



Special
Issue

Our Planet

The magazine of the United Nations Environment Programme



CARIBBEAN ENVIRONMENT PROGRAMME

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UNEP

From the desk of

ACHIM STEINER

United Nations Under Secretary General and Executive Director, UNEP

Every year over 14 million tourists arrive on cruise ships attracted by the coral reefs, coasts, breathtaking beaches, and wonderful people of the wider Caribbean. Their arrival is cause for both celebration and concern.

Tourism, sensitively and sustainably managed, can be a welcome source of foreign exchange, helping to overcome poverty and provide livelihoods and employment opportunities. But, badly managed, it can supplant cultures and communities and damage the mangroves, reefs and other ecosystems upon which local people – and tourism itself – depend.

Like many low-lying coastal areas and small island developing states, the nations of the Caribbean face many challenges. Some are common worldwide: like the impacts of climate change, increasing levels of solid waste and sewage and the impact of invasive alien species.

But some threats, like pollution from ships, are deemed greater in the Caribbean than elsewhere. A 3,000 passenger cruise ship, it is estimated, generates 400 to 1,200 cubic metres of watery wastes each day – including drainage from dishwashers, laundry and showers – and 70 litres of hazardous wastes, including photo processing chemicals, paints, solvents, printer cartridges, and dry cleaning fluid. It also produces an estimated 50 tonnes of solid waste a week. Cruise ships, it is thought, account for almost a quarter of the 900,000 tonnes dumped in the world's oceans each year.

Then there is intense oil tanker traffic in the Sea. Ninety per cent of the energy used in the region is derived from crude, and it contains many oil producing and exporting nations including Colombia, Mexico, Trinidad and Tobago, the United States of America, and Venezuela.

Global and regional conventions – many under the aegis of the United

Nations' International Maritime Organization – require ship operators to behave in environmentally friendly ways. But significant volumes of hydrocarbons and other substances are still being discharged. Surveys indicate that coastal sediments in places like Jamaica's Kingston Harbour and Cuba's Havana Bay are suffering "lightly chronic oil pollution". And high concentrations of tar balls – from oil spills and discharges – have been found on beaches from Cuba and Curacao to Trinidad and Tobago.

Much has been done under agreements like the UNEP-brokered Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region (Cartagena Convention). But clearly more is needed, including better provision of port-based waste reception facilities, and stepping up compliance and enforcement of shipping treaties.

Shipping is just one of the challenges and opportunities facing countries in the Caribbean, brought into sharp focus by recent UNEP publications: the Caribbean Environment Outlook, the Global Environment Outlook for Latin America and the Caribbean and two regional reports under the unique Global Environment Facility-funded Global International Waters Assessment.

These credit Caribbean countries for good progress towards achieving the internationally agreed Millennium Development Goals by 2015, especially concerning education, health care and drinking water. But they add that these gains could be lost if environmental degradation continues to harm economies.

The region's countries are finding solutions to many of the challenges they face. UNEP can help through the Bali Strategic Plan for Technology Support and Capacity Building, and I urge governments to put forward projects and proposals under this new scheme. But the international community must take responsibility for other ones, including developing a fair and equitable trade regime, and combating climate change, probably the greatest threat of all to Caribbean countries.

An estimated 70 per cent of the region's people live in low-lying areas vulnerable to rising sea levels and extreme weather. They must be supported to adapt, but there is a limit to how much they can do before they are overwhelmed by the waves, or a welter of hurricanes. Industrialized nations must meet their commitments under the Kyoto Protocol as a first step towards the even deeper cuts needed to stabilize the atmosphere ■



Andre Maslennikov/Still Pictures

Needed:

Full Support

LEONIE BARNABY stresses the importance of support from Governments in implementing the Caribbean Environment Programme – and calls for more

When many of the governments of the Wider Caribbean region adopted the Action Plan of the Caribbean Environment Programme (CEP) 25 years ago – and later became Parties to the Cartagena Convention in 1983 – they committed themselves to implementing a wide range of projects and activities to address the environmental problems of the region's marine and coastal areas.

The Government of Jamaica has had a particularly close relationship with the CEP and the Convention. It is proud of the Programme's achievements over marine pollution, wildlife and protected areas, education, training and awareness, and

information systems for the management of marine and coastal areas.

There is now no question as to the importance accorded to the Sea. Indeed, countries in the region have sought United Nations recognition of the concept of the Caribbean Sea as an area of special importance in the context of sustainable development.

Critical elements

However, our reflections on the past twenty-five years will show that the CEP has had to adapt to varying levels of support and commitment. The report of the 10th Intergovernmental Meeting of the Parties to the Cartagena Convention in 2002 noted some

critical elements in the role of member Governments. It said they should:

1. be active partners in developing and implementing the Programme – participating throughout the year, not just at meetings.

