



**COMMONWEALTH
SECRETARIAT**



Climate Change and the Commonwealth

‘The Commonwealth knows painfully well about climate change. It sees it in shrinking rainforests ... in dwindling fish stocks in the Atlantic and other oceans, in a thawing of the tundra in northern Canada, in encroaching deserts in northern Nigeria, in flooded lowlands in Bangladesh, and in rising sea levels around Tuvalu and the Maldives.’

Commonwealth Secretary-General Kamalesh Sharma

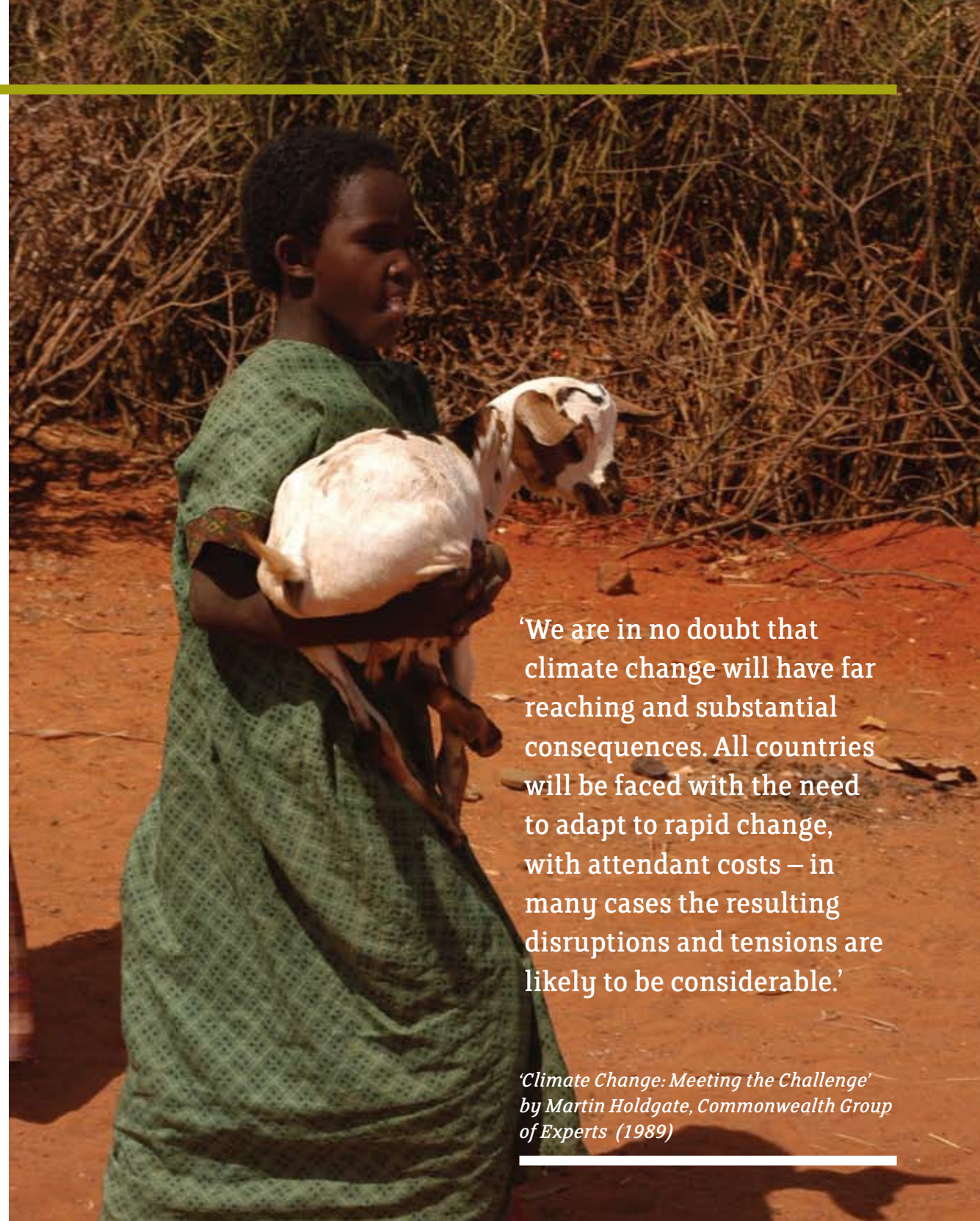


Climate Change and the Commonwealth

Climate change is perhaps the greatest challenge of our age. Its effects are already being felt by the poorest nations and peoples of the Earth. Many Commonwealth countries – dozens of small, low-income and developing states – rank among the most vulnerable to the disasters it will hasten.

