers about interventions that serve women's needs; educate economists, policymakers, and the general public about feminist perspectives on economic issues; foster feminist evaluations of economics as a discipline; expose the gender blindness characteristic of much social science and the ways in which this impoverishes all research, even research that does not explicitly concern women's issues; help expand opportunities for women, especially women from underrepresented groups, within economics; and, encourage the inclusion of feminist perspectives in the teaching of economics. The IAFFE book series pursues the aims of the organization by providing a forum in which scholars have space to develop their ideas at length and in detail. The series exemplifies the value of feminist research and the high standard of IAFFE sponsored scholarship.

1 Living Wages, Equal Wages

Gender and labor market policies in the United States

Deborah M. Figart, Ellen Mutari and Marilyn Power

2 Family Time

The social organization of care

Edited by Nancy Folbre and Michael Bittman

3 Feminist Economics and the World Bank

History, theory and policy

Edited by Edith Kuiper and Drucilla K. Barker

- 4 Sexual Orientation Discrimination**
An international perspective
Edited by M. V. Lee Badgett and Jefferson Frank
- 5 The Feminist Economics of Trade**
Edited by Irene van Staveren, Diane Elson, Caren Grown and Nilufer Catagay
- 6 Sex Markets**
A denied industry
Marina Della Giusta, Maria Di Tommaso and Steinar Strøm
- 7 Gender and Chinese Development**
Towards an equitable society
Lanyan Chen
- 8 Gender and the Contours of Precarious Employment**
Leah Vosko, Martha MacDonald and Iain Campbell
- 9 Questioning Financial Governance from a Feminist Perspective**
Edited by Brigitte Young, Isabella Bakker and Diane Elson
- 10 Challenging Knowledge, Sex and Power**
Gender, work and engineering
Julie E. Mills, Suzanne Franzway, Judith Gill and Rhonda Sharp
- 11 Women and Austerity**
The economic crisis and the future for gender equality
Edited by Maria Karamessini and Jill Rubery
- 12 New Frontiers in Feminist Political Economy**
Edited by Shirin M. Rai and Georgina Waylen
- 13 Gender and Climate Change Financing**
Coming out of the margin
Mariama Williams

This page intentionally left blank

GENDER AND CLIMATE CHANGE FINANCING

Coming out of the margin

Mariama Williams

First published 2016
by Routledge
2 Park Square, Milton Park, Abingdon, Oxon OX14 4RN

and by Routledge
711 Third Avenue, New York, NY 10017

Routledge is an imprint of the Taylor & Francis Group, an informa business

© 2016 Mariama Williams

The right of Mariama Williams to be identified as author of this work has been asserted by her in accordance with sections 77 and 78 of the Copyright, Designs and Patent Act 1988.

All rights reserved. No part of this book may be reprinted or reproduced or utilized in any form or by any electronic, mechanical, or other means, now known or hereafter invented, including photocopying and recording, or in any information storage or retrieval system, without permission in writing from the publishers.

Trademark notice: Product or corporate names may be trademarks or registered trademarks, and are used only for identification and explanation without intent to infringe.

British Library Cataloguing in Publication Data

A catalogue record for this book is available from the British Library

Library of Congress Cataloging in Publication Data

Williams, Mariama.

Gender and climate change financing : coming out of the margin/
Mariama Williams.

pages cm. – (Routledge iaffe advances in feminist economics)

Includes bibliographical references and index.

1. Climatic changes – Economic aspects. 2. Environmental economics.
3. Sustainable development. 4. Women in development. I. Title.

QC903.W57 2015

363.738'74561 – dc23

2014047326

ISBN: 978-0-415-68853-6 (hbk)

ISBN: 978-0-415-68854-3 (pbk)

ISBN: 978-1-315-69476-4 (ebk)

Typeset in Bembo and Stone Sans
by Florence Production Ltd, Stoodleigh, Devon, UK

For Cynthia Gladys Blake Ebanks – your
dedication and commitment to service and
to your family continues to inspire us.
Thank you.

This page intentionally left blank

CONTENTS

<i>List of illustrations</i>	<i>xi</i>
<i>Preface</i>	<i>xv</i>
<i>Acknowledgements</i>	<i>xviii</i>
<i>List of abbreviations</i>	<i>xix</i>

Introduction	1
1 The global climate change policy environment	18
2 The ethical, equity and social development dimensions of global climate change policy	70
3 Climate change, gender equality and women's empowerment issues	117
4 The global climate change finance architecture	166
5 The state of play of bilateral and multilateral and market-based climate finance	237
6 Gender and the state of play in adaptation finance	261
7 Gender and the state of play in mitigation financing	289
8 Gender biases and asymmetries in global and climate change finance	339

x Contents

9	Private sector climate finance and gender equality	370
10	Towards an equitable and gender-sensitive post-2015 climate change financing regime	403
11	Summary and recommendations	427
	<i>Appendices</i>	431
	<i>Bibliography</i>	484
	<i>Index</i>	526

ILLUSTRATIONS

Figures

1.1	Global land-ocean temperature index	23
2.1	Turning around the formula	91

Tables

1.1	Gender composition of constituted bodies established under the Convention and the Kyoto Protocol	37
1.2	Gender composition of party delegates to sessions under the Convention and the Kyoto Protocol	38
2.1	Carbon dioxide emissions per tonne per capita, 2009	82
2.2	Comparison of per capita principle, HR and SD approach to equity as aspects of equitable access to sustainable development	87
2.3	The WBGU budget approach option 1: historical responsibility, 1990–2050	92
2.4	The WBGU budget approach option 2: future responsibility, 2010–2050	93
2.5	Cross comparison emission only and double accumulations methods	95
2.6	Fair carbon shares and actual emissions of CO ₂ , 1850–2008	102
2.7	Cumulative emissions: fair shares, and carbon creditors and debts: selected countries, 1850–2008	103
2.8	Allocation for 2010–2050, global budget of 750 Gt CO ₂	103
3.1	Key adaptation sectors	124
3.2	A typology of climate-proofing by selected sectors and activities	133
3.3	Distribution of authors by gender and developing countries for IPCC AR5 (2013)	155

xii Illustrations

3.4	A qualitative gender climate risk assessment for climate change financing	157
3.5	Climate change and gender operational domains plus finance-related issues	161
4.1	UNFCCC adaptation funds classification at a glance	207
4.2	Overview of the first generation climate funds under the UNFCCC's financial mechanism	215
5.1	Bilateral funding for climate change	247
6.1	Total adaptation costs (additional annual investment needed/ financial flows) by sectors in US\$ billion per year by 2030	271
6.2	Comparison of estimations of adaptation costs in developing countries, per annum (2010–2015 and 2030)	271
7.1	Global mitigation cost estimates	292
7.2	At-a-glance view of social and gendering potentials with the CIFs	304
7.3	Overview of opportunities, challenges and constraints of mitigation finance on gender equality and women's empowerment	308
9.1	Level of female entrepreneurship activity across countries	388

Boxes

1.1	The scope, nature and workings of the IPCC	25
1.2	The Bali Action Plan	29
1.3	Evolution of gender in the UNFCCC decision-making	35
1.4	Operational provisions of the Durban Gender Decision	36
1.5	What the science says	40
1.6	Climate change, its impacts and projection	42
1.7	Impact of climate change on Africa – agriculture	44
1.8	The Caribbean	45
1.9	When pledges are not pledges	46
1.10	Zambia and climate change	49
1.11	Jamaica and climate change	50
2.1	Climate change, poverty, vulnerability and food security	78
2.2	Climate change and human displacement	79
2.3	Gender and climate refugee	80
2.4	Poor and low-income blacks impacted the worst by Hurricane Katrina 2005	81
2.5	Historical accountability and historical responsibility and global climate policy	88
2.6	Developing countries mitigation update on NAMA efforts	101
3.1	The Global Burden of Disease Study 2010	122
3.2	Gender aspects of vulnerability and adaptive capacity	126
3.3	The gender equality domains	128

3.4	Targeted gender equality and non-targeted gender equality interventions	131
3.5	Snapshots of gender-related considerations from the NAPAs of the LDCs	137
3.6	Gender and the Cancún Adaptation Framework	138
3.7	Gender and NAPs	139
3.8	Gender equality, adaptation and the Durban outcomes	139
3.9	Small-scale agricultural activities and cost effective mitigation	146
3.10	Further identification of women-specific climate change vulnerabilities	153
4.1	Climate finance ‘mantras’	173
4.2	Annex II financial commitments under the Convention	181
4.3	Evolution of climate finance under the UNFCCC	185
4.4	The nuts and bolts of climate change finance I: useful terms	189
4.5	Green bonds	190
4.6	The nuts and bolts of climate change finance II: carbon financing	193
4.7	National communications	204
4.8	GEF project cycle	206
4.9	The LDCF approval process for NAPA priority	209
4.10	Countries with completed NAPAs and approved NAPA implementation projects	210
4.11	The Adaptation Fund	213
5.1	Sustainable energy in the ADB framework	245
5.2	Market-based mechanisms under Kyoto	250
5.3	Steps to issuance of CERs	251
5.4	CDM at work	251
6.1	Basic elements of adaptation costing	267
6.2	Structural differences between adaptation and mitigation policy and financing regime	268
6.3	Strategic elements for gender mainstreaming for the enhancement of Cancún Adaptation Framework	276
6.4	Useful steps for integrating gender-related considerations into the medium- and long-term adaptation process	277
6.5	Elements of health adaptation costs	284
6.6	Some critical questions to be posed for engendering adaptation finance flows	285
7.1	Evolution of gender mainstreaming at the GEF	296
7.2	GEF-6: towards the gender plan of action and the future of gender mainstreaming at GEF	297
7.3	Small Grants Programme and gender	298
7.4	Gender empowerment and the SGP	298
7.5	The Climate Investment Funds since 2008	301
7.6	Gender sensitivity of the Asian Development Bank	313

7.7	Best practice tips for integrating gender into lending/investment programmes	313
7.8	The CDM	317
7.9	Brazil, the CDM and sustainable development criteria	328
8.1	Gender and discriminatory norms in financial markets	348
8.2	The AfDB Gender Policy Framework	355
8.3	Gender and Asian Development Bank	356
8.4	Implementing gender equality strategies in regional development bank portfolios – the case of the ADB	357
8.5	The IDB's Gender and Diversity Fund	358
8.6	The IDB's Gender Framework	358
9.1	Climate change financing and conventional finance instruments	377
9.2	Land grabbing	377
9.3	The private sector and adaptation in Africa	381
9.4	Women's SMEs world-wide growth and constraints	389
9.5	Women-owned businesses and the global financial market environment	390
9.6	Biogas recovery, heat and electricity generation from effluents ponds in Honduras	397
10.1	Further identification of women-specific climate change vulnerabilities	415
10.2	Gender equity language in finance and finance-related areas of the Durban outcome	425

PREFACE

Climate change impacts women and men differently. As a result of gender-based inequalities and discrimination, which tend to leave women as the poorest of the poor in many developing countries, women can least afford to respond effectively to the negative and destructive effects of climate change-induced extreme weather events. Women bear extraordinary losses in lives and livelihoods during and after such events. The same persistent unfavourable gender dynamics also limit the extent to which many poor women can take advantage of the opportunities presented by the responses to climate change in terms of securing and sourcing climate solutions such as clean energy or the building and construction of climate-proofing infrastructure. Unfortunately, the responses to climate change, in terms of the climate protection policies, may aggravate and further exacerbate underlying issues of inequities. These involve issues of the erosion of access to land (for example, initiatives aimed at managing emissions from forests and preventing land degradation may be unmindful of the exclusionary effects of land conversion on traditional users of the forests) and the negative impacts on food security for poor women and men (for example, as a result of land conversion for biofuels production and land grabbing).

The ever deepening and shockingly clear consensus of climate scientists is that the world must urgently end the utilization of fossil fuels. This transformation is requiring an unprecedented scale of financial and technology transfers between developed and developing countries – a scale of financial transfer that potentially, in a short time-frame, will exceed the last great transformation necessary as a result of man-made political, economic and social problems, the Marshall Plan, which transformed war-torn Europe into the developed economies that now exist today.

Climate finance therefore permeates every aspect of discussions about climate change. This is especially so in discussions of the developmental impacts of climate change that underlie and bedevil negotiations around global climate protection

policy under the United Nations Framework Convention on Climate Change (UNFCCC), the current reigning and evolving global climate protection instrument. Climate finance is a central pillar of the UNFCCC. Poor and growing developing countries, which have historically contributed little to the current climate problem, and which need to mobilize resources for poverty eradication, decent job creation and social and economic development, are facing a quite stark choice: use scarce resources (and/or accumulate debt) for climate change adaptation and mitigation versus spending on poverty reduction and making both targeted and non-targeted gender equality interventions in the economic and social spheres of the economy.