2. continue to sharpen CEP activities to focus on the highest priority areas within the scope of its mandate, and to look toward national implementation of the Convention and Protocols, while not overextending the Programme.

3. recognize global environmental developments and initiatives in which our governments are actively involved, such as the WSSD and SIDS processes, and ensure that appropriate linkages are established with CEP, through both our national and regional agendas, and under the framework of the new Strategy for CEP.

4. address the financial situation of the Caribbean Trust Fund decisively and responsibly as the sustainability of the Programme is at stake without the regular contributions to cover the basic costs of operations and management. ►

It noted that a fully operational CEP must have the full political, programmatic and financial support of Member Governments so that it can fulfil its obligations with them. The CEP's strategy of 2004 also addressed the need to enhance its sustainability and effectiveness through:

- ◆ Increasing member state / country ownership;
- ◆ continuing to promote and facilitate translating the Cartagena Convention and its protocols into effective implementation through ratification and complementary national legislation;
- ◆ engaging and involving civil society and the private sector;
- ◆ building institutional capacities of relevant national official agencies of the parties and other stakeholders;
- ◆ ensuring viable sustainable financial arrangements; and
- ◆ developing indicators and assessment/evaluation procedures where appropriate.

We must take these exhortations into account as we look at CEP's future.

Within the next 25 years, countries should meet such global targets, as the Millennium Development Goals, the goals of the programmes of work of the Convention on Biological Diversity, the Johannesburg Plan of Implementation, and the Mauritius Strategy for the further implementation, of the

Barbados Programme of Action for the Sustainable Development of Small Island Developing States. The effects of climate change will be more evident by then and the need for planning and adaptation even more critical.

The CEP is vibrant and responding to the needs of countries, through the several regional initiatives it has recently launched. The fullest participation of all the region's countries in the Cartagena Convention and its protocols would enhance the Action Plan's effectiveness

The Regional Coordinating Unit of the Action Plan of the Caribbean Environment Programme has worked commendably. At the national level we must acknowledge the Action Plan's achievements and see that our requirements are taken into account.

The Governments of the region have a vested interest in successfully implementing this comprehensive regional programme which they themselves created in collaboration with UNEP. CEP's effectiveness, its clear value to the people of the Caribbean and its continued contribution to our sustainable development require that all partners play their part ■

Leonie Barnaby is Senior Director of the Environmental Management Division of the Ministry of Local Government and Environment, Jamaica.



BIOS Astruc Lionell/Still Pictures

Flagship

for the Seas

VEERLE VANDEWEERD describes how environmental needs can best be addressed by partnerships and integrated planning



Julio Eichardt/Still Pictures

The Caribbean Environment Programme (CEP) is one of UNEP's flagship Regional Seas Programme (RSP). It provides an excellent example of how countries who share a sea – together with over 40 partner organizations both in the region and worldwide - can join to address common environmental challenges.

Like many other RSPs, the CEP initially received much support from UNEP, but is now an independent, strong and vibrant entity. From its offices hosted in Kingston, Jamaica, the CEP covers 28 member states and their dependent territories, speaking three languages (English, Spanish and French). It has jurisdiction for the marine environment of the world's second largest sea covering some 2,648,000 km², bordered both by continent and by small island states, and uniting people of different cultures and religious and political persuasions. The Wider Caribbean Region – mainly made up of countries whose economies heavily depend on tourism and fisheries – has an active hurricane season, is subject to devastating

earthquakes and volcanic activity, and prone to landslides and flooding.

The CEP has had to cope with many challenges – including changes in the development agenda, the state of the coastal and marine environment, the international policy framework, scientific knowledge and socio-economic realities and trends. The same is true in many other Regional Seas and so, 30 years after its inception in 1974, the global Regional Seas Programme coordinated by UNEP with the participation of the Chairs or representatives of the Conference of Parties and Intergovernmental Bodies of the various Regional Seas Conventions and Action Plans (RSCAPs) endorsed a set of strategic directions for 2004-2007, aimed at strengthening the RSP at the global level, while continuing to implement the work programmes of the individual RSPs (<http://www.unep.org/regionalseas/About/Strategy/>).

CEP works across linguistic and political divides, encouraging key governmental and civil society partners to join in setting up regional policies and agreements. Though receiving contributions from member countries remains challenging, it has managed to attract considerable institutional support and project financing from the Swedish International Development Agency (SIDA), the Global Environment Facility, the United Nations Foundation, and such member governments as France and the United States of America, including USAID. It shared its experience on strengthening domestic resource mobilization and on the value of partnerships, particularly for capacity building, at the last global meeting of the RSCAPs in October 2005 in Helsinki, Finland.

