

# Green Growth, Resources and Resilience

Environmental Sustainability  
in Asia and the Pacific



ESCAP promotes regional cooperation for inclusive and sustainable economic and social development in Asia and the Pacific, a dynamic region characterized by growing wealth, diversity and change, but also challenged with persistent poverty, environmental degradation, inequality and insecurity. ESCAP supports member States with sound strategic analysis, policy options and technical cooperation activities to address key development challenges and to implement innovative solutions for region-wide economic prosperity, social progress and environmental sustainability. ESCAP, through its conference structure, assists member States in forging a stronger, coordinated regional voice on global issues by building capacities to dialogue, negotiate and shape the development agenda in an age of globalization, decentralization and problems that transcend borders. A key modality for this strategy is the promotion of intraregional connectivity and regional integration.

ADB's vision is an Asia and Pacific region free of poverty. Its mission is to help its developing member countries reduce poverty and improve the quality of life of their people. ADB is committed to reducing poverty through inclusive economic growth, environmentally sustainable growth, and regional integration. Based in Manila, ADB is owned by 67 members, including 48 from the region. Its main instruments for helping its developing member countries are policy dialogue, loans, equity investments, guarantees, grants, and technical assistance. More information can be found at <http://www.adb.org>.

UNEP is the United Nations system's designated entity for addressing environmental issues at the global and regional level. Its mandate is to coordinate the development of environmental policy consensus by keeping the global environment under review and bringing emerging issues to the attention of governments and the international community for action. UNEP's mission is to provide leadership and encourage partnership in caring for the environment by inspiring, informing and enabling nations and peoples to improve their quality of life without compromising that of future generations. UNEP's headquarters are in Nairobi, Kenya, and it has six regional offices around the world. It is one of only two UN programmes headquartered in the developing world. In Asia and the Pacific, UNEP works in 46 countries through its Regional Office for Asia and the Pacific located in Bangkok, Thailand. More information can be found at: <http://www.unep.org>.

# Green Growth, Resources and Resilience

Environmental Sustainability  
in Asia and the Pacific



**Green Growth, Resources and Resilience**  
**Environmental Sustainability in Asia and the Pacific**

United Nations and Asian Development Bank publication  
ST/ESCAP/2600, RPT124260  
Printed in Bangkok 2012

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations, the Board of Directors of the Asian Development Bank (ADB), the Board of Governors of ADB or the governments they represent concerning the legal status of any country, territory, city or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries.

The content and views expressed in this publication are those of the authors and do not necessarily reflect the views or policies or carry the endorsement of the co-publishing organizations. Reference to a commercial entity or product in this publication does not imply endorsement.

The co-publishing organizations do not guarantee the accuracy of the data included in this publication and accept no responsibility for any consequence of their use.

All queries can be addressed to any of the co-publishing organizations as follows:

Director Environment and Development Division United Nations Economic and Social Commission for Asia and the Pacific United Nations Building Rajadamnern Nok Avenue Bangkok 10200, Thailand escap-esdd-evs@un.org	Director Environment and Safeguards Regional and Sustainable Development Department Asian Development Bank 6 ADB Avenue Mandaluyong City, Metro Manila 1550, Philippines environment@adb.org	Regional Director United Nations Environment Programme Regional Office for Asia and the Pacific United Nations Building Rajadamnern Nok Avenue Bangkok 10200, Thailand uneproap@un.org
--	--	--

This publication follows the United Nations practice in references to countries. Where there are space constraints, some country names have been abbreviated. In the Asian Development Bank, China is referred to as the People's Republic of China and Kyrgyzstan is referred to as the Krgyz Republic.

Also available online at:

[www.unescap.org/esd/environment/flagpubs/GGRAP](http://www.unescap.org/esd/environment/flagpubs/GGRAP)  
[www.adb.org/Environment/](http://www.adb.org/Environment/)  
[www.unep.org/roap](http://www.unep.org/roap)

---

ISBN 978-92-1-120635-7  
e-ISBN 978-92-1-055184-7

*This publication was printed on chlorine and acid-free paper made from agro-waste, recycled and virgin fibres, with a water-based coating and using vegetable inks.*

# Foreword

The Asia and Pacific region faces a new economic reality, a development context that is increasingly influenced by resource constraints and growing risks. In recent years, convergent economic and environmental challenges have had dramatic impacts on millions of people, threatening continued progress toward reduction of poverty and hunger. High food, energy and commodity prices, persistent income inequality, and climate and environmental changes overshadow the regional outlook.

These storm clouds come with a tantalizing silver lining. Asian and Pacific countries have made “green” policy commitments and investments that just five years ago would have been unimaginable. This nascent transformation is marked by perceptible changes in awareness, attitudes, markets and technologies, making green growth and transition to a green economy more economically and politically feasible than ever before.