In recognition of the serious nature of climate change and its negative impacts on the social and economic status and advancement of women in developing countries, a coalition of gender focal points of various United Nations (UN) agencies and women's non-governmental organizations came together in early 2005 to create the Global Gender and Climate Alliance (GGCA). The GGCA, which was formally launched in 2007, seeks to leverage the combined resources and efforts of agencies such as UNEP, IUCN, UNDP and the Women's Environment and Development Organization to engender climate change policy and practice so as to ensure that the gender-differentiated points of views, perspectives and concerns of women and men are mainstreamed into climate protection policy-making both at global and national level. Initial efforts galvanized around pinpointing how men and women were involved with and impacted by adaptation and mitigation strategies in developing countries. However, it soon became clear that, though the aggregate level and scale of climate financing going to developing countries was inadequate to their needs, there were also gender-based inequities in the distribution of this flow of financing. Not much of the financing seemed to go into projects and programmes that benefited women, as a group, relative to men.

In 2008, I was commissioned to undertake research on gender and climate change finance for the GGCA in collaboration with the United Nations Development Programme Gender Team. The research took place between 2008 and 2010 and the final product of that commissioned work, entitled *Ensuring gender equity in climate change financing*, was launched at the UNFCCC Seventeenth Meeting of the Conference of the Parties (COP), Durban, South Africa, 2011. Since 2010, further research and enhancement of my understanding of the milestones and pivots of climate change and climate change negotiations were made possible during my work for the South Centre, an inter-governmental think tank of developing countries, based in Geneva, Switzerland, which brought me into closer intimacy with the substance, processes and nuances of the negotiations taking place under the auspices of the UNFCCC.

This book builds on that work and benefited from my role also as trainer of trainers with the GGCA team (2008–2009), working with climate negotiators in the Caribbean and Africa. Since then I have researched, monitored and written on the state of play of the finance track in the UNFCCC process, both at the

intersessional negotiations and the end of year meetings of the COP (in 2010, 2011 and 2012). I have also been privileged to participate, and give expert presentations for various topics on the negotiations agenda, at both the UNFCCC events as well as numerous expert, civil society and think-tank meetings and a brief spell as an expert reviewer for some of the chapters of the fifth Assessment Report of the Intergovernmental Panel on Climate Change.

Although emphasizing a gender perspective on climate change finance, this book is grounded in a developing countries and justice perspective on climate change. The book is focused on enhancing the understanding of a wider audience on the depth and severity of the climate change challenges facing the children, women and men in developing countries and the tremendous inequity that is being perpetuated on them as a result of the lack of timely, adequate and sustainable finance for undertaken adaptation and mitigation actions and for enhancing and building their capacity to respond to climate challenges effectively. This finance is also meant to support the transfer and development of technologies that will provide and promote real and effective responses in developing countries' economies.

The book offers insights into the debates about the architecture of global climate regulation, including the contestations around the role of equity in global climate protection and the debate over historical responsibility and accountability of developed countries for climate change and discusses how that aspect of the debate overshadows the issue of ensuring the appropriate scale and quantum of finance from primarily public (supported by appropriately managed and implemented innovating) sources. The private sector is expected to play its full and effective role in shifting from a business-as-usual trajectory towards a more climate-sensitive role, as well as complementing public finance for the transformation of low-carbon and climate-resilient development worldwide.

ACKNOWLEDGEMENTS

I am grateful to Martin Khor and Vice Yu of the South Centre and Matthew Stilwell of the Institute for Governance and Sustainable Development as well as the members of the Climate Justice Network (CJN) for helping to further deepen my understanding of the equity issues underlying the global climate change discussion and the central importance of the development dimensions of the global climate protection regime. Ms Bernaditas Mueller remains a constant source of admiration and inspiration for her knowledge and dedication to advocating and negotiating for the timely, adequate and sustainable flow of climate finance from developed to developing countries, as is required under the climate convention.

Specific inputs for this book on the equity and mitigation discussions are drawn from the work of the CJN, the South Centre and Sivan Kartha of the Stockholm Environment Institute. The consistent and highly valuable contributions of Liane Schalatek of the Heinrich Boll Foundation on gender and climate finance also provided an important benchmark for the evolution of this publication. Towards the end of writing the book, volume 61 (September 2012) of *Development Dialogue: What Next Volume III Climate, Development and Equity* and the book *Climate Protection and Development* by Frank Ackerman, Richard Kozul-Wright and Rob Vos were useful for rounding out the discussion on climate and development that permeates all chapters of this book.

Finally, without the persistence of the staff of Routledge and the encouragement of Robert Langham this work would not have been published. All errors and omissions remain mine.

ABBREVIATIONS

AAU	Assigned Amount Unit
ADB	Asian Development Bank
AfDB	African Development Bank
BAP	Bali Action Plan
CBD	Convention on Biological Diversity
CCS	Carbon Capture and Storage
CDM	Clean Development Mechanism
CEDAW	Convention for the Elimination of Discrimination Against Women
CEIF	Clean Energy Investment Framework
CER	Certified Emission Reduction
CIFs	Climate Investment Funds
CO ₂	Carbon Dioxide
COP	Conference of Parties
CTF	Clean Technology Fund
EBRD	European Bank for Reconstruction and Development
ERU	Emissions Reduction Unit
EST	Environmentally Sound Technology
ETS	Emission Trading Scheme
FAO	Food and Agriculture Organization
GEF	Global Environment Facility
GEMCRA	Gender Empowerment Climate Risk Assessment
GGCA	Global Gender and Climate Alliance
GHG	Greenhouse gas
IFIs	International Financial Institutions
IPCC	Intergovernmental Panel on Climate Change
LDC	Least Developed Country

xx Abbreviations

LDCF	Least Developed Country Fund
MATCH	Modelling and Assessment of Contributions to Climate Change
MDB	Multilateral Development Bank
MDG	Millennium Development Goal
NAMA	Nationally Appropriate Mitigation Action
NAPA	National Adaptation Programmes of Action
ODA	Official Development Assistance
OECD	Organisation for Economic Co-operation and Development
PPCR	Pilot Programme for Climate Resilience
PRSP	Poverty Reduction Strategy Paper
REDD	Reduced Emissions from Deforestation and Degradation
RMU	Removal Unit
SBSTA	Subsidiary Body for Scientific and Technological Advice
SFCCD	Strategic Framework for Climate Change and Development
SIDS	Small Island Developing States
SME	Small and Medium Enterprise
UNCTAD	United Nations Conference on Trade and Development
UNFCCC	United Nations Framework Convention on Climate Change
VAT	Value-Added Tax
WHO	World Health Organization

INTRODUCTION

But today there is no 'normal' to return to. The earth's climate is now in a constant state of flux.

Lester Brown, president of the Earth Policy Institute, August 2012

Extreme heat and drought in the US and other major food-exporting countries had hit harvests badly and sent prices spiralling.

The Guardian, 14 October 2012¹

The long-term rise in the average temperature of the earth's surface is a serious dilemma confronting humanity. This shift in the state of the average weather over time (climate) and the resulting climate change and climate variability (for example, variations in precipitation and temperature) is dramatically contributing to rising sea level and frequent and extreme weather events such as droughts, cyclones, floods and hurricanes. The Intergovernmental Panel on Climate Change (IPCC) have stated that climate change is 'unequivocal'. The IPCC's 2012 Special Report, *Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation*, argues that 'climate change may increase the probability of some ordinary weather events reaching extreme levels or of some extreme events becoming more extreme'. The fifth Assessment Report (AR5) of the IPCC affirms these trends. It notes that 'warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia' (IPCC 2013: 4). The report also highlights that the evidence for human influence has grown since AR4 and that 'it is *extremely likely* that human influence has been the dominant cause of the observed warming since the mid-twentieth century' (IPCC 2013: 17).

2 Introduction

It is crystal clear. Climate variability and change is not some far away possibility; climate variability and change is upon us. Human, anthropogenic sources of greenhouse gases (GHGs) arising from the way the world produces and consumes since at least the late 1750s is undeniably a significant causal factor behind our changing climate. According to the IPCC, '(t)here is evidence that anthropogenic influences, including increasing atmospheric greenhouse gas concentrations, have changed these extreme weather events' (IPCC 2013: 17).

The physical effects of climate change extreme events (fire) and extreme weather events (increased evaporation and increased fresh water) impact on the oceans (sea level rise and acidification) and the cryosphere (such as rapidly melting and thinning arctic sea ice), are occurring even quicker than scientists could ever imagine, much less predict. Rising sea levels that pose existential threats to the lives of women, children and men living in low-lying islands and on large swathes of coastlines from Africa, Asia, the Caribbean and the Pacific, with no potential for retreat and increased aridity, contribute to climate-related national disasters and impinge on the quality of natural resource balance. All of the events will have adverse impacts on both the quantity and quality of water resources, agriculture, food production and food security, and human health. Frequent droughts and floods result in the degradation of water supply and impact people's access to water for drinking and for household and agro-industrial production. Water degradation may also promote vulnerability to diarrhoea and cholera as well as contribute to a rising incidence of waterborne diseases. Ultimately, these extreme events (floods, landslides and storms) are associated with direct injuries, morbidity and mortalities as well as indirect injuries and loss of lives due to increased conflicts over resources such as forests, land and water.

The Fourth Assessment Report (2007) of the IPCC highlights that floods and heat are linked to deaths, injuries, infectious diseases and the toxic contamination of water. Storm surges have severely injured or caused many people to drown. More severe and frequent droughts will cause water scarcity, and the destruction of agricultural lands and crop failures – contributing to nutritional deficiencies and food insecurity.

These consequences of global climate variability and extreme weather events are already affecting the lives of countless millions of women, men and children. The Global Humanitarian Forum (GHF) reports that every year, climate change and climate variability leave over 300,000 people dead, seriously affect² another 325 million people and create economic losses totalling \$125 billion (GHF 2009). These stark realities point to the urgent need for countries and institutions to marshal the financial and human resources of the global community in order to address and arrest the causal factors behind climate change so as to protect lives of humans and the other species that inhabit the earth as well as ensure the sustainable livelihoods of men and women.

Climate science has shown that climate change and its impact are primarily a result of human interference with the climate system in terms of how mankind has

produced and consumed goods and services. Science also shows that the accumulated stock of GHGs primarily from the burning of fossil fuels was central to the growth dynamics of the now developed countries of Europe and north America and that these economies include other developed countries such as Australia, New Zealand and Japan, which have benefited significantly from this growth. At the same time, the damaging effects of the climate are being experienced and will continue to be felt most severely in developing countries. Developing countries experience significant damages and losses from slow-onset events and extreme events. These include economic losses (infrastructure, livelihoods, crop loss) and non-economic losses: human life as well as cultural loss, displacement and loss of ecosystem and biodiversity. Ultimately, there are lost development opportunities which jeopardize the right to development.³ This is especially so for particularly vulnerable countries such as Small Island Developing States (SIDS) some Asian states, such as the Philippines, and Least Developing Countries (LDCs). Some Pacific islands such as Kiribati, Maldives, Marshall Islands, Nauru and Tuvalu are facing loss of their geographic and political space and identities as nations and peoples as the IPCC projects that sea level will rise between 26 and 82 cm by 2100. The LDC, home to 12 per cent of the world population and with per capita GHG emission of 0.25, accounts for about 66 per cent of all deaths related to climate disasters in 1980–2011 (LDC Watch 2014). Furthermore, people living in LDCs are five times more likely to die from the climate catastrophe than those living in other parts of the world. According to the NGO group LDC Watch, the number of people living in LDCs affected by extreme weather events has almost doubled from 100 million in 1970–1979 to 193 million in 2000–2020.⁴

Hence, there are significant ethical and equity dimensions to climate change impacts and how the global community chooses to address the problem. Within the nation state there are also other equity dimensions such as the impacts of climate on portions of the population and groups who have been traditionally marginalized and with the least access to resources to enable themselves to respond to climate change. The two most dominant climate-related equity issues impacts are gender equality and the lives of indigenous people. (But there are also issue of the just transition of the workforce and the survival of some island nations as a consequence of sea-level rise.) This book, however, will focus on the gender dimensions of climate change and the global and national responses to it.

Climate change and equity – gender and social dimensions

Though climate variability and extreme weather events impact both men and women, their adverse effects and outcomes are likely to be more acute for women given men's and women's socially determined roles and responsibilities – gender (as distinct from men's and women's biological and reproductive characteristics) – sex roles in the economy and society. It is well known that gender roles and the way that women and men are treated in societies result in different types of gender inequalities through which men are systematically favoured relative to women in

4 Introduction

terms of access to social and economic resources. Differences in the social and economic treatment of women and gender discrimination give rise to continuing gender biases and gender gaps in access to information and economic and social resources. These gender biases and gaps work to heighten the vulnerability of women in times of extreme weather events and natural disasters.

In many developing countries, women and girls have primary responsibility for collecting water and firewood, cooking, washing and raising small livestock. Women are also dependent on natural streams and rainwater more than men, who tend to use irrigation schemes. Climate change events that lead to water degradation can increase the time that women and girls spend collecting water, increase their workload and, as in the case with natural disaster and conflict over resources, mean that they have to travel greater and greater distances in order to collect water. Women and girls are thus exposed to increased risk of sexual harassment, rape and loss of life. In some cases, climate variability and change may require new survival skill sets for women, such as tree climbing and swimming, which are not usual activities for some women based on cultural and religious prohibitions (Brody *et al.* 2008; Perlata 2008).

