



A comprehensive report by key research institutions exploring environmental, social and economic indicators

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The world's tropical region has long captivated the imagination of outsiders. Aristotle viewed the 'Torrid Zone' as an uninhabitable region of oppressive heat and pestilence; early European explorers and colonisers considered the region to be full of opportunity and ripe for discovery and exploitation; scientists have long worked to uncover its secrets; artists have been inspired by it and it has been idealised as a paradise, characterised by aqua blue seas, benign peoples and jungles teeming with exotic wildlife. The Tropics have long been defined by these views, invariably promoted and sustained by people who live outside the region: views which have shaped, and in many cases, framed policies and approaches to the region that have not necessarily been appropriate or beneficial.

In recent times, east/west, north/south, developed/developing axes of understanding have dominated our worldview, while that fundamental Aristotelian, lateral perception of the world has faded from view.

Yet, almost half the world's population call the Tropics home. People have lived, even thrived in the region for millennia. Across all parts of the region, they have mastered their tropical domains. Many peoples of the Tropics continue to live on their traditional lands, working determinedly to adapt their traditional ways to meet the challenges of a rapidly changing world, even as economic powerhouses have emerged elsewhere in the Tropics.

Despite the Tropics being a place of extraordinary biological and cultural diversity, the peoples of the Tropics across the globe share a common bond: their ability to adapt to and thrive in Aristotle's 'uninhabitable' zone. There is much the wider world can learn from the many innovative approaches to life adopted by the various peoples in the region; approaches which have served those peoples well.

Of course, the region is not without its challenges. For a variety of reasons, both imposed from the outside and born from within, the Tropics have lagged behind the rest of the world. In many ways, this makes the Tropics more vulnerable to the world's grand challenges than other regions.

At a time of increasing concern about social, environmental and economic sustainability, a different approach is long overdue. It is time to recognise and acknowledge the Tropics as a region defined from within, rather than without, to embrace the wisdom and experience of its peoples and to ensure that solutions of merit deployed in one part of the Tropics can be shared elsewhere, across the Tropics and beyond.

This is the approach taken by State of the Tropics. This report provides the first in-depth, impartial assessment of the Tropics as an environmental and geopolitical entity in its own right. It draws on

In early 2011 a group of leading research institutions with an interest in tropical issues united to examine the condition of life in the Tropics. The group met in Singapore in mid-2011 to scope a project that would draw on shared expertise to report trends across a broad range of environmental, social and economic indicators. The intent was to shed light on a simple question: Is life in the Tropics getting better?

This report is the culmination of that collaboration. Across a broad range of environmental, social and economic indicators, the Tropics emerges as a critical global region with a unique set of development challenges.

limit development. Clearly, while on the right track, much remains to be done. The range and significance of shared issues facing nations and territories in the Tropics suggests it is timely to examine the characteristics and challenges facing the tropical region as an entity in itself.

By assessing a broad range of environmental, social and economic indicators the inaugural State of the Tropics Report shines a light on the people and issues of the tropical world, and contributes to efforts to improve the lives of the peoples of the Tropics and their environments.

key systems essential to assess progress and sustainability; the ecosystem and the human system. The ecosystem is recognised as providing services that underpin all life on Earth. The human system is considered a subset of the ecosystem acknowledging that ecosystem 'health' is essential to sustainable health, development and progress in the human system.

The Ecosystem

For many ecosystem indicators, the Tropics is in much better condition than the Rest of the World, although increasing population and affluence are placing greater pressures on the natural environment. Rapid growth in global trade and the exploitation of resources for export markets by more developed nations are also contributing to the ongoing and increasing risk to the ecological health of tropical ecosystems.

Key Findings:

The Atmosphere

- Across the world total and per capita greenhouse gas emissions are increasing.
- Consistent with rapid economic growth since 1980 the Tropics' share of global energy generation has more than doubled, from 7% to 15%. The Tropics produces 23% of global renewable energy, mostly through hydroelectricity generation.

Key Findings:

Human security, crime and corruption

- Refugee numbers in the Tropics declined significantly during the 1990s, but numbers have stabilised at around 4 million over the past decade. The decline in refugee numbers in the Tropics between 1990 and 1999 was driven by the repatriation of significant numbers of refugees to Mozambique and Ethiopia. Although not reported here, refugee numbers in the Rest of the World have increased recently due to conflict in the Middle East.
- Although time series data are not available, the homicide rate in the Tropics is considerably higher than in the Rest of the World. Overall, the Tropics reported a homicide rate of 14.5 per 100,000, compared with a rate of 5.6 per 100,000 in the Rest of the World. However, within the Tropics there is great regional and national variation. For example, the homicide rate in South America was 32.9 per 100,000 compared to 5.1 per 100,000 in South Asia.
- The Tropics achieved lower scores than the Rest of the World for a range of governance indicators, indicating higher rates of corruption

trend. The performance of the Tropics varied substantially with some regions displaying higher growth and variability than others.

- Although the gap has narrowed, the proportion of the population with access to safe drinking

Acronyms used in this report

ACOSS	Australian Council of Social Services (Australia)
ADB	Asian Development Bank
AFMA	Australian Fisheries Management Authority (Australia)
AIDA	Interamerican Association for Environmental Defense
ALI	Australian Land International
APEC	Asia Pacific Economic Cooperation
ATA	ActualText (p) BDC /T1_0 ement

Chapter 1

State of the Tropics

Introduction

The State of the Tropics Project

In early 2011 a group of leading research institutions with an interest in tropical issues identified a need to examine the condition of life in the Tropics. The group met in Singapore in mid-2011 to scope a project that would draw on shared expertise to report trends across a broad range of environmental, social and economic indicators. The intent was to shed light on a simple question: Is life in the Tropics getting better?

This report is the culmination of that collaboration. By assessing a broad range of environmental, social and economic indicators it shines a light on the people and issues of the tropical world, and contributes to efforts to improve the lives of the peoples of the Tropics



Nations of the Tropics

To assess which nations and territories should be included in the Report two processes were applied. The first used a population-based decision tool to assess whether nations partially in the Tropics should be included in the Report, and the second reviewed data availability to assess whether sufficient data were available to warrant a nation's inclusion in the Report. Generally only very small nations were excluded.

The geographic area that is the Tropics is clearly defined as the region between the Tropics of Cancer and Capricorn. However, national borders do not align neatly with these latitudinal lines and there are a number of nations and territories that straddle the zone.

The following practical approach was applied to select nations and territories for inclusion in the Report:

- Nations that are wholly within the Tropics

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Using this decision tool 134 nations and territories were assessed as being in the Tropics (See Appendix B).

Large nations which straddle the Tropics (Mexico, Brazil, Saudi Arabia, India, Bangladesh, China, Australia and United States) were investigated at a sub-national level and divided into tropical and non-tropical regions (See Appendix C).

Sub-national estimates were calculated using regional data where it was available or applying assumptions to national level data.

Reflecting the broad international scope of the project are the key institutions involved. These include: Escuela Superior Politécnica del Litoral (Ecuador), Instituto Nacional de Pesquisas da Amazônia (Brazil), James Cook University (Australia), Liverpool School of Tropical Medicine (England), Mahidol University (Thailand), Nanyang Technological University (Singapore), National University of Singapore, Organization for Tropical Studies (Costa Rica), University of Hawaii – Manoa (USA), University of Nairobi (Kenya), University of Papua New Guinea and University of the South Pacific (Fiji).