The CEP will seek to enhance its programmatic strategic options by (a) working with other Regional Seas Programmes; (b) integrating national and regional socio-economic development plans, including coastal and marine components, into a programme strategy; (c) working to improve and include global and regional monitoring and surveillance plans and programmes; (d) increasing the integration of work programmes and agendas for ad hoc and other groups and international initiatives; and (e) working both externally and internally to improve coordination mechanisms within and between sub-programmes.

After 25 years of service to the region's peoples, the CEP has remained true to its core mission, and provides an excellent example of a framework for regional cooperation ■

Veerle Vandeweerd is the Head of the Regional Seas Programme (RSP) and the Coordinator of the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA).

Much Achieved

Much to be Done

JORGE E. ILLUECA surveys the last 25 years of the Caribbean Environment Programme and looks to the future



Hideyuki Iwashita/UNEP/Still Pictures

and require coordinated national implementation by diverse governmental institutions.

Two regional seas programmes were launched in Latin America and the Caribbean in 1981 the Caribbean Environment Programme (CEP) and the South-East Pacific Action Plan and Lima Convention.

Learning experiences

As Executive Secretary of Panama's National Commission on the Environment at the time, I found that in many ways, CEP became a school for us on integrated environmental management. The early 1980s were a formative period in this area for most countries in the region. Few had established environmental ministries. I remember well how UNEP, through CEP, provided us with learning experiences that helped forge our environmental institutions and programmes. Regional seas programmes made us look at environmental problems in an integrated and holistic way by addressing the links between such diverse issues as oil spills, marine emergencies, land-based sources of pollution, marine and coastal biodiversity, fisheries, watershed management, coastal development, and tourism and recreation.

Global agreements

The Caribbean Environment Programme has been one of the developing world's most successful regional seas programme: twenty-four of its 28 member nations are developing ones. While the financial contributions of the four developed country members have been substantial, several developing country parties have also made significant contributions.

An important part of UNEP's mandate is to promote coordination and collaboration among multi-lateral environmental agreements. This is much easier said than done, ►

The Regional Seas Programme, initiated over 30 years ago, is one of UNEP's crowning achievements. There are now a total of 18 individual regional programmes – 13 of them with their own conventions – covering most of the world's coastal areas and involving over 150 countries. Fourteen of them were developed with UNEP's support, but all 18 regularly attend global meetings that it convenes.

The individual programmes – which began with establishing the Mediterranean Action Plan in 1975

– are building blocks supporting the “constitution of the oceans”, the United Nations Convention on the Law of the Sea. Unlike other multilateral environmental agreements, they often followed a dual track approach of simultaneously negotiating and adopting both a framework convention and an action plan. This allowed participating states immediately to start addressing priority problems through the action plan, even before the convention entered into force. Unlike them, too, the programmes are cross-sectoral, interdisciplinary

but the regional seas programmes have been particularly open and disposed towards collaboration. Because of their cross-sectoral nature, regional seas programmes have established collaboration with a broad range of multilateral environmental agreements. In several cases they also have proved to be effective vehicles for supporting the implementation of global agreements.

Environmental agreements

CEP has distinguished itself in this way, especially in the ten years since the appointment of Nelson Andrade, the Coordinator of the Regional Coordinating Unit. Three protocols have been developed under the Cartagena Convention and are being implemented in close collaboration with global multilateral environmental agreements. The Oil Spills Protocol is closely linked to several of the marine pollution conventions of the International Maritime Organization (IMO), which is involved in operating the Protocol's Regional Marine Pollution, Information and Training Centre. In 1997 a Memorandum of Understanding was signed with the Convention on Biological Diversity, strengthening links with the Specially Protected Areas and Wildlife Protocol. The Aruba Protocol Concerning Pollution from Land-based Sources and Activities directly supports the implementation of the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities. And Memoranda of

The past decade has seen the emergence of twinning arrangements in which more developed regional seas programmes provide technical support to those that are newer or less developed

Understanding have been signed to strengthen collaboration with the secretariats of the Ramsar Convention on wetlands and the Secretariat of the Basel Convention on hazardous wastes.

The past decade has seen the emergence of twinning arrangements in which more developed regional seas programmes provide technical support to those that are newer or less developed. The Coordinator



J. Kassanchuk/UNEP/Still Pictures

of the Caribbean RCU provided invaluable technical support and backstopping to the negotiations of the Northeast Pacific regional seas programme, extending along the Pacific coast of Mesoamerica from Colombia to Mexico, in which I was heavily involved.

The first twenty-five years of CEP have seen such major achievements as the Cartagena Convention and its three protocols, national advances in capacity building for the integrated management of the marine and coastal environment, establishing a network of marine and coastal protected areas, assessing and managing marine pollution, developing information systems for managing marine and coastal resources, and forging stronger ties with other MEAs and international organizations. While the Caribbean Environment Programme continues to mature, strategic support from UNEP is essential.