Hence, climate change is associated with a wide range of challenges for women and girls. For example, the IPCC's Fourth Assessment Report noted that 'climate change is likely to directly impact children and pregnant women because they are particularly susceptible to vector- and water-borne diseases, for example, malaria is currently responsible for a quarter of maternal mortality' (2007). Pregnant women are four times more likely to contract malaria than the general population (Bordallo 2008; WHO 2003).⁵

Gender biases and gender gaps in access to income and other economic and social resources may adversely impact women's ability to command resources or to secure durable and climate-resilient residences. In general women tend to dominate informal sector employment and self-employment activities.

The informal sector economy, which is 'the diversified set of economic activities, enterprises, and workers that are not regulated or protected by the state'⁶ (WEIGO 2014), and the key occupational groups, which includes domestic workers, home-based workers, street vendors, waste pickers, construction workers, garment workers and small farmers, is most hurt by climate change and weather-related shocks. Women tend to make up the majority of the 'least visible of the informal workers . . . [who] sell or produce goods from their homes: garment workers; embroiderers; incense-stick rollers; cigarette rollers; paper bag makers; kite makers; hair band makers; food processors; and others' (WEIGO 2014). Extreme weather events hence worsen the impact of women's lack of access to resources and lessen their capacity to cope. Because of low or irregular income, women may also lack savings to support post-disaster recovery efforts.

In some countries, women may face disproportionately more harm than men from weather events because of their reliance on rain-fed agriculture, food processing, cattle and chickens for their cash income (Khondker 1996). Pre-existing gender-related patterns of vulnerabilities such as lack of secure land rights

(which is interrelated with access to credits and livelihood), gender gaps in the ownership of productive assets, higher illiteracy rates among women than men, unpredictable and less favourable access to employment and income, coupled with inequality in participation in decision-making, can block women's ability and capacity to effectively engage in eco-friendly technology, natural resource management and early warning systems.

Climate change also intensifies the effects of pre-existing gender gaps such as information asymmetry (in agricultural training, crop prices and technology diffusion) between men and women. While the older forms of gender asymmetries led to long-term chronic problems such as ill-health and endemic poverty, the 'newer' forms such as asymmetrical information sharing regarding early warning and disaster preparedness are a matter of life and death for some women. Research points out that women and children are fourteen times more likely to die from natural disaster than men. Evidence from the aftermath of extreme weather events analysed by Neumayer and Plümper (2007) show that 'natural disasters (and their subsequent impacts) on average kill more women than men or kill women at an earlier age than men'.

The gender-differentiated realities of climate change and extreme weather events point to the need to integrate and under-grid actions and solutions to resolve the climate change challenges within policy and programmatic frameworks that integrate gender equality and women's empowerment analysis and objectives. This includes ensuring that the means of implementation such as finance, technology development and transfer, and capacity building accompanying global and national climate protection policies flow in the required amounts and on a timely basis and are both gender-sensitive and poverty-eradication-friendly.

Dealing successfully with hazard management, disaster preparedness and climate change-induced weather challenges requires resources well beyond those that are available to meet the day-to-day needs faced by the average household in developing countries. Though this situation impacts both male and female-headed households, it is likely to be more acute for female-headed households due to gender gaps in income and social and economic resources. It may require resources to build permanent or stronger and more robust housing for families, better and strong water storage units and investment in energy-efficient household devices, such as solar-heated stoves. Women and men, therefore, not only will require access to income for day-to-day living but will also need additional financing for climate-proofing their residencies and making their businesses and farming activities climate resilient. This will require increased access to income, savings, grants, governmental transfers, low interest loans and other forms of finance. These financial resources must come from women's livelihood and labour market activities, or other forms of household income, or governmental transfers or earnings from assets in the financial markets. But climate change imposes an additional burden on development that can strain or distract from social development budgets. Therefore there is increasing need to ensure adequate flows of public-oriented climate finance for climate change needs.

Climate change equity development: potential and possibilities for securing women's and men's lives

The scientific community warns that, if humanity steadfastly maintains the present trajectory of fossil fuels-based production and high GHG emissions, the earth will reach a threshold beyond which there is no certainty of regeneration. Sustainability will require a path towards achieving and maintaining temperature well below 2 degrees Celsius and holding GHG emissions concentration levels in the atmosphere substantially below 450 ppm.⁷ The global community in 2009 set the temperature target at 2 degrees Celsius but did not set a blueprint for how to maintain temperature changes well below this stabilization target. Conventionally, it is assumed that the proactive-reactive responses of human systems in the form of adaptation and mitigation will be the pathways for achieving this global temperature 'guardrail' (WBGU 2009). Implementation of both of these strategies entails serious economic and social costs as well as social and inter-generational equity issues.

The equity dimension with regards to the burden of obligations and responsibilities for climate change between developed and developing countries are addressed, though under serious threats in the current negotiations, as part of the discussions and normative framework of the United Nations Framework Convention on Climate Change (UNFCCC) (1992). This is best articulated by the principle of 'common but differentiated responsibilities and respective capabilities' (Article 3.1). This provision for equity enshrines the rights of developing countries to develop on a steady state path. It must continue to be the central core of climate protection policy. Subsequent Conference of the Parties (COP) decisions have consistently reaffirmed the idea of 'targeting to the most vulnerable'.⁸ However, other equity and rights dimensions of climate change, such as ensuring and protecting the rights of indigenous peoples and gender equality and women's empowerment have not yet secured their rightful place in global climate change policy response framework.

Operationalization of equity and ethics in the governance of climate change

The current climate protection regime is premised on the twin strategies of adaptation and mitigation, facilitated by appropriate flows of finance and transfer of environmentally sound technology from developed countries to developing countries.

Adaptation strategies aim to reduce or avoid the harms caused by climate change (for example, building sea walls to protect communities from rising sea levels), whereas mitigation strategies aim to forestall or lessen the onset of climate change through reducing greenhouse gas concentrations (for example, switching from carbon-based fuel to renewable energy sources). While both adaptation and mitigation are critically important to economic growth, population growth and human development, they individually and jointly have serious gender, poverty and social equity dimensions.

Both adaptation and mitigation strategies are inextricably intertwined and must work synergistically to achieve the required alterations in human actions that will

positively impact climate change. Successful adaptation to climate variability and change depends on the functioning (i.e., state of health/being), capabilities (education and acquisition of knowledge) and the empowerment (i.e., the ability to make choices) of men and women, especially those living in developing countries, to respond to the adverse consequences of climate variability and to manage climate change risks, including managing damages and losses arising from climate events. Under-girding this must be men's and women's equitable access to, the ownership of, and control over economic and social resources.

The financing of climate change adaptation and mitigation strategies in developing countries is one of the central issues at the heart of the political debate over the global climate protection policy architecture. Climate change finance is distinct from regular development finance as it arises from, and the architecture supervising it is grounded in, the UNFCCC (1992). At the heart of this Convention is the principle of equity and polluter pays. Climate financing, hence, is a legally binding obligation of developed countries whose development path has led to the existing overhang of GHGs in the atmosphere. Thus the planet is committed to a path of decades of warming trends despite whatever present actions might be taken. And, since according to the scientific literature, the impacts of this warming trend will be felt primarily and more acutely in developing countries, especially those most vulnerable to climate variability and change, adaptation actions and measures to cover the losses and damages incurred remain a global, regional, national and local imperative.

The historical responsibility of developed countries for climate change, in tandem with the polluter pay principle, and the recognition that developing countries still have significant challenges of poverty and lack of access to essential services such as proper sanitation, access to water and modern energy services, are factors behind the principle of common but differentiated responsibility, which has been an essential principle (Principle 7) in international environmental governance since the Rio Conference. However, this does not mean that developing countries have no responsibility to transform their economies to support the objectives of the convention. They do. And, developing countries have over the years been taking on increasingly more actions in their national economies to mitigate climate change. With each annual UNFCCC COP, especially since the post-2006 period, developing countries across all the global regions have also accepted more and more mitigation responsibilities beyond what they are obligated to undertake under the Convention. Furthermore, under so-called market mechanisms, such as the Clean Development Mechanism, many developing countries are also contributing to the mitigation actions of the developed countries.

Under the UNFCCC, developed countries committed to taking the lead on mitigation, to provide finance and technological development and transfer to developing countries in order to help these countries meet their obligations under the Convention and to support their mitigation and adaptation actions. The Kyoto Protocol further quantified the nature of the commitment of developed countries to take mitigations action to reduce the level of GHGs emitted into the atmosphere.

However, there was no corresponding protocol or agreement quantifying the scale and scope of finance and technology transfers.

The UNFCCC has established the key pillars critical for the emerging system for mobilizing, managing and delivering financial resources and investments for adaptation and mitigation projects and programmes. The financial architecture that has evolved for climate change was established to ensure adequate flow of financing for adaptation, mitigation and technological transfer. Initially, the flow of finance has been implemented through the Global Environment Facility (GEF), which was contracted as an operating entity of the financial mechanism of the UNFCCC. Over time, an assortment of different funds have emerged both under the Convention (the Adaptation Fund, the Least Developed Country Fund, and the Special Climate Change Fund), and through the preference of developed contributing countries for bilateral and multilateral frameworks such as Japan's Cool Earth Partnership/Hatoyama Initiative, the Global Climate Change Alliance and the World Bank's Climate Investment Funds (CIFs). Existing Convention and related funding arrangements include a set of mechanisms based on voluntary contributions from developed countries as well as market-based instruments such as the Clean Development Mechanism, emissions trading, and Joint Implementation, which catalyse the carbon market.

Current dedicated climate resources under the UNFCCC framework have been estimated at about \$10 billion per year (2005–2010 and during the fast start finance period 2010–2012) (IPCC 2013: chapter 16). This represents the combined total financing and investment flows available for financing adaptation and mitigation. However, there is widespread agreement that this is not sufficient to cover the scale and scope of required climate-related activities needed by developing countries in Africa, Asia, Latin America, the Caribbean and the Pacific (conservatively estimated at \$171 billion per year by 2030 for adaptation and \$210 billion per year for mitigation; UNFCCC 2008).

After many years of weak implementation of their finance commitment, in the 2009 annual climate meeting, held in Copenhagen, developed countries proposed fast start finance of about \$30 billion for the period 2010–2013 and further committed to a goal of mobilizing \$100 billion per year by 2020 from various sources, including public and private and innovative sources. A significant part of this amount plus any additional flow of funds generated through innovative financing mechanisms should flow through the Green Climate Fund (GCF) established by the Cancún 2010 agreement and whose governing instrument was endorsed by the Durban COP 17 in 2011. The rationalization of future climate finance under the UNFCCC is to be overseen by the now approved and implemented, as of 2012, Standing Committee on Finance, established by Cancún (2010) to oversee the coordination and coherence of climate finance.

Gender and climate finance

In terms of mitigation, successful long-term actions to promote clean energy and the transition to low carbon climate resilient development pathways will rely on

the actions of men and women in their multiple roles as social and economic decision-makers in households, businesses and communities. As governments negotiate GHG emissions reduction targets – and establish innovative financial mechanisms and sustainable financing – it is important that they recognize and account for the gender and other equity dimensions of climate change policy. A salient approach to both adaptation and mitigation is the integration of a gender climate risk and vulnerability assessment framework that can help to clearly identify the risks that climate change poses for women's social and economic situation, and will provide the appropriate visibility so the risks can be fully addressed. Such a framework can be developed or grafted onto the numerous emerging climate risks and vulnerability approaches.

Careful reading and cross-referencing of the broad and growing literature on gender and the environment,⁹ gender and energy,¹⁰ gender and water,¹¹ gender and conflict,¹² gender and labour markets,¹³ gender and the informal economy,¹⁴ and gender and transport¹⁵ will show that gender dimensions of climate change have profound implications for the success of climate change adaptation and mitigation strategies, and in turn that climate change poses significant challenges to the forward momentum of gender equality and women's economic empowerment objectives as highlighted in the Millennium Development Goals (MDGs) framework.

It is not clear how much of the total of \$10 billion per year so far reported to have been spent on climate change actions in developing countries have supported women's empowerment and gender equality oriented projects and programmes. In the case of the approximately \$30 plus billion of fast start finance reported to have been contributed by developed countries through various channels, there is widespread disagreement about the actual amount of fresh (new and additional) monies it earmarked or disbursed. A few contributing countries, mainly European countries, have specified a portion of their fast start financing for gender equity projects and programmes. But, apart from ensuring gender equity with regard to the governance structure of the GCF, there has been no commitment to fund gender equality interventions, either through a specific set of subfunds or under the funding of adaptation or mitigation.