For more than 20 years the Commonwealth, whose members are spread over five continents across northern and southern hemispheres, has been leading the way in widening awareness and advocating for action on climate change.

The association, representing one-third of the world's population, brings together governments, partners and individuals to share experiences, knowledge and expertise, helping to broaden dialogue and to strengthen international negotiations.



'We are in no doubt that climate change will have far reaching and substantial consequences. All countries will be faced with the need to adapt to rapid change, with attendant costs – in many cases the resulting disruptions and tensions are likely to be considerable.'

*'Climate Change: Meeting the Challenge'
by Martin Holdgate, Commonwealth Group
of Experts (1989)*


Leading the way



In 1987, a year before the United Nations established the Intergovernmental Panel on Climate Change, the scientific panel charged with evaluating the risks of global warming, Commonwealth Heads of Government commissioned a landmark scientific study on the effects of variations to the world's climate.

Led by eminent British scientist Martin Holdgate and published in 1989, the study warned of the calamitous risks of inaction, including 'severe tropical storms, floods, droughts or extremes of heat', concluding that the poor would be the 'main victims' of a rise in worldwide temperature.

That same year, leaders agreed the Langkawi Declaration on Environment – a powerful statement which went on to influence the Rio Earth Summit Declaration of 1992, which still guides the agenda on environmentally sustainable development.



'The current threat to the environment, which is a common concern of all mankind, stems essentially from past neglect in managing the natural environment and resources. The environment has been degraded by decades of industrial and other forms of pollution, including unsafe disposal of toxic wastes, the burning of fossil fuels, nuclear testing and non-sustainable practices in agriculture, fishery and forestry.'

*Langkawi Declaration on Environment,
21 October 1989*

Lake Victoria and beyond

At Lake Victoria in Uganda in 2007, Commonwealth Heads of Government concluded that climate change presented a 'direct threat to the very survival of some Commonwealth countries', and agreed an action plan to be pursued by its members.

The Commonwealth Secretariat, with its track record in building trust between nations, is today working to realise the aspirations of Lake Victoria with the support of member states, executing the collective will of Heads of Government and helping partners, governments and ordinary people to find solutions to the realities of climate change.



Lake Victoria Action Plan

In 2007, Commonwealth Heads of Government agreed the Lake Victoria Commonwealth Climate Change Action Plan, a statement of intent by governments to work both individually and collectively on climate change.

The plan highlights six areas for co-operation:

- 1.** Strengthening quality and participation in climate change negotiations.
- 2.** Promoting action through Commonwealth networks to deepen consideration of the economic and human aspects of climate change.
- 3.** Improving land use management and sustainable use of forest resources (including widened international support for the Iwokrama Programme).
- 4.** Studying the sustainability of fresh agricultural produce and exports from developing countries.
- 5.** Supporting natural disaster management in member countries.
- 6.** Providing technical assistance to least developed countries and small states.