Sustainable development

In 1999, through Decision 20/19, its Governing Council called on UNEP to revitalize the Regional Seas Programme, which some had felt had been declining in importance in the organization's work. Much remains to be done on this. The Regional Seas Programme needs to be returned to the core of UNEP's programme – as it was from 1974 to 1997. UNEP has a leading role to play in the conservation and sustainable development of the world's oceans and coastal areas, and the future of CEP and other regional seas programmes will depend on it ■

Jorge Illueca, a former Assistant Executive Director of UNEP and Director of UNEP's Division of Environmental Conventions. He is now the Principal Forest and Environment Policy Officer in the Secretariat of the United Nations Forum on Forests in New York.



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A Voice for *the Turtles*

KAREN L. ECKERT describes how an initiative, which brings together science and policy, is helping to save critically endangered species

Sea turtles were once abundant in the Caribbean region. Indeed, they are thought to have been integral keystone species for coral reefs and seagrass beds in pre-Columbian times, performing critical ecological roles essential to these ecosystems' structure and function. Now numbers are so severely reduced that some consider them to be virtually extinct as far as their role in Caribbean marine ecosystems is concerned.

Tens and perhaps hundreds of thousands of turtles die every year after being accidentally caught in active or abandoned fishing gear

There have long been regulated, but largely unmanaged, sea turtle fisheries. Tens and perhaps hundreds of thousands of turtles also die every year after being accidentally caught in active or abandoned fishing gear. Coral reef and seagrass degradation, oil spills, chemical waste, persistent plastic and other marine debris, high density coastal development, and an increase in ocean-based tourism have damaged or eliminated nesting beaches and feeding areas. Threats accumulate over long periods and can occur anywhere in a population's range; thus declines typically result from a combination of factors, and reversing them is politically and spatially complicated.

Yet from the earliest days of negotiation over the priorities of the Caribbean Environment Programme (CEP), sea turtles have served as a flagship for developing models of international cooperation in preventing the further decline of depleted living resources, restoring them to their former abundance, and maintaining them for sustainable use.

Endangered species

All Caribbean sea turtles receive full protection under the Protocol concerning Specially Protected Areas and Wildlife (SPA) of the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region (also known as the Cartagena Convention). The protocol is arguably the world's most comprehensive regional wildlife protection treaty, with provisions on environmental impact assessment, planning and management regimes and buffer zones, as well as a range of protection measures, including species recovery plans. It recognises that "protection of threatened and endangered species will enhance the cultural heritage and values of the countries and territories in the Wider Caribbean Region and bring increased economic and ecological benefits to them".

New partnerships

The Wider Caribbean Sea Turtle Conservation Network (WIDECAST) was founded in 1981 by Monitor International and emerged coincident with the CEP. With 55 volunteer country coordinators active in more than 40 nations and territories, it has served as a model Regional Activity Network ►

within the SPAW Programme for a quarter-century. Country coordinators meet annually to discuss and rank conservation priorities, identify gaps, commit to develop innovative research and management tools, and create new partnerships, making possible proactive and progressive collaboration. They remain in contact via email, programme exchanges and peer-training, and regular sharing of data and analyses.

Enhanced capacity

National Sea Turtle Recovery Action Plans (STRAPs) – prepared by WIDECAS and published by the CEP – aim systematically to document the status and distribution of remnant stocks, major causes of mortality, the effectiveness of existing legislation, and the present and historical role of sea turtles in local culture and economy. Implementing STRAP recommendations has resulted in changes in fisheries regulations; the designation of protected areas; the realisation of long-term sea turtle population monitoring programmes; the adoption of standardised record-keeping and database management protocols; the training of enforcement and natural resource officers; the development of public awareness materials; the creation of grassroots organizations; the promotion of sustainable livelihoods in marginalised communities; a commitment to new partnerships (such as co-management); and a broadly enhanced capacity for sea turtle management within CEP nations.

The experience has set an example for other initiatives under the aegis of the CEP. In 1994, a UNEP meeting of experts

concluded that “in light of the successful sea turtle recovery effort of WIDECAS ... a similar structure would be desirable for the implementation of manatee activities in the region”. The result was the Regional Management Plan for the West Indian Manatee.

Standardised guidelines

The unique partnership between WIDECAS and the CEP has also resulted in region-wide initiatives, such as a marine turtle tagging centre based at the University of the West Indies (Barbados) which provides standardised guideline training, tags, database management software, and other tools to strengthen and coordinate

dozens of otherwise isolated small-scale tagging projects, and to encourage and enable collaboration among range states.