At the national level, no government has yet broached the topic in their own national level planning around climate change, though gender has been identified in a number of National Adaptation Programmes of Action (NAPAs), the instrument through which least developing countries have pin-pointed their adaptation needs; nor is gender analysis incorporated into the emerging frameworks of the new National Adaptation Plans (NAPs) (applicable to all developing countries), the Cancún Adaptation Framework or to mitigation measures, such as the Nationally Appropriate Mitigation Actions (NAMAs) of developing countries.

The CIFs of the World Bank and the Adaptation Fund (under the UNFCCC) have both committed to integrate gender into their frameworks and this work is ongoing. It is, however, not clear how much of the funding stream is dedicated to women's projects as a distinct group of actors.

It is important that climate change policy and climate changing financing instruments, mechanisms and processes are made gender sensitive. At the present

time, it is not clear to what extent climate change strategies and the financing of these impacts gender equality and women's empowerment, positively or negatively. This is a matter for empirical verification. The imperative for undertaking a thorough review of such impacts is now, given that the negotiations for bolstering and regirding the architecture of climate change finance is currently underway. An initial starting point in this direction is to demystify the subject-matter by carefully examining the scope, composition and direction of financial and investment flows. This must be complemented by a careful analysis and tracking of the specific dynamics and interrelationship between gender and climate change financing.

This book argues that the UNFCCC, as the normative framework for climate change finance, provides more than an adequate basis for integrating a gender social equity and women's empowerment approach into climate change policy and its related financing. Subsequent decisions of the COP (2001 and 2011) have contributed to enhancing the role and status of gender concerns into the Convention's governance framework. Yet more work needs to be done in integrating gender perspective into the various works of the substantive areas and bodies of the Conventions. At the same time, the overall climate change finance architecture and governance system has no systematic, consistent and coherent institutional framework for promoting gender equitable outcomes and the empowerment of women, to which most of the member states have made binding commitments under the Convention for the Elimination of Discrimination Against Women (CEDAW) and other human rights oriented instruments.

At best, climate change finance should strive to ensure that economic and financial resources for adaptation, mitigation and technology bolster and upgrade women's skills, knowledge, ownership and access to resources such as land, credit and technology. At worst, it should seek to 'do no harm', hence have no significantly negative impacts on women's access to and ownership of existing assets and resources. Therefore, it is imperative that social equity and gender equality are included as key cross-cutting principles in the normative and operational framework of global climate change as well as its financial architecture.

Unfortunately, the extent to which climate change financial and investment flows have contributed to improving peoples' capacities to withstand or rebound from climate change's adverse effects remains unclear. It is also difficult to track how much of these funds and investments have flowed to gender sensitive projects or programmes that promote gender equality outcomes. Social and gender impact assessments are critical to identifying improvements to adaptive capacity and resilience of vulnerable groups of men and women among and within countries. At present, however, these assessments are marginal to the distribution and utilization of flows of funds for climate change.

A key deliverable of the global climate change finance architecture is that it ensures adequate and balanced funding for both adaptation and mitigation, supports the transfer of technology and capacity building and promotes equity between regions and groups of developing countries. It should also seek to ensure that climate finance is gender equitable and gender sensitive in its distribution,

supporting the efforts of poor women on the ground in developing countries and upscales their contributions to and benefits from mitigation programmes, projects and policies.

The final outcome of the climate negotiations in Durban (2011) maintained many of the Cancún, Mexico (December 2010), references to women and gender across several sections of agreement. The Doha 2012 negotiations for the most part maintained these advances and reaffirmed the gender decision of the Marrakesh negotiations of 2001, focusing on women's participation. This sets the stage for more focused discussions and actions around gender and climate change financing in the coming years. These advances were affirmed by the subsequent meetings of the parties, including Warsaw 2013 and Lima 2014.

With the full operationalization of both the GCF (2011–2015) and the Standing Committee on Finance (2012), which is dedicated to help the COP with the coherence and rationalization of climate finance under the UNFCCC, global attention will be focused on elaborating the financial framework for the post-2015 period, including issues of the financing gap between 2013 and 2020 and the long-term scale, sources and distribution of finance for climate change, starting with the Copenhagen promise of \$100 billion per year by 2020.

This book therefore seeks to answer four interrelated questions. First, what is the nature, scope and extent of climate change finance and its implications for economic development and poverty eradication? Second, and the key concerns of this effort, what opportunities, challenges and risks do the current pattern of climate change finance pose for gender equality and women's economic empowerment processes now underway in developing countries? Or, alternatively, to what extent do climate change financial and investment flows enhance, bypass or marginalize women's concerns and priorities? Third, how are the challenges and risks to be mitigated or otherwise transformed into creative opportunities for financing the forward momentum of gender equality and women's economic empowerment? Fourth, what kinds of regulations, mechanisms, programmes and processes are required to achieve these goals within the context of the evolving global climate change financing architecture?

The analysis herein is based on the presumption that, at best, climate change finance should strive to ensure that economic and financial resources for adaptation, mitigation and technology bolster and upgrade women's and men's skills, knowledge, ownership and access to resources such as land, credit and technology. At worst, it should seek to 'do no harm', hence have no significantly negative impacts on women's access to and ownership of existing assets and resources. Therefore, it is imperative that social equity and gender equality are included as key cross-cutting principles in the normative and operational framework of global climate change as well as its financial architecture.

This book therefore synthesizes and analyses the information about the flow of finance in the global climate change finance architecture from a development, gender and social equity perspective. It analyses information on the trends in both

12 Introduction

public and private finance, and ascertains how these trends are impacting and will impact the lives of women and men in developing countries. The book thus seeks to provide a gender perspective of climate change finance, contributing to the debate about the efficacy of global climate finance for adaptation and climate resilient oriented poverty eradication.

The analysis in this book is driven by three underlying premises: (1) climate change is an issue of economic and social justice which cannot be effectively addressed without dealing with the underlying asymmetries and inequities between developed and developing countries; (2) climate change is an economic development issue which cannot be truly resolved without promoting sustainable economic development and upholding the right to development; (3) gender and other social equity issues must be factored into the global and national responses to climate change. Ultimately, the promotion of sustainable development and climate protection is, in all developing countries, tied into the promotion of the economic and social welfare of women and men by addressing their differentiated roles, contribution and responsibilities in the economy and society.

Climate change protection policy must invariably take into account the challenges and constraints of indigenous men and women's lives within the context of accounting for the historicity and continuity of their marginalization from natural and man-made resources. This has important implications for the present dilemma the world now faces and how the knowledge and practices of indigenous women and men can contribute meaningfully to help resolving some of these global challenges. Global and national approaches to climate protection must also pay attention to the other aspects of inequalities, including men and women with disabilities, young men and young women, the elderly and ethnic minorities in a framework that pays attention to the gender pathways of these inequalities and the challenges they pose for these groups' abilities and capacities to adapt to climate change and variability.

First, inequalities in the control and access to economic resources, including access to technology and scientific information as well as all types of infrastructural services, which are the results of historical forces, rooted in conquest, colonialism and imperialism, have led to the now developed countries controlling and utilizing a disproportionate share of the world's resources, including its atmospheric space. This inequitable sharing of the world's resources conditions the ability of different groups of countries, classes and groups of men and women to both undertake and maintain sustainable development and sustained poverty eradication. Though the development processes of the now rich countries of North America, Europe, Australia and New Zealand, in the period 1850–2002, have created about 76 per cent of the cumulative stock of carbon dioxide emissions (primarily from fossil fuel combustion)¹⁶ fuelling the GHGs that now treacherously warm the planet, thus far they have been the least impacted by the consequences of this warming; it is the developing countries and the poorest men and women in these countries who are the primary victims of the impacts of the extreme weather events now unleashed by climate change. An added insult to this iniquitous situation is that there is very

little atmospheric space left available for developing countries to grow and develop in a manner that could sustainably eradicate poverty and ensure access to a decent standard of living for the men and women in these countries. Yet in the face of rising extreme weather events linked to climate change and the continuing high per capita consumption and emissions patterns of the developed countries, it is the men, women and children of the developing countries who face increasing water shortages (between 3 billion and 7 billion people by 2075) and food shortages (one in six countries could likely face food shortages each year because of droughts), and untold millions face pending health crises.

Noting that ‘the damage done to the environment by modern society is perhaps one of the most inequitable health risks of our time’, *The Lancet* (May 2009) labelled climate change as the ‘biggest global health threat of the twenty-first century’. It also argued that ‘loss of healthy life years as a result of global environmental change – including climate change – is predicted to be 500 times greater in poor African populations than in European populations’ (also cited in UNFPA 2009). Though the carbon footprint of the poorest 1 billion accounts for about 3 per cent of the world total footprint, the ultimate burden of climate change falls on the developing countries (Patz *et al.* 2005 cited in UNFPA 2009).

These and other types of inequality persist unabashedly in the climate debate. It is quite pronounced in debate over the nature of emissions reduction, especially in the push by the developed countries, as a group, to increasingly shift the burden of mitigation onto the developing countries, while they have not fully followed through on their own commitments, made under the Convention and the Kyoto Protocol, to reduce emissions. The cruellest of all ironies is that while these rich developed countries have had a difficult time making emissions cuts and transforming their economies towards a low carbon pathway, they nonetheless are insisting that developing countries, charged with being the future emitters and who have less resources and access to technology, shoulder the lion’s share of the burden. This is evident in calls by the US, supported by other developing countries, for symmetry in rights and obligations and for ending the so-called ‘firewall’ between developed and developing countries in terms of mitigation obligations under the UNFCCC.

Unreservedly, developed countries, such as the US, are also putting greater emphasis on accounting for emissions of methane from agricultural fields, which from the point of view of developing countries are ‘survival emissions’ of short duration and should not be ‘compared with the carbon dioxide emissions from fossil fuel burning and growing industrialization (Sethi 2012). The US, in particular, does this without, in parallel, placing emphasis on reducing and dramatically changing consumption patterns at home, specifically, and in the developed countries, broadly. As noted by Sethi, ‘the focus on methane before the carbon dioxide emissions are addressed gives the rich countries a chance to get more headspace in the atmosphere to continue emitting “luxury emissions” for longer period of time’ (Sethi 2012). It is indisputable that developing countries and the millions of women, men, boys and girls within their borders face the maximum risks to

their lives and livelihoods from the chaos of climate change. This situation can only be lessened with appropriate attention and actions of the developed countries to reducing their own lifestyle-directed emissions and to providing the needed finance and technology that will enable developing countries to adapt to and transform their economies through the adoption of clean and renewable energy technologies. There will also be need for the financing of an international mechanism for loss and damage¹⁷ in order to help the millions of women and men whose lives and livelihoods are imperiled. The economics of climate change is hence a serious concern.

Second, climate change is as much an economic issue as it is an ecological and environmental issue. It is definitively an economic development issue. Climate change arises from economic dynamics and is the result of acute market failure of not accounting for human production and consumption effects on the environment. That market-driven calculus is not the only thing that has driven the economy. The role of the household and women's role, activities and contribution to the economy are, likewise, under-recognized and neglected both in conceptual frameworks and in policy prescriptions, design and implementation. Climate change and the timely or lack of appropriate responses to mitigate its causal factors bode serious challenges for eradicating poverty and promoting economic growth and human development. This is because climate change has destructive impacts on critical sectors of agriculture and water resources as well as likely distributional impacts at all levels of the economy.

Yet many economists continue to underestimate both the urgency and the scale of mitigation and adaptation needed, while emphasizing mainly the impact on gross domestic production. Economic-based modelling also continues to put greater emphasis on mitigation, under-emphasizing adaptation and in some cases arguing that it can come later after mitigation. This is indeed a dangerous situation for developing countries and the lives of the millions of women, girls, boys and men in those countries, who face almost daily adaptation challenges now.

Since the first and second Earth Summits (1992, 2002), from the vantage point of economic analysis, there has been significant, though inadequate, attention paid to sustainability issues (mostly) at the micro and meso levels, to different degrees, in different economies. But these efforts have often been fragmented, weakly implemented and not integrated into the overall macroeconomic framework of countries. The global community is currently involved in a complex set of interrelated and somewhat intertwined processes: reviewing and making proposals for addressing the unfinished business of the MDGs; charting new terrain with the defining and elaboration of the content of yet another set of goals, the Sustainable Development Goals (SDGs)¹⁸ and discussions of the framework for a new global agreement on climate change. This triplet of efforts (new development goals, sustainability goals, the new climate change agreement), which are currently on parallel tracks, are meant to set the roadmaps and rule books for tackling the most entrenched problems afflicting the modern political economy – endemic poverty and hunger, rising and persistent inequality (of all forms), financial instability, resource depletion,

the state of ecology and climate change (the latter three being increasingly associated with the likely breach of the earth's planetary boundaries). All of these processes are set to conclude sometime in 2015.

Both the processes to design a new global sustainable development agenda (post-2015 and the SDGs) process are premised on sustainable development for all and thus are meant to set the world on a sustainable path. Thus both the post-2015, the SDG process and the new climate agreement meet at the crucial crossroads of sustainable development. The path towards sustainable development including addressing climate change and managing global commons, must be coherent in its content as well as coherent with the system of economic analysis, policy prescriptions and measurement utilized for both the national and the global economies.