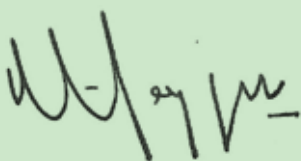
Green growth strategies can help economies and societies become more resilient as they work to meet demands for food production, transport, housing, energy and water. Strategies can help mitigate the impacts of adverse shocks by reducing the intensity of resource consumption and environmental impacts, while alleviating pressure on commodity prices. Green growth also offers competitive advantages to those countries that commit to policy innovations. The global market for green goods and services is vast and growing fast, offering countries the dual benefit of prosperity and job creation.

To take advantage of these opportunities, long-term solutions require policy initiatives to transform economies, building on already important initiatives in many countries. Economies must be recalibrated so that economic growth is directly aligned with sustainable development objectives. The need for new infrastructure investment in the region presents opportunities for planners and policymakers to design, build, and operate infrastructure on principles of sustainability, including accessibility and social inclusiveness.

Governments must play their part, enabling the private sector to seize emerging opportunities while also engaging the public in finding effective and equitable solutions that are adapted to the special circumstances and needs of each country and community. Governance approaches that emphasize inclusiveness and adaptability, as well as regional cooperation, are critical requirements for any transition.

Reflecting a common view that action is urgently needed, the United Nations Economic and Social Commission for Asia and the Pacific, the Asian Development Bank and the United Nations Environment Programme have joined forces to produce this report on *Green Growth, Resources and Resilience*. Each institution has its own mandates and the three find common ground in working together to help catalyze action for sustainable and inclusive economic growth—a future where all people have an opportunity for a better life.

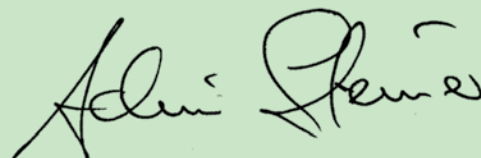
Decision makers at the sixth Ministerial Conference on Environment and Development in Asia and the Pacific (MCED), held in 2010 in Astana, Kazakhstan, have discussed the key findings and recommendations of a preview of this report. Looking beyond MCED, this report provides a wealth of information to facilitate the regional and global preparations for the United Nations Conference on Sustainable Development, to be held in Rio de Janeiro in 2012. This report will help all stakeholders take urgent action to chart our way to a more sustainable future.



Noeleen Heyzer  
Executive Secretary  
ESCAP



Haruhiko Kuroda  
President  
ADB



Achim Steiner  
Executive Director  
UNEP



# About the report

## Background

This report—*Green Growth, Resources, and Resilience*—is the product of a combined effort by three institutions: the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), the Asian Development Bank (ADB) and the United Nations Environment Programme (UNEP). It is the sixth in a series of reports published every five years since 1985 by ESCAP (formerly known as the State of the Environment in Asia and the Pacific series). It is also the third in ADB's *Asian Environment Outlook* series, funded by a Technical Assistance project – Preparation of the 2010 Asian Environment Outlook – for which financing was approved in May 2009 through the Technical Assistance Special Fund. It is also in line with UNEP's mandate to keep the state of the environment under review.

A Preview<sup>1</sup> of this report was distributed during the sixth Ministerial Conference on Environment and Development in Asia and the Pacific (MCED 6), held in Astana, Kazakhstan, in September 2010. This full report comes at a key time as governments and other stakeholders prepare for the 2012 United Nations Conference on Sustainable Development (UNCSD) to secure renewed political commitment for sustainable development, assess progress to date and the remaining gaps in implementation of the outcomes of the major summits on sustainable development, and address new and emerging challenges, 20 years after the 1992 Earth Summit.

In 2005, the need to “shift the development orientation from a ‘grow first, clean up later’ approach to one of green growth,” was a key message of MCED 5.<sup>2</sup> Then, the term “green growth” was relatively new to the international arena, but since then, green growth and related concepts have increasingly become an important part of the sustainable development agenda. This is underscored by the fact that one of the two themes of UNCSD is *a green economy in the context of sustainable development and poverty eradication*.

## Organization

The report is organized into six chapters:

The first chapter describes an evolving policy landscape in which rising demand for resources, along with increasingly apparent impacts from climate change, are bringing together economic, social and environmental crises, providing new opportunities and giving rise to new governance challenges.

The second chapter provides a detailed examination of resource use and efficiency trends, showing the complex nature of resource risks posed by the scale and speed of the economic transition and resource-intensive patterns of growth.

The third chapter outlines key policy actions for bringing economic growth strategies in closer alignment with the objective of sustainable development.

The fourth chapter describes how new governance challenges can be addressed at a number of levels, from international and regional governance structures down to national and local levels.

The fifth chapter focuses on illustrative strategies to promote improved resilience, a concept that centers on the capacity of societies and economies to resist and adapt to shocks and, whenever possible, turn crisis into opportunity.

The concluding chapter highlights some of the important findings of the report and comments on the implications for the two themes of the United Nations Conference on Sustainable Development (Rio+20).