Promoting best practices, facilitating training and institution strengthening, encouraging community involvement, reducing threats to sea turtle survival – such as by working directly with fisheries and tourism sectors – and raising public awareness, the WIDECAS network, like the SPAW Protocol itself, offers a framework for collaboration toward a regionally unified approach to managing and conserving migratory species ■

Karen L. Eckert is Executive Director of the Wider Caribbean Sea Turtle Conservation Network (WIDECAS).



Collision Causes *Cooperation*

BRIAN PETER describes how the world's biggest shipping oil spill led to action that has reduced pollution of the Caribbean



Dylan Garcia/Still Pictures

since. That is not merely due to good fortune. The 1979 collision of the tankers, *Atlantic Empress* and *Aegean Captain*, ten miles off the island of Tobago, caused the world's biggest-ever shipping oil spill – but also sparked action by the region's governments. Since then, the risk of shipping accidents and oil spills has been greatly reduced, primarily due to the way the governments – together with international organizations, the oil, gas and shipping industries and other important partners – have cooperated to address the shipping of oil on large vessels.

Fortunately the slick from the collision did not affect nearby islands, but as a direct result of it – and other accidents at the time – the states and territories of the wider Caribbean Sea took steps to prevent and respond to oil spills. They implemented international environmental conventions, produced national oil spill contingency plans, conducted training and oil spill response exercises, and enhanced co-operation with the oil, gas and shipping industries to reduce pollution.

Additional support

They also asked the International Maritime Organization (IMO) and UNEP to support a Regional Activity Centre, with expertise in combating marine oil pollution, to facilitate their efforts and promote training and exercises. IMO, which has worked successfully for decades to reduce the amount of oil entering seas from ships, has found the establishment of such Centres, in cooperation with the UNEP Regional Seas Programme, particularly successful. ►

They are just over the horizon: few of us see the titanic ships that carry over a trillion gallons of oil each year on the waters of the Caribbean Sea.

They load crude oil in the Middle East, Venezuela, Mexico, and Africa and – after spending up to weeks at sea – discharge it to refineries throughout the Caribbean and the US Gulf Coast. At any moment, one could run aground on one of the countless pristine reefs, shoals and

islands that make the Caribbean Sea world famous, or catch fire, explode, or sink. The worst-case scenario is for two of these tankers to collide, bringing catastrophe to a country or small island state in the path of the spilled oil.

Contingency plans

The last such collision took place decades ago, even though the density of shipping has increased

The Regional Marine Pollution Emergency, Information and Training Centre Wider Caribbean (RAC/REMPEITC-Carib) – based in Curacao, in the Netherlands Antilles – opened on 15 June 1995 under the management of IMO, the UNEP Caribbean Sea Regional Coordinating Unit (UNEP-CAR/RCU) and the Government of the Netherlands Antilles. It is the institutional organization for implementing the Protocol Concerning Cooperation in Combating Oil Spills under the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region (commonly called the Cartagena Convention). France, the United States of America, and Venezuela second experts to it, and many bodies – including companies in the oil, gas and shipping industries, and governmental and non-governmental organizations – provide additional support. This cooperation has provided the foundation that enables the Centre to carry out missions detailed in a two year strategic plan based on the long term goals of both the UNEP-CAR/RCU and IMO.

Better prepared

RAC/REMPEITC-Carib has had noteworthy success during the past ten years in contributing to the reduction in the number of reported oil spills in the Caribbean Sea. This is attributed to a clearly defined strategy based on a shared environmental vision (the Caribbean Environment Programme), to continued implementation of the national legal framework to bring compliance to the various international marine environmental protection treaties and to promoting cooperation with all stakeholders, including environmental groups, trade organizations, industry, governments, international organizations, and non-governmental organizations.

Twenty six sailors died – and forty six million gallons of crude oil spilled – as a result of the fiery collision between the Atlantic Empress and the Aegean Captain. The Atlantic Empress was the largest ship that has ever sunk – after burning fourteen days and spilling eight times the amount that poured out from the infamous Exxon Valdez: no one knows how much was consumed in the flames. Such was the tragedy that gave birth to RAC/REMPEITC-Carib. But the seas are cleaner and the region is now better prepared for disaster as a result both of the response to this accident and of the Centre's work ■

Brian Peter, a Commander of the US Coast Guard, is Senior Consultant to the International Maritime Organization (IMO) and the Regional Marine Pollution Emergency, Information and Training Centre Wider Caribbean (RAC/REMPEITC-Carib).