Third, gender equality and women's empowerment issues, including the promotion of gender equity in climate finance, cannot be isolated from the broader discussions of climate change, its impacts and future dynamics, or the economic, political and scientific debates. All of these topics of debates set the broader envelope for the scale and intensity of adaptation and mitigation efforts to be undertaken by developing and developed countries, and give rise to the degree of sacrifice that is required at country and local levels. So gender equality concerns cannot be superficially or instrumentally used in a convenient manner. Gender inequality intervention for promoting and ensuring women's and men's lives in developing countries depends acutely on the outcomes and actions of historically based and just determination, and apportionment of climate protection policies and the appropriate and rapidly expedited flow of means of implementation of such policies: finance, technology and capacity building.

Ultimately, the over-riding framework of climate protection policy conditions and will significantly determine the life chances and opportunities for women and men in communities on the ground in developing countries. For example, though adaptation is a pressing concern in developing countries and of paramount importance for women's lives in those countries, the degree to which adaptation actions and the scale of funding that will be required for these, is inextricably linked to decisions and choices with regard to stabilising the climate system. This is occurring through ongoing negotiations about temperature targets (guard rail) and global goals and time frames for peaking and reducing GHG emissions. These so-called technical factors are not value-neutral decisions. They are informed by science but they are ultimately determined by economic and political considerations about tolerable risks and economic cost and benefit calculus. These decisions have implications for men's and women's daily lives now and in the future. Hence women's groups and gender advocates as much as farmers' groups and business organizations have vested interest in participating in this decision-making geared to specific outcomes and in ensuring that the policies and actions arrived at are driven by the concerns of those most vulnerable to the ill effects of climate change.

The fourth underlying premise of this book argues that solutions to the climate change challenges are intertwined with gender equality and the empowerment of women in developing countries. Sustainable achievements in gender equality and

women's economic and social empowerment may entail positive effects on climate change solutions and vice versa. Meeting the climate change challenges and continuing to increase women's control and access to economic and social resources will require significant flows of financial resources geared to gender equality and women's empowerment outcomes within the framework of adaptation, mitigation and technology transfer and development. In this way, the implementing of sustainable gender equality interventions that enhance women's and men's empowerment and overall social equity can have large, sustainable economic development dividends, which can be immensely beneficial to the achievement of global climate change policy goals. *Gender equality and women's empowerment are complementary not antagonistic to the achievement of climate change goals. There is a gender equality dividend that will be beneficial to climate change goals and that can increase the efficacy and sustainability of climate finance.*

Notes

- 1 Failing harvests in the US, Ukraine and other countries this year have eroded reserves to their lowest level since 1974. UN warns of looming worldwide food crisis in 2013. www.guardian.co.uk/global-development/2012/oct/14/un-global-food.
- 2 According to the Global Humanitarian Forum, the term 'seriously affected' used in this context refers to those in 'need of immediate assistance either following a weather-related disaster, or because livelihoods have been severely compromised by climate change' (p. 3). In addition, natural disasters lead to both migration and internal displacement which puts women at great disadvantages and subject them to personal insecurity and vulnerability to sexual harassment, sexual assault and other forms of violence. In may also be associated with a rising prevalence of female households. The World Health Organization argues that since the 1970s there have been 150,000 excess deaths annually due to extreme heatwaves, storms or similar events due to climate change (WHO 2014). The Climate Vulnerability Monitor estimates that climate change causes 400,000 deaths on average each year today, mainly due to hunger and communicable diseases that affect above all children in developing countries (DARA 2012). DARA (ibid.) also reports that Climate change caused economic losses estimated close to 1 per cent of global GDP for the year 2010, or 700 billion dollars (2010 PPP).
- 3 The right to development is an inalienable human right by virtue of which every human person and all peoples are entitled to participate in, contribute to, and enjoy economic, social, cultural and political development, in which all human rights and fundamental freedoms can be fully realized, Article 2 (Declaration on the Right to Development).
- 4 Based on the IPCC's Fifth Assessment Report 'Climate Change 2014: Impacts, Adaptation, and Vulnerability'.
- 5 Climate change induced warming can lead to wider transmission of malaria; 'rising temperature extends the habitats of the mosquitoes that carry the malaria parasite, shifting the boundaries of latitude and altitude for malaria transmission – for example, many highland areas in Burundi, Kenya and Uganda that have historically been classed as malaria-free are now experiencing epidemics' (Sulaiman 2007). Floods and higher rainfalls are associated with new breeding grounds for mosquitoes in Mozambique and droughts in sub-Saharan Africa lead to declining water levels and rising stagnant pools of water.
- 6 Originally applied to self-employment in small unregistered enterprises, the concept of informality has been expanded to include wage employment in unprotected jobs. So defined, the informal economy comprises half to three quarters of the *non-agricultural* labour force in developing countries. When agriculture is included, the share of informal

- employment in *total* employment is higher still: as high as 90 per cent in some countries in South Asia and sub-Saharan Africa (WEIGO 2014).
- 7 Pre-industrial levels of CO₂ concentrates in the atmosphere was about 280ppm, in 1998 377ppm. It is argued that CO₂ level beyond 450ppm is 'dangerous'.
 - 8 In its fourth Assessment Report, the IPCC also flagged issues around equity. The IPCC made reference to three areas of equity: (1) Equity between developed and developing countries 'in the delineation of rights and responsibilities within any climate-change response framework'; (2) 'the need for equity across vulnerable groups that are disproportionately exposed to climate-change impacts; and (3) 'intergenerational ethics; i.e., the degree to which the interests of future generations are given relatively lower weighting in favour of short-term concerns' (IPCC 2007).
 - 9 Agarwal (1995) *Environment and Poverty Interlinks in Rural India: Regional Variation and Temporal Shifts, 1971–1991*. United Nations Research Institute for Social Development (UNRISD).
 - 10 Cecelski (2004) *Re-thinking gender and energy: Old and new directions*. ENERGIA/EASE Discussion Paper.
 - 11 GWA/UNDP (2006). *Mainstreaming Gender in Water Management*.
 - 12 Byrne (1996) *Gender, Conflict and Development: Volume I: Overview*. Bridge/IDS www.bridge.ids.ac.uk/Reports/re34c.pdf; Byrne, Marcus and Powers-Stevens (1995) *Gender, conflict and development Volume II: Case studies: Cambodia; Rwanda; Kosovo; Algeria; Somalia; Guatemala and Eritrea*. Bridge/IDS 1996 www.bridge.ids.ac.uk/Reports/re35c.pdf.
 - 13 DAW (1999) *World Survey on the Role of Women in Development: Globalization, Gender and Work*. United Nations Division for the Advancement of Women.
 - 14 ADB (2008) *Asia's Urban Challenges*. www.adb.org/documents/events/2008/adb-urban-day2008/presentation-Climate-Change.pdf; Chan and Pedwell (2008) *Women, gender and the informal economy: An assessment of ILO research and suggested ways forward*. ILO working paper series; and Chen and Carr (2002) *Globalization and the Informal Economy: How Global Trade and Investment Impact on the Working Poor*. Working Paper on the Informal Economy, No. 1. Geneva: ILO.
 - 15 Gender and transport literature includes WIT 2014; ECE 2009; Riverson, Kunieda, Roberts, Lewis and Walker (2005), Peters 2002 and Fernando and Porter 2002.
 - 16 This does not include emissions from land use change or recent deforestation – mainly emitted by developing countries (UNFPA 2009). Developing countries account for 24 per cent during the time period. However since 2005 their portion has increased to about 54 per cent of total emissions (IPCC 2007) and as a group developing countries will account for the majority of the growth in emissions of CO₂ 2008–2030. (In 2007 China surpassed the US in total emission from fuel combustions. Nonetheless, as noted by UNFPA per capita emissions remains significantly higher in the developed countries Date on emissions distribution from WRI and cited in UNFPA 2009.
 - 17 An international mechanism for loss and damage, which was formally mooted in the negotiation as of the Doha 2012 meeting of the Conference of the Parties, was agreed to in Warsaw (2013) as the Warsaw International Mechanism for Loss and Damage but the operational details have now to be worked on and there was no specific financing component agreed as part of the decision.
 - 18 The path towards charting a set of sustainability goals is part of the implementation of the outcome from the United Nations Conference on Sustainable Development (UNCSD, Rio+ 20 2012 (*The Future We Want*). The SDGs, initially, were not on parallel track with the MDGs; it began in 2013. Its focus is to deal specifically with the interplay between economic, social and environmental parameters and the major challenges: poverty, environmental degradation and ecological limits.

1

THE GLOBAL CLIMATE CHANGE POLICY ENVIRONMENT

The ultimate objective of this Convention and any related legal instruments that the Conference of the Parties may adopt is to achieve, in accordance with the relevant provisions of the Convention, stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner.

UNFCCC 1992: Article 2

This chapter presents an overview of the global climate change protection framework noting when and how gender considerations have entered. It also explores the scientific imperative behind the UNFCCC and discusses in brief the economic and political under-currents that have brought that process to a log-jam over the last 7 years.

It is undeniable. The evidence is unequivocal. At the planetary level, global temperature and the atmospheric concentration of GHGs is rising. This is causing specific kinds of impacts at global, regional, national and local levels posing wide ranging challenges for human beings, animals and plants.¹ These specific climate variability impacts include alterations in rainfall patterns and consequent storms, floods or droughts in different parts of the world. Adverse impacts on natural ecosystem, agriculture and food production, human health and limited access and availability to water are already being felt by millions of girls, boys, women and men in the developing countries of Africa, Asia, the Caribbean and the Pacific.

Climate change is driving the occurrence of more frequent storms such as super storm Sandy, typhoon Haiyan and rising sea levels. Super storm Sandy devastated the New York City area in 2012. Typhoon Bopha, also in 2012, killed more than 1,000 persons in the Philippines. It was followed the next year by Haiyan (Yolanda)

which waged havoc in South East Asia and yet again ‘devastated the Philippines’. According to *The Economist*, Haiyan, which was one of the worst storms ever recorded, created about \$15 billion dollars’ worth of damages (*The Economist* 2013). Rising sea levels, predicted to reach as much as 23 inches by 2100, will cause shore lines to move further inland posing danger to highly populated cities in a number of developing countries, such as Mexico, Venezuela, India, Bangladesh, the Philippines and Vietnam, as well as, play havoc on the lives of millions of women, men and children living in all small island states and the river delta regions of the world (World Bank 2012a).

The anthropogenic climate change (ACC) tenet outlined by the IPCC in its Fourth Assessment Report (2007) is well supported by the latest findings of the scientific community. Scientific research now more clearly show the link between extreme weather and man-made GHGs (IPCC 2012, 2013). Earth scientists, climate scientists, meteorologists and oceanographers all have expressed high levels of certainty about the basics of climate change and human activity as a primary driver.² While there remains uncertainty about how particular aspects of climate change (for example, changes in cloud cover, the timing or magnitude of droughts and floods) will unfold in the future,³ by 2011 at least 34 national academies of science such as those in the major G8 countries, plus Brazil, China and India and Poland have made formal declarations or statements supporting the view that global warming is real and almost certainly caused by human activities. This consensus on global warming and its human causation has been long in the making. It is ultimately one of the key driving force behind the continuing, though political fraught and economically challenging, global effort to build a strong and effective global climate protection regime.

This chapter undertakes a forensic analysis of this global climate protection effort. The next section traces the evolution of the international environment and climate protection architecture which has been emerging in its contemporary form since the 1970s. The subsequent section presents an overview of the outcomes of climate negotiations, undertaken by a group of over 194 countries since 1992, under the umbrella of the United Nations Framework Convention on Climate Change (UNFCCC). The UNFCCC is currently the only legal framework responsible for the formation and implementation of climate protection policies on a global scale.

The chapter also explores how gender and other equity issues have been integrated into the policies, programmes, instruments and mechanisms of this global climate protection regime, focusing on the different turns and twists of the attempts by gender advocates to integrate gender equality concerns within the overarching structural framework of the UNFCCC. The remaining four sections of the chapter briefly discuss some of the key issues that challenge the global protection regime. These inextricably intertwined and challenging undertows that sometimes seems to cripple the global awareness and willingness to tackle the drivers of climate change are the economics of climate change and the tumultuous politics of climate change negotiations. The chapter also briefly explores the role of climate science

in shaping the contours of the global climate protection. Chapter 2 will bring these strands together in a focused discussion of the fundamental debate about equity, fairness and climate justice in the global climate change regime. It will also highlight the debates on the critical gaps (development, emissions and fairness/equity, adaptation and finance) that are seemingly hamstringing the current negotiation process.

1.1 The evolution of the international environment and climate protection architecture

Since at least the 1970s, the global community has recognized the critical and far reaching dangerous interactions between human activities and the earth's atmosphere. Environmental activists, scientists and policymakers have since worked to raise global awareness of the environmental and ecological challenges posing danger for the earth's biological and physical systems that support life. The initial thrust of environmental activism on a global scale focused on air, water and marine pollution and the conservation and preservation of biological diversity and non-renewable resources that enable ecological cycles and all human activities.