# Acknowledgements

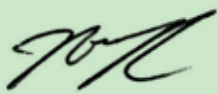
Members of the team that coordinated the preparation of the report and provided significant input into all chapters were: Masakazu Ichimura, Chief, and Hitomi Rankine, Environmental Affairs Officer of the Environment and Development Policy Section, Environment and Development Division, United Nations Economic and Social Commission for Asia and the Pacific (ESCAP); Daniele Ponzi, Lead Environment Specialist, and Jeffrey Bowyer, Environment Specialist (Consultant) of the Environment and Safeguards Division, Asian Development Bank (ADB); and Anna Stabrawa, Regional Coordinator for Early Warning and Assessment of the Regional Office for Asia and the Pacific, United Nations Environment Programme (UNEP). Dechen Tsering, Jinhua Zhang and Tunnie Srisakulchairak supported UNEP's contribution, while Peter King and Benoît Laplante acted as technical advisors on all chapters.

Several people provided significant contributions to specific aspects of the report, including: Heinz Schandl, Jim West and Karin Hosking on the theme of resource use and resource efficiency; Louis Lebel, Natalja Wehmer, Shaswat Saptkota, Aksel Sundstrom on inclusive and adaptive governance; Wanhua Yang, Hans van Rijn and Peter King on governance; Dan Millison, Lorenzo Santucci and Kelly Hayden on sustainable infrastructure; Ti Le Huu and Ermina Sokou on water; Jay Maclean on sustainable agriculture; Vincent Jugault and Marc Ruffet on green jobs; Charles Rodgers on adaptation to climate change; and Brian Carisma on the use of data. David Annandale also provided inputs on a number of topics.

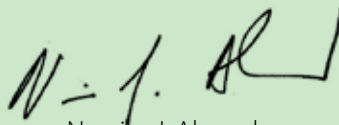
The report was edited by Jay Maclean and Orestes Plascencia. The cover page and layout were prepared by Ruedee Arunkhajohnsak and Michael Cortes, and administrative and secretarial assistance was provided by Wipavee Kasemsawasdi, Rujira Khrueachotikul, Siriwat Theerawong, Sirkul Suvarnnate (ESCAP) and Charina Munda (ADB).

In addition to those directly involved in preparing the report, we would like to recognize the contributions of ESCAP, ADB and UNEP colleagues, along with government focal points, who reviewed the chapters and provided insightful comments (Annex 4). We would also like to thank those who attended a series of expert group and review meetings.

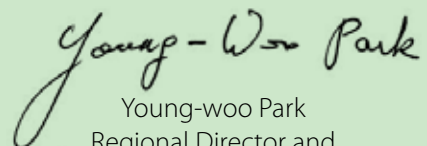
We would especially like to acknowledge the contributions of the Commonwealth Scientific and Industrial Research Organisation (CSIRO) of Australia in relation to the ground-breaking work done on material consumption and resource efficiency (in partnership with UNEP), and the International Labour Organization Regional Office for Asia and the Pacific on the subject of green jobs.



Rae Kwon Chung  
Director,  
Environment and  
Development Division  
ESCAP



Nessim J. Ahmad  
Director,  
Environment and Safeguards  
Regional and Sustainable  
Development Department  
Asian Development Bank



Young-woo Park  
Regional Director and  
Representative for Asia and  
the Pacific  
United Nations Environment  
Programme

# Contents

FOREWORD . . . . .	iii
ABOUT THE REPORT . . . . .	iv
ACKNOWLEDGEMENTS . . . . .	v
NOTES . . . . .	x
ABBREVIATIONS AND ACRONYMS . . . . .	xi
EXECUTIVE SUMMARY . . . . .	xii

## CHAPTER 1: A CHANGING LANDSCAPE, EVOLVING POLICY CHALLENGES AND OPPORTUNITIES. . . 1

A changing regional outlook—converging challenges . . . . .	1
Security in a changing economic reality . . . . .	4
Energy security . . . . .	5
Minerals, metals and other materials . . . . .	5
Water security . . . . .	6
Food security . . . . .	8
Ecosystems and biodiversity . . . . .	12
Emerging opportunities. . . . .	14
Green shoots: investments, commitments and actions . . . . .	16
Global and regional commitments . . . . .	16
National initiatives . . . . .	17
New challenges for governance. . . . .	20
Turning green shoots into green and resilient growth. . . . .	21

## CHAPTER 2: RESOURCE USE TRENDS: MATERIALS, ENERGY AND WATER . . . . . 23

Introduction . . . . .	23
Resource use trends in Asia and the Pacific. . . . .	23
Rising resource use . . . . .	25
A changing resource base . . . . .	27
Subregional and country differences in resource use . . . . .	29
Extraction and importation of materials . . . . .	32
Resource efficiency trends . . . . .	33

预览已结束，完整报告链接和二维码

<https://www.yunbaogao.cn/report/index/report?re>