Peter Schichert/Still Pictures

Developing Solutions

ANTONIO VILLASOL NÚÑEZ outlines the need for sustainable development and environmental improvement in the region and describes how it is being met

The Caribbean Environment Programme Action Plan is celebrating its twenty-fifth anniversary to the satisfaction of those living in the Wider Caribbean Region, as well as the many people around the world who enjoy their holidays here – attracted by magnificent landscapes, beautiful beaches with crystal clear water, marvellous and eye-catching biodiversity, and the rich variety of traditions and customs arising from the mix of races and cultures. ▶

Its work is greatly needed. As UNEP's GEO Cities report shows, sixty of the 77 most important cities in Latin America and the Caribbean lie within the coastal zone. Three out of every five people in the region live less than 100 km from the sea. The determining factors in shaping urban centres and their relationships with the environment have been the industrialisation that began

caused by deforestation and poor agricultural practices; and an increase in maritime activities in the harbours, without proper treatment and disposal of waste.

Regional Activity Centres (RAC) were founded to develop, coordinate and carry out technical and scientific activities and tasks under the Protocols associated with the Cartagena Convention. The Centro de Ingeniería y

based sources, providing advice on the use of clean technologies and on the treatment and disposal of solid and liquid urban and industrial waste in an environmentally sound way.

A more rational use of natural resources has been achieved, by developing tourism – economically important for many of the countries in the region – by holding training



Mark Edwards/Still Pictures



Vu Duc Loi/Still Pictures



Peter Schickert/Still Pictures

in the region's major cities in the 1940s, rapid growth in the service sectors, proliferation of informal economic activities, and the recent implementation of the globalization model. Latin America and the Caribbean exhibit serious deficiencies in achieving economic development. Growth has been unstable and economic benefits have been poorly distributed.

Scientific activities

This situation has contributed to rapid environmental deterioration and loss of biodiversity, principally in the rivers and marine/coastal zones. This has resulted from dumping of untreated, – or improperly treated – urban and industrial waste; soil erosion

Manejo Ambiental de Bahías y Costas (CIMAB), based in Cuba, is one of two RACs supporting the implementation of the Protocol Concerning Pollution from Land-based Sources and Activities (LBS Protocol).

Environmental conditions

CIMAB works in collaboration with the second LBS/RAC – the Institute of Marine Affairs (IMA) in Trinidad and Tobago – to promote the ratification of the LBS Protocol, so that it can enter into force as soon as possible, as a practical tool for combating marine pollution.

The LBS/RACs also work with regional governments and environmental authorities in reducing pollution from land-

workshops for specialists and decision-makers. The LBS/RACs have also developed national and regional projects for sustainable coastal zone management.

The LBS/RACs, together with other research institutions in the region, make up the now developing Regional Activity Network (RAN) of institutions, which, under the supervision of UNEP-CAR/RCU, are working to conserve and improve environmental conditions in the Wider Caribbean Region. This in turn is vitally important for achieving sustainable development ■

Antonio Villasol Núñez is Director of Centro Ingeniería y Manejo Ambiental de Bahías y Costas (CIMAB) in Havana, Cuba. ►



Mark Edwards/Still Pictures

To the *Rescue*

AMOY LUM KONG and **HAZEL McSHINE**

describe work to reduce pollution to the Caribbean from land-based sources

Livelihoods in the Wider Caribbean Region are inextricably linked with the Caribbean Sea – which provides food, transportation, energy, medicine, construction material, and recreation. The economies of most Caribbean countries heavily depend on marine tourism, which in turn relies on a healthy environment.

Yet growing environmental pressures – including overfishing, planned and unplanned coastal developments, unsustainable land use practices, and land-based sources of pollution – are inevitably compromising the integrity of the services provided to all Caribbean people. Domestic, industrial and agricultural wastes and run-off account for about ninety per cent of all marine pollution – with domestic sewage the largest point source category – threatening coastal and marine environments and thus the region's socio-economic health.

Regional cooperation

The Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region (Cartagena Convention) engenders regional cooperation on environmental issues including land-based sources of

marine pollution. But its Protocol Concerning Pollution from Land-based Sources and Activities (LBS Protocol), though adopted in 1999, has yet to enter into force. Guided by scientific data analysis, it establishes effluent and emissions limitations and/or best management practices for priority pollutants, and promotes cooperation in monitoring, research and exchange of scientific and technical information on land-based pollution.

Regional Activity Centres (RACs) were established to help the Caribbean Environment Programme (CEP) develop and implement the LBS Protocol. In 2002, the Intergovernmental Meeting accepted the proposal of Cuba and Trinidad and Tobago to host the LBS/RACs at Centro de Ingenieria y Manejo Ambiental de Bahias y Costas (CIMAB) and the Institute of Marine Affairs (IMA), which both have strong research capabilities on pollution control and environmental management. They:

- ◆ provide coordination, technical guidance and administrative oversight of project activities;
- ◆ establish a Regional Activity Network (RAN) of technical institutions that provide input, peer review and expertise to the CEP; and
- ◆ coordinate technical inputs of RAN and other collaborating institutions.