In the early 1970s a number of international conferences were convened on environmental issues geared towards developing a global consensus on the nature of the problems and to set up agreed frameworks for policy solutions (please see Appendix 1.1 for more details). Many of these early events were scientific and expert gatherings focused on examining the nature and processes of erratic weather patterns, the nature of environmental degradation and the consequent endangerment or near extinction of some species (such as amphibians, birds and tree snails)⁴ and the using up of non-renewable resources (such as peat and minerals). Such meetings, which also attracted policy makers and environmental activists, highlighted the urgent need to deal with the effects of human activities on wetlands, marine eco-systems as well as climate factors impacting temperature, soil and humidity and desertification. These meetings helped to define and further clarify the elements that would be needed for ensuring sustainability and thus set the groundwork for high level political discussions that would culminate in the creation of a number of multilateral and plurilateral environmental agreements such as the Montreal Protocol, the Convention on Biodiversity and the UNFCCC. These agreements are now the bedrock of global environmental governance.

The first two major summit level international conferences on environment were the UN Conference on the Human Environment (Stockholm, 1972) and the United Nations Conference on Environment and Development (UNCED, the Earth Summit or the Rio Summit, 1992). The Stockholm Declaration on the human environment emphasized the shared responsibility for the quality of the environment, especially the oceans and the atmosphere. It made over 200 recommendations for international level actions on matters ranging from climate change, marine pollution and toxic waste focused on the management of the biosphere. Stockholm also set in motion processes that laid the foundation of modern

environmental regulation, including the creation of a global environmental assessment programme (Earthwatch) and the United Nations Environment Programme (UNEP).

Twenty years later the more politically oriented 1992 UNCED, which focused on the theme of environment and sustainable development, culminated in three signature pieces of environmental landmarks: the Rio Declaration on Environment and Development, the Statement of Forest Principles and an ambitious action plan for catalysing and stimulating local, national, regional and international cooperation in addressing environmental degradation, Agenda 21. It also facilitated the signing of three multilateral environmental agreements that were negotiated on parallel tracks prior to and during the conference planning processes. These so-called Rio Conventions are the Convention on Biological Diversity, the Convention on Combatting and Controlling Desertification and the UNFCCC. Ten years after UNCED, the 2002 Johannesburg Conference sought to enhance and enlarge the operational domain of Agenda 21, the UN programme of actions from Rio, by proposing concrete steps and identifiable quantitative targets under the Johannesburg Plan of Implementation.

During the period of the 1970s to the 1990s a number of critically important international instruments and international and national institutions were set up to ground environmental protection policy globally and nationally. For example, in 1970, the US established the Environmental protection Agency and the European Union (formerly European Economic Community) also established an Environment and Consumer Protection Service (1973). Internationally, in 1972, the United Nations Environment Programme (UNEP)⁵ was established to perform both the normative role of assessing global environmental state, facilitate international environmental policy development and formulate multilateral environmental agreement in the context of sustainable development as well as undertake operational functions such as supporting the implementation of environmental treaties and related action plans at local, national and regional levels.

In the developing countries, many governments also followed suit, establishing their own versions of national environment agencies. In Latin America, in 1973 Brazil established a Special Secretariat for the Environment later (by 1999) transformed into the Ministry of the Environment. In Africa, Tanzania, with long history of natural resource conservation, established a National Environment Management Council in 1983. In Asia, China established the National Environmental Protection Agency in 1984,⁶ later upgraded to a State Environmental Agency (SEPA) in 1998, operating at ministerial level, and since 2008, it is the Ministry of Environmental Protection of the People's Republic of China (Wikipedia 2013).

In 1979 the Geneva Convention on Long Range Transboundary Air Pollution that regulated the emissions of noxious gases was adopted and concern with depletion of the ozone layer led to the Vienna Convention for the Protection of the Ozone Layer, 1985 and its Montreal Protocol on Substances that Deplete the Ozone layer.⁷ The protocol facilitated the gradual withdrawal of the chlorofluoro-

22 The global climate change policy environment

carbons (CFCs) that destroy the ozone layer.⁸ The capstone of this period was the World Commission on Environment and Development (the Brundtland Commission, 1983–1987), which issued the report *Our Common Future*⁹ and placed emphasis on sustainable development (defined as: development that ‘meets the needs of the present without compromising the ability of future generations to meet their own needs’).

By the early 1980s, global attention was increasingly focused on the effects of the rising average temperature of the earth’s atmosphere, identified as global warming, and its causes – GHGs, with carbon dioxide (CO₂) as a principal agent.¹⁰

The pattern of rising carbon dioxide CO₂ and the correlative warming links with atmospheric global temperature rise, through the so-called greenhouse effect, had been theorized since the nineteenth century by Jean Fourier (1820) and Svante Arrhenius (1896).¹¹ Anthropogenic (human caused) CO₂ as the key driver of global warming through the burning of fossil fuels was identified by Svante Arrhenius and Thomas Chamberlin (1896) and John Tyndall in the mid- to late nineteenth century. By the middle of the twentieth century, scientists such as Roger Revelle, Hans Seuss and Charles Keeling were able to empirically verify the threat of rising levels of overhang of CO₂ in the atmosphere.¹²

GHGs such as carbon dioxide, water vapour, nitrous oxide, methane, halo carbon and ozone prevent heat from escaping the earth’s atmosphere much the same way as the locked windows of a car traps heat inside the car. This warming effect is raising the average temperature of the earth to current level of 0.8 degrees Celsius above pre-industrial level and could conservatively exceed 4 degrees Celsius by 2100 (Figure 1.1). There are noticeable, significant and growing interactions between carbon dioxide and climate parameters such as rainfall and temperature change as well as the adverse impact on sea level. These intertwined factors and their dire implications for food production, forest and ecosystem services and the availability of clean fresh water led to climate change becoming centre stage in the global environmental discussion.

Rising sea level puts at least 200 million people’s lives at risk. Rising temperature is associated with natural migration of mosquitos and hence increased susceptibility to incidence of both vector borne diseases such as dengue (Eastern Caribbean) and malaria (Uganda and Rwanda),¹³ and non-vector-borne infectious diseases such as cholera and salmonellosis. Floods and the salinity of water increase toxic intrusion into water catchment areas and pose severe consequences for human and health systems, biodiversity and the continuation of specific animal and plant species. Climate change, hence, is seen as a severe threat to human and ecological survival.

Though rising atmospheric carbon dioxide can occur due to naturally occurring warming processes such as the solar (sun) energy on the earth’s orbital cycle and ocean circulation, empirical evidence show that anthropogenic GHG such as fossil fuels (coal, oil, natural gases) burning since the beginning of the industrial revolution (1700s) is the major cause of rising CO₂. Naturally generated carbon dioxide trend

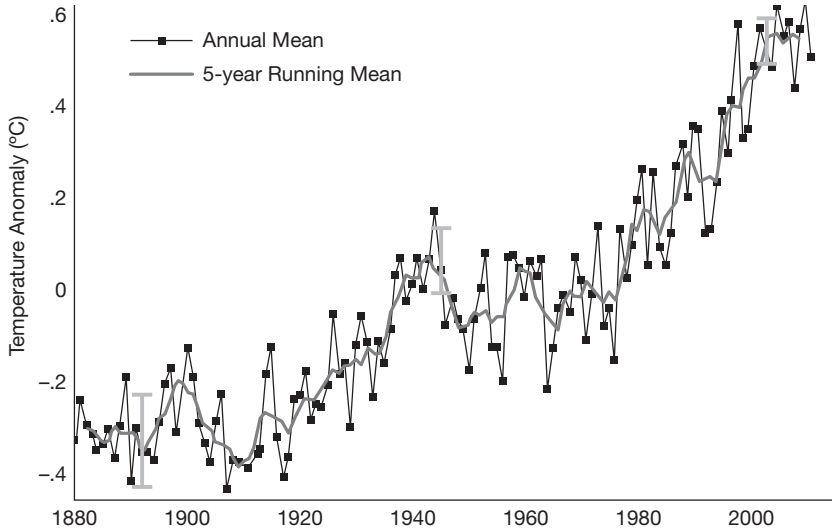


FIGURE 1.1 Global land-ocean temperature index

has not risen significantly and commensurately with the increasing warming of the earth's atmosphere to be the primary causal factor in global warming.

In the early 1980s, both the US National Academy of Science (NAS) and the Environmental Protection Agency issued studies that concluded that anthropogenic sources of CO_2 were likely responsible for the observed changes in the CO_2 levels. The NAS report argued that waiting to take action on climate change could result in permanent damage to the environment and potential disruption to the society. In addition, the Ad Hoc Working Group on carbon dioxide and climate change in 1978 argued that doubling of the level of carbon dioxide from pre-industrial time would eventual warm the earth by approximately 3 degrees Celsius.

Given that human causation has been identified as the key contributing factor to rising CO_2 level, global activities have centred on developing global understanding and a common consensus on how to deal with climate change. An intense process of diplomacy led to a global policy framework to examine and respond to the climate change challenge.

In 1979 and 1990, the first and second World Climate Conferences were convened to examine the issue of climate change. The First World Climate Conference 1979 was more of a scientific and experts meeting to improve the scientific understanding of atmospheric processes. It assessed the state of knowledge of climate and to consider the effects of climate variability and change on human society. The final declaration of the Conference 'identified the leading cause of global warming as increased atmospheric concentrations of carbon dioxide resulting from the burning of fossil fuels, deforestation, and changes in land use' (UNFCCC 2012).

24 The global climate change policy environment

One of the key outputs of the Conference was the creation of the World Climate Program and its associated research component the World Climate Research Programme. The World Climate Programme engendered the global collaboration of scientists and hence was a precursor to the creation of the Inter-governmental Panel on Climate.

After the first Climate Conference, there were a number of important meetings (Toronto 1988, the Hague 1989, Noordwijk 1989 and Bergen 1990) that mobilized political support around globally coordinate climate change responses at the highest political level.¹⁴ For example, the Noordwijk Declaration in 1989 made the point that developed countries should stabilize CO₂ emission by 20 per cent with respect to 1990 level and that they should also provide assistance to developing countries. The Hague meeting called for a framework convention on climate change.

By the time of the second World Conference, which was a more political gathering than the first, there was general acceptance that it was indeed possible for developed countries to stabilize CO₂ emissions from the energy sector and reduced these by at least 20 per cent by the year 2005. Meeting participants also argued that developing countries should use modern technologies (Gupta 2010). The second global climate meeting concluded with a Ministerial Declaration that helped to lay the framework for a global treaty on climate change. Two years later, under the auspices of the UNCED 1992, the UN Framework Convention on Climate Change was adopted. It came into force in 1994 with signatories of 155 countries.

A critical input into the formation of the current global climate policy was the establishment of the Inter-governmental Panel on Climate Change set up in 1988 under the auspices of the World Meteorological Organization and the United Nations Environment Programme, as an independent body of scientific advisers that 'reviews and assesses the most recent scientific, technical and socio-economic information produced worldwide relevant to the understanding of climate change' (IPCC 2009; see also Box 1.1).

The IPCC, which is an intergovernmental body currently comprised of scientific experts from the 194 member countries of the UN, presents its findings in a series of comprehensive assessment reports; since 1990 there have been five such reports: the first assessment report (FAR 1990), the second assessment report (SAR 1995), the third assessment report (TAR 2001), the fourth assessment report (AR4 2007) and the most recent (AR5 2013). These assessment reports provide the scientific basis for international climate change policy formulation.

The first report of the IPCC (FAR) provided the scientific basis for the international negotiations on climate change policy 1992. The second report, which discussed more strongly that human influences were impacting the climate system help to intensify efforts towards the Kyoto Protocol, while the third report, which offered stronger evidence of the warming trend helped the negotiations of the ninth meeting of the parties. AR4, while it did not specifically recommend a temperature target, its scientific analysis was the basis for the global consensus around the 2 degree C temperature guard rail. Likewise, AR5 will guide the negotiations

BOX 1.1 THE SCOPE, NATURE AND WORKINGS OF THE IPCC

The Intergovernmental Panel on Climate Change (IPCC) was established by the United Nations Environment Programme (UNEP) and the World Meteorological Organization (WMO) in 1988 'to provide the world with a clear scientific view on the current state of knowledge in climate change and its potential environmental and socio-economic impacts'.

The IPCC does not conduct any research nor does it monitor climate-related data or parameters. It reviews and assesses the most recent scientific, technical and socio-economic information produced worldwide relevant to the understanding of climate change. The IPCC relies primarily on peer reviewed literature complemented by non-peer reviewed publications from the private sector and governments including, industry journals, internal organisational publications, non-peer reviewed reports or working papers of research institutions, proceedings of workshops, etc. (so-called grey literature). Governments participate in the review process and the Plenary Sessions, where main decisions about the IPCC work programme are taken and reports are accepted, adopted and approved.

