



### Latin America and the Caribbean

Latin America and the Caribbean comprises the countries of the Caribbean, Meso-America and South America.

## PAST AND PRESENT: 1972 TO 2002

**Land** - The region has the world's largest reserves of arable land but unplanned expansion of cities, erosion and changes in agricultural practices have contributed to the loss of once productive agricultural land. Over 300 million hectares (ha) of land have been degraded, mainly due to erosion caused by non-sustainable land use, nutrient depletion, chemical pollution, overgrazing and deforestation.

*A Regional Coordination Unit of the United Nations Convention to Combat Desertification is assisting countries to prepare national action programmes. Sub-regional mechanisms such as the Amazonian Pact, the Sustainable Development Commission for the Central American Integration System and the Andean Pact, promote monitoring and control systems against land degradation.*

**Freshwater** — The region contains 30 per cent of the world's renewable water, but three hydrographic regions that cover 25 per cent of the region and are home to 40 per cent of the population contain only 10 per cent of the water resources. Over the last 30 years, there has been a significant decrease in both surface and groundwater quality due to increases in agricultural and domestic untreated wastewater. Pollution of aquifers has become extensive and saline intrusion in coastal areas is of growing concern.

*Governments in the region are trying to improve the efficiency of water related services through privatization and applying economic instruments. Brazil has achieved notable advances in water resources management by putting in place a national water resources policy and management system.*

**Forests and Biodiversity** – Latin America contains 25 per cent of the world's forest cover, one of the most vital forest regions in the world. But it is losing its forests at unprecedented rates. Of the more than 400 million ha of natural forest lost worldwide over the past 30 years, over 40 per cent was in Latin America.

*Various legal and market-based instruments have been applied by governments to reverse the trend of destruction. Some countries have successfully implemented forest certification schemes to encourage sustainable forest use. Bolivia has adopted a new law that opens state-owned forests to private companies under concessions, provided that participation of local people is secured.*

The region contains a wide variety of ecosystem types ranging from high-altitude cloud forests to coral-fringed Caribbean coasts, and hosts many endemic species. Its biodiversity is under constant threat, however, due to habitat loss, land degradation, land use change, deforestation, and marine pollution. Thirty-one of the 178 ecoregions in Latin America and the Caribbean are in a critical state of conservation – these include 7 of the world's 25 "hot spots".

*More than 10 per cent of the region is currently protected and the creation of private or community-managed forest reserves is on the increase. There have also been isolated successes in curbing the illegal trade in endangered species.*

**Coastal and Marine Areas** - Habitat conversion and destruction, land based and transboundary pollution produced by human activities, including tourism and the overexploitation of fisheries, are driving change in the region.

Sixty of the 77 largest urban settlements are on the coast, and 60 per cent of the regional population live within 100 km of the coast. As a result, significant coastal urban development for residential and industrial purposes has modified coastal areas and had a significant impact on the quality of coastal ecosystems. Overexploitation of commercially valuable species is rampant. A recent study indicates that excessive exploitation was a threat to 34 of the 51 local production systems in the Central Caribbean ecoregion.

*The Convention on the Protection and Development of the Marine Environment of the Wider Caribbean (the Cartagena Convention) and its protocols are important multilateral regional agreements and action plans for the future.*

**Atmosphere** — Poor air quality affects mega-cities and medium-sized cities of the region. It is often aggravated by unfavourable topographic and meteorological conditions as in Mexico City and Santiago. Air pollution is blamed for 2.3 million annual cases of infantile chronic respiratory sickness and 100 000 cases of chronic adult bronchitis in the region.

*By monitoring and regulating emissions, governments in the region are achieving more major successes in improving air quality.*

**Urban Areas** — Latin America and the Caribbean is the most urbanized region in the developing world. Between 1972 and 2000, the urban population rose from 176.4 million to 390.8 million mainly due to population growth and rural-urban migration. Deep social inequalities persist in much of the region, where poverty is concentrated in urban areas. People are still affected by a lack of basic services, and by groundwater pollution resulting from inadequate sewage treatment, both of which endanger public health.

*Although the 1990s were marked by the continuation or persistence of environmental problems associated with poverty and large cities, the decade also saw a number of positive changes. These include a greater participation by citizens in decision-making, the development of public and private networks defending the environment and the promotion of environmental education.*

## 2032: CHOICES FOR THE FUTURE

We are at a cross roads with the future in our hands. The decisions taken today and tomorrow will define the kind of environment this and future generations will enjoy. GEO-3 in its Outlook chapter outlines four policy approaches leading to different outcomes over the next 30 years. Here we highlight two of the most contrasting scenarios: *Markets First* and *Sustainability First*. One envisions a future driven by market forces; the other by far reaching changes in values and life styles, firm policies and cooperation between all sectors of society.

**Land** – The current trend of urbanization continues to 2032 in both *Markets First* and *Sustainability First* scenarios. In a *Markets First* scenario, more than 10 per cent of present cropland will have lost its productivity by 2032 due to unsustainable land use.

**In contrast, land reform and enforcement of regulations will reduce the farmland that suffers from land degradation drastically under *Sustainability First*.**

**Freshwater** – Under the influence of global climate change, precipitation patterns change. Seasonal floods cause severe damage in some areas, but others suffer from chronic water shortage as demand

for water grows in cities and for irrigated farmland. Under the *Markets First* scenario, the population living within water stressed areas grows by some 15 per cent compared with the 2002 level.

**The figure also rises under *Sustainability First* despite total water withdrawals staying roughly at current levels.**

**Forests and Biodiversity** – Conversion of forests to crop field, and pasture land progress are fast under a *Markets First* scenario. There is also increased exploration for oil, gas and minerals. By 2032 over 80 per cent of land and its wildlife in the region could be impacted by development, up from just under 50 per cent now.

**In contrast, the unsustainable exploitation of forest resources is curbed under a *Sustainability First* scenario. There is a growing move to introduce policies to protect existing forests and promote natural regeneration of once-degraded forest areas. Impacts of growing infrastructure development on the region's land is held back at under 60 per cent.**

**Coastal and Marine Areas** — Under *Markets First*, the coastal and marine environment, particularly small islands remain under threat due to uncontrolled expansion of coastal settlements, proliferation of tourist resorts, uncontrolled discharge of wastes into oceans, expansion of aquaculture, and lack of effective regulations and enforcement.

**Under *Sustainability First*, more integrated management systems and pollution control ease the situation considerably. With guidance from regional multilateral conventions and protocols, tighter control of inland pollution sources realized, holistic management to water catchment areas and river basin significantly reduces the impact of both land-based and transboundary pollutants on fragile coastal and marine ecosystems such as coral reefs.**

**Atmosphere** - Economic growth that dictates the *Markets First* scenario increases the regional emission of greenhouse gases (GHGs) through ever expanding industrial activities and deforestation that reduces carbon sinks. Energy-related emissions of oxides of nitrogen more than double, from just under 1.5 million tonnes now, under this scenario. Inner city air quality deteriorates with costly repercussions on productivity and health.

**Under a *Sustainability First*, future targeted clean technology is applied to minimize the GHG emissions and air pollution from industrial development. Here emissions of energy-related oxide of nitrogen are kept at or close to current emissions.**

**For more information contact please contact**

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