Their activities, representing the priorities of member governments, operate under the CEP's Assessment and Management of Environmental Pollution Sub-programme. They facilitate regional cooperation on environmental matters, thereby contributing to the region's sustainable development.

The LBS/RACs, operational since 2002, work towards meeting the Protocol's objectives, taking action to address land-based sources of marine pollution in the ►

region. Project activities range from technology transfer, through promotional workshops, to establishing water quality criteria.

They analyze in situ data and information to establish a baseline for water quality in high-risk pollution areas, and develop methodological guidelines to help classify marine waters, as outlined in the Protocol. An overview of the region's land-based sources of pollution – the 1994 UNEP/CEP Technical Report No. 33 – is being updated. Research and decision-making tools, such as remote sensing and Geographic Information Systems, are being used to enhance the region's capacity to map pollution levels and loads from land-based sources.

Technical support

The RACs facilitate technology awareness and transfer through training workshops. In 2003/2004 these were held on nutrient removal technologies and wastewater management and on sewage sludge removal and reuse. Training was geared towards building regional awareness and capacity to address eutrophication and other nutrient enrichment problems arising from excessive discharges of domestic wastewater to the sea. In 2005 and 2006, workshops focused on methodologies for assessing point and non-point pollution loads; characterizing municipal and industrial wastes; and defining water quality indicators for national and regional monitoring programmes.

Other activities include encouraging Caribbean countries through national and regional promotional workshops, to ratify/accede to the LBS Protocol and bring it into force, as well as developing a Demonstration National Programme of Action for Protecting the Marine Environment from Land-based Activities for Trinidad and Tobago.

In the process, the LBS/RACs have established partnerships with such funding donor agencies as the Swedish International Development Agency and the U.S. Department of Commerce; other UN agencies such as UNESCO-IOCARIBE; and such technical institutions as INVEMAR of Colombia and Universidad de Oriente in Venezuela, both of which will be integrated into the RAN.

The importance of the Caribbean Sea to the region, the vulnerability of its ecosystems to land-based sources of pollution, and the inability of many countries to deal with environmental problems, emphasize the need for the LBS/RACs to provide technical support to their governments. In so doing, they will contribute to ensuring sustainable development both nationally and regionally ■

Amoy Lum Kong is Director (acting), and Hazel McShine the immediate past Director of the Institute of Marine Affairs, Trinidad and Tobago.



Paul Glendall/Sill Pictures

Social Conservation

MAURICE ANSELME points out that local people must be involved from the outset if biodiversity is to be conserved

The relationship between the Caribbean people and nature is first and foremost one between its men and women: "They are an integral part of the ecosystems they use, partially or wholly, for their subsistence. An Eden populated by poor people is unthinkable, and so conserving the environment must also mean conserving a social bond".

Conservation policies are the product of a naturalistic representation of human societies, defined by the key concepts of anthropological ►

pressure and load capacity. By contrast, the tools used for nature conservation are based on politics, economics and the social sciences.

Human degradation factors add to natural ones in the Wider Caribbean Region, slowing the development – and hindering the preservation – of coral communities. This could jeopardize the economic activities which rely on exploiting them.

The cost of conserving biodiversity is generally imposed on local communities, while most of the benefits accrue to a much broader constituency. It is a matter of managing global environmental resources through applying local solutions.

Precautionary principle

Ensuring a central role for local populations requires involving them from the outset in developing conservation objectives. The environmental issues at stake are long-term ones, such as sustainably managing ecosystems or resolving conflicts between protected areas and populations.

The insular, tropical nature of the Caribbean region and the high concentration of people in the area make it necessary to act according to the precautionary principle, requiring proper consideration of all issues at stake and conducting thorough risk assessments. This leads to a search for an equitable logic, linking economic activities to the proper management of resources: in fact, the price of

The environmental issues at stake are long-term ones, such as sustainably managing ecosystems or resolving conflicts between protected areas and populations



Mark Edwards/Still Pictures

“things” is usually defined by the threat of their becoming rare, or disappearing.

The Regional Activity Centre for the SPAW Protocol (the Protocol Concerning Specially Protected Areas and Wildlife) began operating at the end of the year 2005, after the establishment of the legal management framework eagerly sought by Contracting Parties. But it had already contributed, as early as April 2004, to organizing the meeting of the Scientific and Technical Committee on creating guidelines and criteria for listing protected areas under the SPAW Protocol. Carried out in collaboration with UNEP’s Caribbean Regional Coordinating Unit in Kingston, Jamaica, this was the SPAW/RAC’s first activity under the Caribbean Environment Programme (CEP). CEP defines the actions within the geographical areas covered

by the Cartagena Convention and its implementing SPAW Protocol, which are to be undertaken with support from Contracting Parties.