Thousands of scientists worldwide contribute on a voluntary basis to the work of the IPCC as authors, contributors and reviewers. This work is supported by a Secretariat based in Geneva and supported by voluntary and in kind contributions of its 195 Member governments, research institutions and researchers. Regular contributions and other forms of support are also provided through UNEP and WMO with contributions from the UNFCCC (as agreed by the Parties).

The IPCC is currently organized in three working groups and a task force on National Greenhouse Gas Inventories. *Working Group I* assesses the physical scientific aspects of the climate system and climate change, including changes in GHGs and aerosols in the atmosphere; observed changes in air, land and ocean temperatures, rainfall, glaciers and ice sheets, oceans and sea level; historical and paleoclimatic perspective on climate change; biogeochemistry, carbon cycle, gases and aerosols; satellite data and other data; climate models; climate projections, causes and attribution of climate change. *Working Group II* assesses the vulnerability of socio-economic and natural systems to climate change, negative and positive consequences of climate change, and options for adapting to it, taking into consideration the interrelationship between vulnerability, adaptation and sustainable development. *Working Group III* assesses options for mitigating climate change through limiting or preventing GHG emissions and enhancing activities that remove them from the atmosphere, taking into account the costs and benefits of the different approaches to mitigation, considering also the available instruments and policy measures, in a near-term and in a long-term perspective. The sectors

include energy, transport, buildings, industry, agriculture, forestry and waste management.

IPCC produces assessment reports (ARs)—five thus far, which include the Working Group contributions to the AR – a synthesis report, which synthesises and integrates materials contained in the Working Group reports, and special reports on specific issues (written in a non-technical style suitable for policymakers and which address a broad range of policy-relevant but policy-neutral questions), summaries for policymakers (which provide a policy-relevant but policy-neutral summary of that report) and methodology reports.

Source: based on information from the IPCC website at www.ipcc.ch

around the new legally binding agreement now underway, under the framework of the Ad Hoc Working Group on the Durban Platform or the post-2015 agreement to be agreed in Paris at the twenty-first meeting of climate negotiations.

The initial climate change negotiations, which were undertaken by the Intergovernmental Negotiating Committee for a Framework Convention on Climate Change, culminated in the adoption of the UNFCCC in 1992. The Convention was agreed upon and adopted during its fifth session, second part, held at New York from 30 April to 9 May 1992. Currently, there are 195 parties (194 States and one regional economic integration organization). Negotiations also involve different group of countries and informal and recognized negotiation blocs such as the European Commission, the Group of 77 and China (see Appendix 1.2).

The UNFCCC (Article 1) defines climate change as ‘a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods’.¹⁵ Article 1 further defines emissions as ‘the release of greenhouse gases and/or their precursors into the atmosphere over a specified area and period of time’. Given this framework, and consistent with the goal of the Convention (the ‘... stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system’), as articulated under Article 2, countries agreed to be guided by the principles adopted under the Convention and to take the actions necessary to meet the goals of the Convention, the gathering of countries made commitments to common but differentiated responsibility for achieving the objectives of the Convention (Article 4).

A group of countries made specific commitments to adopt national policies and take measures to mitigate climate change. These countries, referred to as Annex I countries, are 41 developed countries including 14 economies in transition to market economies and the European Economic Community. These are primarily the industrialized countries who have historically contributed the most to climate change.¹⁶ They include both the relatively wealthy industrialized countries that were members of the Organisation for Economic Co-operation and

Development (OECD) in 1992, plus countries with economies in transition (the EITs), including the Russian Federation, the Baltic States, and several Central and Eastern European States (UNFCCC 2002). Annex I Parties are committed to adopting national policies and measures with the non-legally binding aim that they should return their greenhouse gas emissions to 1990 levels by the year 2000. According to the UNFCCC Secretariat, the Convention grants EITs 'a certain degree of flexibility', on account of the economic and political upheavals recently experienced in those countries.¹⁷ Annex II Parties comprised the group of developed countries excluding countries in transition. They have commitment for financial resources and technology transfer to developing countries (Convention Article 4, in particular Paragraphs 2–5). The developing countries Parties, as a group, are generally referred to as non-Annex I parties (NAI).

In 1997, parties to the UNFCCC (at its third meeting, COP 3) adopted the Kyoto Protocol, a legally binding instrument requiring that Annex I signatories to reduce (individually or jointly) their aggregate greenhouse gas emissions to at least 5.2 per cent below 1990 levels between 2008 and 2012 (UNFCCC 1998: Decsion1/CP3).¹⁸ Under the Protocol, which came into force in 2005, legally binding emissions reduction commitments of the Annex I countries (listed in Annex B of the Protocol) were to be implemented during the first commitment period, 2008–2012. Working with the principles of burden sharing and of 'respective capacities', developed countries could determine how to meet the goal of decreasing GHG emissions.¹⁹ Countries had three ways of undertaking the emissions. They could do so by economy-wide efforts focused on integrating and increasing the use of fuel efficient and clean technology and promote greater energy efficiency in their domestic context; and/or promote emissions reduction projects in developing countries; or emissions trading. Developing countries were not required to adopt emissions reduction commitments; instead, it was agreed that these countries would undertake adaptation and (voluntary) mitigation efforts in line with their national development priorities and support with finance, including for technology development and transfer by developed countries Parties.

Under the Kyoto Protocol, the emissions reduction commitments of signatory members were limited to 5 years and thus the first commitment period of the protocol expired in 2012. After that, and with subsequent renewal of commitments for deeper emissions cuts there would be a progressive realization of the Convention's goal of stabilizing GHGs emissions. The Protocol has scope for a second (and subsequent commitment periods) beginning in 2013, and further reductions after that, unless the Protocol is explicitly ended (Khor 2008). Prior to the expiration of the first commitment period in 2012, the amendment of the Protocol was to be adopted in order to preclude a legal gap between the first and second commitment periods. It was anticipated that the second and subsequent commitment periods would progressively increase the emissions reduction commitments of Annex B Parties. As a result, there have been ongoing negotiations about the nature and scope of a second and subsequent periods under the Protocol.²⁰

1.2 Overview of climate negotiations and the formation of the global climate protection regime

Since the inception of the UNFCCC, there has been a series of negotiating rounds under the auspice of what is called the Conferences of Parties (COP), the supreme body of the Convention: from its first session, COP 1 – Berlin 1995, to its twentieth session thus far, COP 20 – Lima 2014. With the coming into force of the Kyoto Protocol (in 2005), there have been combined meetings of the COP with the meetings under the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol, the CMP, now in its tenth session (CMP 10 – Lima 2014).

In 2005, negotiations on furthering commitments under the Kyoto Protocol was instituted under the Ad Hoc Working Group on the Kyoto Protocol (AWG-KP) which explored the undertaking of ‘future commitments for industrialized countries under the Kyoto Protocol’ (UNFCCC 2009). The work of the AWG-KP aimed at setting further quantified emissions limitations or reductions by industrialized countries (Annex I) for the second commitment period 2013–2017 and beyond.

A comprehensive road map to achieving the ultimate goal of the Convention was launched in Bali (COP 13 2007) as the Bali Action Plan to be supported by the Bali Road Map – a two-year UNFCCC negotiating process (see Box 1.2). The Bali Road Map should have resulted in agreed outcomes on a science-based global goal for emissions reduction and a time frame for the peaking of GHGs emissions into the earth atmosphere so as to prevent dangerous climate change by 2009.

Under the Bali Action Plan (2007), countries agreed to take stronger (enhanced) actions on mitigation through a four pillar process: (1) Developed countries through quantified emissions reduction targets in a second (and subsequent) commitment period(s) under the Kyoto Protocol. (2) Comparability of efforts by the US and other non-Kyoto Protocol Parties (primarily the US) to the efforts of the other developed countries, who are taking mitigation commitment under the Protocol. (The US, though not party to the Protocol, nevertheless, has legal obligations under the Convention to ‘adopt national policies and to take corresponding measures on the mitigation of climate change, by limiting its anthropogenic emissions of GHGs and protecting and enhancing its greenhouse gas sinks and reservoirs (Article 4 Paragraph 2a).) (3) Increased voluntary mitigations actions of developing countries through the creation of a new vehicle, the nationally appropriate mitigation actions (NAMAs), in the context of sustainable development. (4) The efforts of developing countries would be catalysed and sustained by scaled up finance, technological transfer and capacity building to be provided by developed countries, as agreed under the Convention. Bali also gave prominence to the adaptation to climate change.

Thus the Bali Road Map established another subsidiary body, the Ad Hoc Working Group on Long-term Cooperative Action (AWG-LCA), under the UNFCCC, to negotiate a shared vision for long-term cooperative action, including a long-term global goal for emissions reduction and comparability of efforts by

BOX 1.2 THE BALI ACTION PLAN

The Bali Action Plan in responding to the findings of the Fourth Assessment Report of the Intergovernmental Panel on Climate Change that warming of the climate system is unequivocal, and that delay in reducing emissions significantly constrains opportunities to achieve lower stabilization levels and increases the risk of more severe climate change impacts, decides to launch a comprehensive process to enable the full, effective and sustained implementation of the Convention through long-term cooperative action, now, up to and beyond 2012, in order to reach an agreed outcome and adopt a decision at its fifteenth session, by addressing, inter alia (Paragraph 1):

A shared vision for long-term cooperative action, including a long-term global goal for emission reductions, to achieve the ultimate objective of the Convention, in accordance with the provisions and principles of the Convention, in particular the principle of common but differentiated responsibilities and respective capabilities, and taking into account social and economic conditions and other relevant factors (Paragraph 1a);

(b) Enhanced national/international action on mitigation of climate change, including, inter alia, consideration of (Paragraph 1b):

(i) Measurable, reportable and verifiable nationally appropriate mitigation

Commitments or actions, including quantified emission limitation and reduction objectives, by all developed country Parties, while ensuring the comparability of efforts among them, taking into account differences in their national circumstances (Paragraph 1b1);

(ii) Nationally appropriate mitigation actions by developing country Parties in the context of sustainable development, supported and enabled by technology, financing and capacity-building, in a measurable, reportable and verifiable manner (Paragraph 1b2).

non-Kyoto Parties such as the US with the effort under taken by Kyoto Parties. This AWG worked in tandem with the already existing Ad Hoc Working Group on further commitments for Annex I parties to the Kyoto Protocol (AWG-KP). The AWG-LCA mandate was to undertake a 'comprehensive process to enable the full, effective and sustained implementation of the Convention through long-term cooperative action, now, up to and beyond 2012, in order to reach an agreed outcome and adopt a decision at its fifteenth session' (COP 15). The work of both working groups was on parallel tracks and was expected to be concluded at the Copenhagen Climate Conferences, COP 15, 2009.

However, by 2008, this Bali bargain was beginning to show signs of unravelling. Despite the developed countries achieving much of what they sought in Bali, such as a decision in which the developing countries agreed to undertake voluntary mitigation actions, that was ultimately to be measurable, verifiable and reportable (MRV), there was still dissatisfaction especially, with the need to provide enhance flows of financing, which was also to be MRV-ed. In the case of the US, though it had agreed to under-take comparable mitigation efforts to that of the other developed countries, who were Parties to the Kyoto Protocol, it was still not at ease. At the same time, developing countries were increasingly concerned that the finely achieved balance of rights and obligations achieved in the convention were being altered to their disadvantage: though in the Convention they had no explicit obligations for mitigation, under Bali, they had expressly committed to undertake mitigation actions (albeit, voluntarily). They also felt that developed countries were not taking the strong leadership in mitigating greenhouse gas that had been committed under the Convention, they also were slow in providing the means of implementation – finance, capacity building and technology transfer.

After a fractious negotiating process, the fifteenth meeting of the COP (Copenhagen 2009) partially collapsed due to a pushed by a US-led coalition of developed countries, including the UK, that focused on the twin strategies of over-throwing the current top-down (aggregate) legally binding emission reduction targets of the Kyoto system, which the US had walked away from, towards a voluntary bottom-up, ‘pledge and review’ system with low emissions reduction ambition, coupled with attempts to shift mitigations burden unto developing countries. The meeting ended with the infamous Copenhagen Accord that settled on an arbitrary temperature target of keeping global mean temperature well below 2 degrees Celsius. This was coupled with a proposed \$30 billion ‘fast start financing’ (2010–2012) package and a commitment to a goal of mobilizing \$100 billion per year, long-term (by 2020) finance for developing countries in the context of meaningful mitigation actions by developing countries.

Even though many developing countries left the Copenhagen meeting with grave, disquieting fearing that their voluntary mitigation actions was slowing becoming an albatross around their necks with the new proposal of international consultation analysis and other frameworks for MRV, while the obligations of the developed countries where at best left to ‘best endeavour’. The diminished effect of sweetener of the \$30 billion fast start finance and the vagueness of promise of \$100 billion per year by 2020 began to settle in, hence by the 2010 Cancún meetings; many developing countries’ were uneasy.