The SPAW/RAC must secure enough financial and human resources to ensure that the expectations of Contracting Governments are met for each action they have jointly decided, as well as to cover the cost of global biodiversity conservation in the Wider Caribbean Region. It acts as a liaison between the will of Contracting Governments and the programmes undertaken with partners in the Wider Caribbean Region. And it continually contributes to strengthening the role of local communities by its close work with local partners ■

Maurice Anselme is Director of the Regional Activity Centre for the SPAW protocol in Basse-Terre, Guadeloupe.

The Road Travelled

SALVANO BRICEÑO looks back on the achievements of the last quarter of a century and identifies a key challenge for the future

The Caribbean is full of contrasts. A microcosm of the entire world – extremely rich and poor countries, very large and small populations and territories, a wide range of cultures and languages of African, Asian, European, and indigenous origins, capitalist and socialist governments – lives together, sharing resources and exposure to natural hazards in a territory smaller than Europe.

All depend on shared marine and coastal resources essential for their economies, mostly based on tourism, fisheries and other maritime activities. Although entangled in their history, and very much interdependent, each society has employed creativity and hard work – if in different ways, and with some having greater success than others.

By definition, an effective Caribbean initiative is an open, respectful and tolerant endeavour that encourages and nurtures solidarity within the wider community.

Environmental degradation

The first instrument adopted by Governments as part of the Caribbean Environment Programme (CEP), was the Action Plan, aimed at collectively addressing the impending threat of regional environmental degradation. Negotiations on the Law of the Sea had sparked a global mobilization to protect and manage the oceans: but their slow progress motivated environmentally-concerned Governments rapidly to address its environmental aspects by developing a series of programmes to face specific regional needs. UNEP's Executive Director, Mostafa Tolba and the first Director of UNEP's Regional Seas Programme, Stjepan Keckes immediately responded to this challenge.

Venezuela had then just created one of the first ministries of environment and, as I was responsible for international relations, I became immediately involved in the negotiations of the regional seas initiative at UNEP, focused on the Caribbean. With motivated delegates from Barbados, Colombia, Cuba, the Dominican Republic, France, Jamaica, Mexico, Panama, USA, and gradually others, we became rapidly involved in most interesting and rewarding negotiations.

Governments in the Med-iterranean, spurred by the greater threat of maritime pollution in their region, moved faster and adopted the first of the Regional Seas

Conventions in Barcelona. This sparked great interest in Caribbean delegates, and they adopted the Caribbean Action Plan in Montego Bay on July 1981 – soon followed by the signing of the Cartagena Convention in 1983, the setting-up of the Caribbean Trust Fund and the opening of the Regional Coordinating Unit in Kingston in 1986.

That year UNEP asked me to become the first Coordinator of the Programme – a great honour and, more importantly, a tremendous challenge. I arrived in Jamaica in January 1987 and began putting together a core staff and basic systems and procedures. An amicable and productive relationship ensued with the host country as the Jamaican Government responded rapidly to the new Unit's demands.

Prime Minister Edward Seaga had played an essential role in attracting it to Jamaica – following arduous negotiations with other potential hosts, including Venezuela (represented by no other than myself!) – and this proved very helpful in strengthening the Unit in Kingston. When Michael Manley came to power in 1989, we also pursued a very active and fruitful collaboration with his Government, particularly with Percival Patterson – then as Deputy Prime Minister responsible for the environment portfolio, later the longest serving Prime Minister in Jamaican history.

Sustainable development

Climate change was among the first challenges to be tackled: specific expert recommendations paved the way for Governments in the region to become key actors in the climate change negotiations that began in 1991.

When the Action Plan and the Cartagena Convention were adopted, the impact of natural hazards – such as hurricanes, floods, drought, earthquakes, volcanic eruptions, tsunamis – had not yet been identified as a major threat to the region's development. However, rapid urban growth, coupled with accelerated environmental degradation and the threat of climate change has made it increasingly urgent to pay closer attention and give higher priority to reducing risk and vulnerability.

These hazards – and disasters triggered by human, social, economic and environmental vulnerability, such as oil and chemical spills, industrial and waste water pollution and other land-based sources of marine pollution – continue to pose a grave threat to tourism and fisheries, the region's main sources of livelihood. Focusing on the five priority tasks identified by the Hyogo Framework for Action (2005-2015) to build the resilience of nations and communities to disasters, as a prerequisite for sustainable Caribbean development, is now a key and urgent challenge for the CEP.

This will continue what CEP represents so well: twenty-five years of challenge in a region full of cultural and biological diversity – and a promising opportunity to ensure that regional cooperation leads to sustainable development ■

Salvano Briceño, the first Coordinator of CEP, is Director of the UN International Strategy for Disaster Reduction.