Nonetheless, the Cancún Agreements (COP 16, 2010) legitimated the Copenhagen Accord by incorporating most all of those provisions as part of its final outcome. Cancún, however, left the question of the extension of the Kyoto Protocol open. It did not set a global goal or peaking year or a means to ensure the achievement of the 2 degrees Celsius temperature goal. The Cancún Agreement did make some new ground. For example, it explicitly included references to the

rights of indigenous people and gender and women in many provisions of the shared vision texts (for example the preamble of the Long-term Cooperative Action under the Convention (LCA) text and in some provisions on adaptation). It also had agreement on a framework for adaptation, the so-called, Cancún Adaptation Framework and established the world's first Green Climate Fund (GCF), a Standing Committee for Finance, a Technology Mechanism and associated components, the Technology Executive Committee and the Climate Technology Centre and Network. The first two set of institutions are meant to enhance and accelerate the flow of financial support to the developing countries, while the latter mechanisms would facilitate the transfer and development of environmentally sound technologies to those countries.

However, to date, there is still an ongoing struggle to operationalize these institutional frameworks to deliver significant and meaningful outcome to developing countries. This has raised a growing level of distrust between the Parties, which is further exacerbated by the push by developed countries to weaken the explicit differentiation between developed and developing countries in the Convention with regard to rights and responsibilities around addressing the climate challenge. Many observers as well as developing countries argue that this is the real motivation behind the call for a new legal instrument 'applicable to all' and an initial rejection of equity and common but differentiated responsibility principle. It is in fact perplexing what is meant by applicable to all as the Convention and its instrument are in fact applicable to all the parties; there are different levels of responsibilities and obligations having to do with the recognition of the historical nature of the problem of the accumulation of GHGs. Hence the issue it seems is more about developed countries now having second thoughts about the commitments they made in 1992. Hence, the US, among others, has been repeating the phrase 'the world has changed since 1992' as if it is a mantra.

Despite any misgivings about the intent behind the call for a new agreement both developed and developing countries agreed to the Durban Decision 2011 which launched 'a process to develop a protocol, another legal instrument or an agreed outcome with legal force under the Convention applicable to all Parties'. India was careful at the last minute to make it explicit that this new instrument would be grounded in the principles of the Convention, including equity and CBDR. Though both the EU and the US was dragged kicking and screaming into accepting this concession, realpolitik dictated that this was the only way to get an agreement in the early morning after a long night in Durban. The work toward the penultimate final outcome of the Durban agreement is to be undertaken by a new Ad Hoc Working Group on the Durban Platform for Enhanced Action, the ADP. Ultimately, the negotiation process, which is expected to conclude by 2015, aims at raising the level of ambition, and the adoption of a new protocol, legal instrument or legal outcome with force²¹ to come into effect and be implemented from 2020 (Draft Decision-/CP.17 FCCC/CP/2011/L.10). However, the Indian concession on equity and CBDR has been the tail wagging the dog of the ADP,

since at every turn the developed countries have been faced with the issue that the outcome of 2015 must be under the Convention, being the principles of the Convention including equity and CBDR.

The long anticipated amendment of the Kyoto Protocol, both to strengthen its emissions reduction potential and to ensure its continuation beyond the initial first commitment period, did not occur as anticipated in the last three remaining meetings of the COP, COP 15 (Copenhagen 2009), COP 16 (Cancún 2010) and COP 17 (Durban 2011) due to foot dragging and attempts to run down the clock by the major Parties to the Protocol. The Durban meeting (COP 17, 2011) decided that 'the second commitment period under the Kyoto Protocol shall begin on 1 January 2013 and end either on 31 December 2017 or 31 December 2020, to be decided at the eighteenth session' (COP 18 2012).²² The eighteenth session of the COP and the eighth session of the CMP took place in Doha, Qatar, December 2012; it seemingly implemented the process for the ratification of a legal second commitment period for the Kyoto Protocol.

The Doha 2012 climate meeting agreed on the duration and ambition of the second commitment period of the Kyoto Protocol. It agreed to a much weakened, legally binding, 8 years (instead of 5 years), second commitment period. This agreement extended the Protocol until 2020. But with countries representing only 15 per cent of global emissions proposing to take on quantified emissions reduction target, the Kyoto Protocol is effectively on life-support. There are no provisions for subsequent periods beyond the second period. The second commitment period will be severely weakened by the withdrawal of Canada, which post-Durban announced its exit from the Protocol, and both Russia's and Japan's refusal to participate in a second commitment period. Australia and New Zealand have both only indicated conditional pledges, indicating less than enthusiastic support for the continuation of the Protocol. Australia, the EU and a few other European countries have offered to place their existing emissions targets under the legal framework of the Protocol: But the reality is that only a political commitment on the Protocol that was initially agreed in Durban (2011) even after the Doha meeting (2012) there is still much legal uncertainty about the Protocol. There is still uncertainty as to whether, despite the Doha Outcome, there is a second commitment period that is ratifiable and legally binding. A meaningful and legally effective second commitment period of the Protocol should come into effect on 1 January 2013 and provisionally applied so that there is immediate implementation. But Doha did not agree on a process or set terms for the ratification of the Protocol. Even with the EU, the mainstay of the Protocol, ratification is hardly likely to be a quick process given the resistance of Poland among others of the Eastern European countries. It might turn out that the adoption of the agreement on the extension of the Protocol was a facing saving agreement for the EU. It was also able to skilfully negotiate an 8 year second commitment period in which it does not have to take significant actions to reduce emissions. The EU only agreed to 20 per cent emission reduction target of 1990 levels, 2013–2020, and not the more ambitious 30–35 per cent demanded by developing countries as well as some in

the environmental movement. This 20 per cent is in line with EU domestic target and at least 18 per cent of which has already been achieved. So in effect the EU will not have to do much more during the 8 years. In fact by the early 2014 the EU was already claiming to have over achieved on its reductions commitment. There is also no comparability of even these minimal efforts agreed to for non-Kyoto Parties such as the US and renegades such as Japan and Canada.

An inconvenient truth is that the proposed new instrument to be negotiated by 2015 and enter into force in 2020 will effectively replace the Kyoto Protocol should it come into force in time. If not, there will be a gap in the climate change regime, especially between 2018 and 2020. It, hence, then should not be a surprise that there has been tremendous foot-dragging by developed-country Kyoto Parties in ratifying the second commitment period. (As of mid-October 2014, the only Parties who have ratified the second commitment period are developing countries – who have no mitigations reduction commitment under the Protocol.)

1.3 Global climate protection policy and gender: gender-blind or male-biased?

Since the coming into force of the UNFCCC (1992) and its associated Kyoto Protocol (1997), there have been growing efforts by gender equality and women's empowerment advocates, both at the governmental, inter-governmental and non-governmental levels working to ensure that climate change policies, decision-making, and initiatives at the global, regional and national levels are gender responsive.

The effort to secure consensus on the inclusion of references to gender and women and related priorities within the substantive negotiations agenda of the UNFCCC, including in the main negotiations texts and, especially with regard to adaptation, mitigation, capacity building, Reducing Emissions from Deforestation and Forest Degradation (REDD) initiative and the Green Climate Fund, was a hard fought for set of gains by the 'the women and gender constituency', which was only recently recognized.²³ This effort led by a wide range of women's non-governmental organizations, individually and jointly as members of the GGCA²⁴ was also backstopped by support from a high profiled trio of women leaders. At COP 16 (Cancún 2010) had a triplet of high powered women leadership with the Executive Secretary of the UNFCCC (Christiana Figueres, Ambassador Patricia Espinosa, Minister for Foreign Affairs, Mexico and the President of COP 16/CMP 6 and Ambassador Dessima Williams, the Grenadian ambassador to the UN and Chair of the over 40 member grouping of the Alliance of Small Island States). This trend of women at the top continued with COP 17 (Durban) with the transfer of leadership of the COP Presidency (COP 17/CMP7) to South Africa, with Minister Maite Nkoana-Mashabane, Minister of International Relations and Cooperation, South Africa, picking up the mantle. A trend that was only broken with the assumption of the COP presidency by H.E. Abdullah bin Hamad Al-Attiyah of Qatar, Doha (COP 18/CMP 8). In addition to the women leaders of the UNFCCC process, there was support by Mary Robinson,²⁵

Connie Hedegaard, EU Commissioner for Climate Action, and Michelle Bachelet, Executive Director, UN Women, and members of the Network of Women Ministers of the Environment.

The effort to engender global climate policy regime has increased intensely over the last 5 years culminating at high point before the inception of the post-2012 period (see Boxes 1.2 and 1.3). Gender advocates were successful in leveraging their influence and coordinated lobby skills to integrate at least eight references to women and gender across seven sections of the Cancún (2010) final decisions. The Durban Outcome has 11 explicit references to gender mainly focused on governance features of the GCF, the Standing Committee and the Technology Mechanisms. The Doha COP 18 rendered a decision focused on women's participation as a step towards greater gender equality in climate change policies and programming and agreed to the goal of gender balance in bodies established pursuant to the Convention and the Kyoto Protocol. The decision entitled *Promoting Gender Balance and Improving the Participation of Women in UNFCCC Negotiations and in the Representation of Parties in Bodies Established Pursuant to the Convention or the Kyoto Protocol* will put in place several key actions and changes.

The 2012 gender decision built on a decade old mandate from the Seventh Meeting of the Conference of the Parties, Marrakesh, 2001, which adopted the very first UNFCCC decision on gender. This Decision 36/CP.7 noted the importance of women's participation in achieving progress on mitigation and adapting to climate change at all levels.

However, gender activists have noted that progress in implementing the 2001 decision had been slow (WEDO 2012). There has been an average of 30 per cent of women as members of national delegations to the UNFCCC and participation in the annual COP meetings over the last 5 years (see Tables 1.1 and 1.2). Women also continued to be under-representation (below 10 per cent) of women at all levels of COP bodies and boards of UNFCCC.

Research by gender advocates, WEDO and Gender CC for the period 2008–2012 shows that there has been progress in the participation of women over the years with the last COP at 33 per cent (COP 18, Doha 2012) having the highest ever participation, but that women's participation tended to be 'slightly less than at other meetings' in the eighteen UNFCCC formal meetings held between 2008 and 2013,²⁶ including 5 annual meetings and at least 2–3 inter-sessional meetings per year (WEDO 2012).

In terms of constituted bodies of the UNFCCC women are quite under-represented (Table 1.1). In 2012, women accounted for 4 of the 15 members of the Adaptation Committee, 5 of the 28 members of the Adaptation Fund Board, 8 of 24 members of the Consultative Group of Experts on National Communications. Women also comprise 4 of 20 members of the executive board of the Clean Development Mechanism, 8 of 48 members of the Green Climate Fund (GCF), 2 of 13 members of the Least Developing Countries Export group. Women's under-representation in constituted UNFCCC bodies has continued with even recently created bodies such as the Technology Executive Committee

BOX 1.3 EVOLUTION OF GENDER IN THE UNFCCC DECISION-MAKING

Gender Decision 1.0: The Marrakesh Decision 36/CP.7

The Seventh Meeting of the Conference of the Parties, Marrakesh, 2001 adopted the very first UNFCCC decision on gender. Decision 36/CP.7 noted the importance of women's participation in achieving progress on mitigation and adapting to climate change at all levels.

Gender Decision 2.0: The Durban Gender Decision

The COP 18 Gender Decision 'Promoting gender balance and improving the participation of women in UNFCCC negotiations and in the representation of Parties in bodies established pursuant to the Convention or the Kyoto Protocol' reaffirms the COP decision taken over a decade ago. Despite the COP 7 decision, participation of women in UNFCCC bodies and as Party delegates overall has remained low. The COP 18 Gender Decisions adds new provisions to increase women's participation and gender balance on delegations and to give more attention and resources toward the goal of gender balance.

The COP 18 Gender Decision recognizes that gender balance is but a step towards gender equality, and a means to 'improve women's participation and inform more effective climate change policy' (Paragraph 2). Furthermore, the UNFCCC Secretariat's mandate to compile and report on sex-disaggregated data is driven by the importance of 'tracking of progress made towards the goal of gender balance in advancing gender-sensitive climate policy' (Paragraph 8). Building on the UNFCCC Secretariat's data collection and dissemination mandate to support (1) the goal of 'gender balance in the UNFCCC process', (2) 'gender-sensitive climate policy' and (3) 'capacity-building activities to promote the greater participation of women in the UNFCCC process' (Paragraph 10). The COP 18 Gender Decision sets the stage to strengthen gender balance and women's participation, while linking these pieces tie into the ultimate goals of gender equality and gender-responsive climate policy.

(TEC) and the Standing Committee on Finance (SCF): women were only 2 of 20 members of the Technology Executive Committee and 4 of the 20 members of the Standing Committee on Finance.

Women do only slightly better in terms of their participation in the various negotiating blocs of the UNFCCC (Table 1.2). The participation rate of women over the last 5 years averages 43 per cent for the European Union (EU), 42 per cent for the Alianza Bolivariana de Nuestra America (ALBA), 38 per cent for the Umbrella Group, 31 per cent for the Alliance of Small Island States (AOSIS), 28 per cent for the BASIC – Brazil, South Africa, India and China, 24 per cent for the Group of 77 and China, 21 per cent for the African Group, 20 per cent