Championing small states

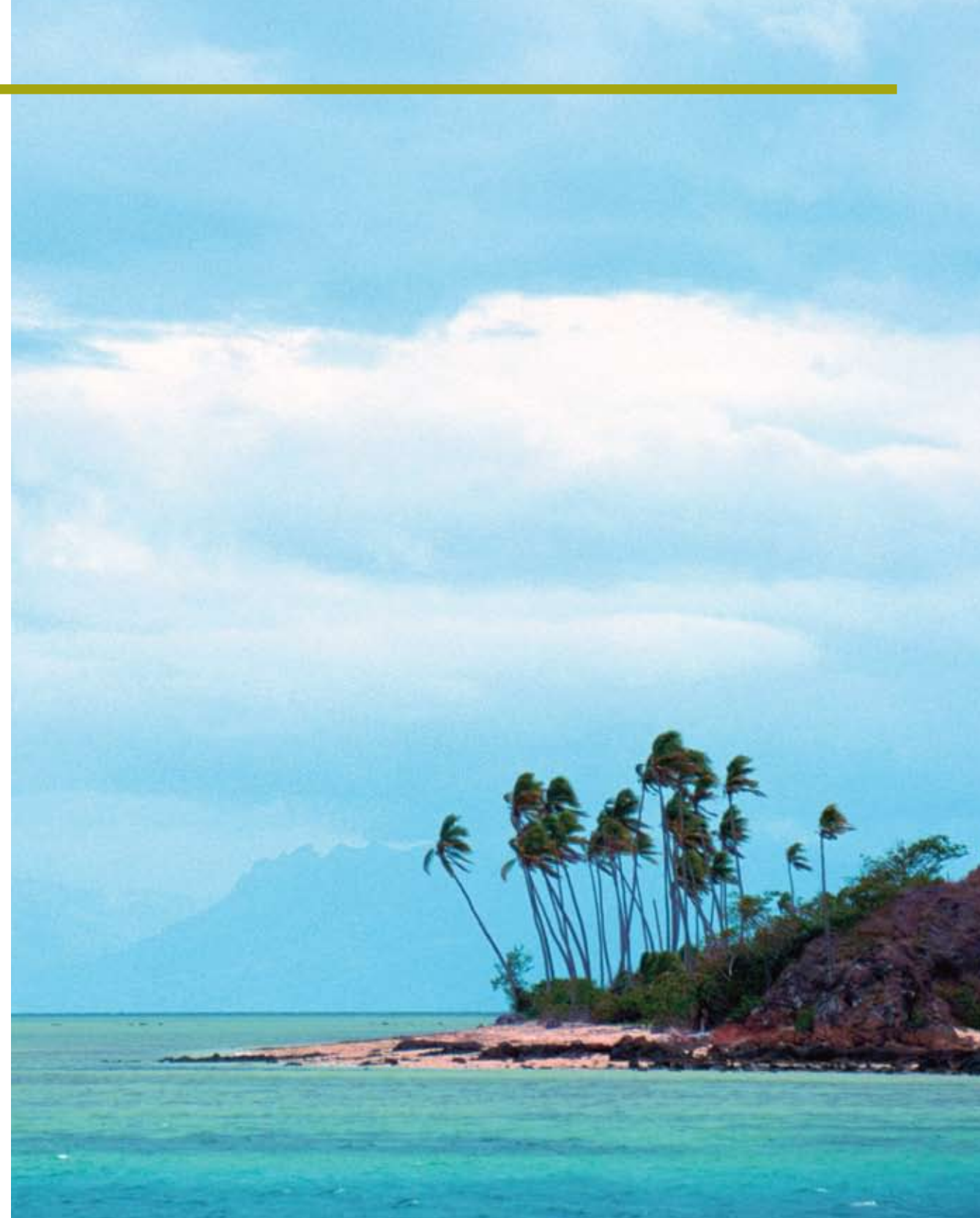
Small states are highly exposed to the most harrowing consequences of climate change, including sea level rises, flooding and tropical storms. They not only face institutional and financial constraints in adapting to it, but also have limited teams at international negotiations. For over 30 years, the Secretariat has been supporting their needs, advocating on their behalf, and helping them raise their voices at negotiations.

The Secretariat has provided training for climate change negotiators from small states around the Commonwealth to expand their influence in multilateral negotiations. In May 2008 officials from small states met in the UK to identify gaps in technical information and agree priority outcomes for upcoming negotiations.

Did you know?

- Average global temperatures could rise by 5°C on pre-industrial levels if allowed to continue unchecked
- An increase of 2°C could leave 15-40 per cent of species facing extinction
- An increase of 3-4°C could leave 200 million people permanently displaced through rising sea levels, floods and drought by 2050

Stern Review on the Economics of Climate Change (2006)





The co-benefits of action

Climate change brings with it risks to human health caused by weather disasters and heat waves, infectious diseases, stress and trauma, reduced fishing and agricultural yields, reduced levels of nutrition, and conflict arising out of water shortages and infertile land.

Yet action to reduce greenhouse gas emissions – planting trees and increasing the carbon uptake of forests, other vegetation and soils – would have the ‘co-benefit’ of improving public health. Improved air quality, an increase in the usage of low-carbon mass transportation systems, and greater cycling and walking would reduce respiratory disease and cut obesity.

Commonwealth Health Ministers' Update (2009)

Social and economic impact

The development challenges already faced by small states, low-lying nations and poor countries are only exacerbated by climate change. Their economies tend to be reliant on key sectors such as tourism, agriculture, fisheries or other commodities, which in turn depend on the natural environment. Sudden changes can unleash serious economic and social consequences.

Seeking to improve understanding of the repercussions of climate change, the Secretariat has supported analysis and debate on its human and economic costs. It has engaged its extensive networks across government, including Commonwealth ministers – covering health, education, environment and finance briefs – as well as parliamentarians, law and human rights experts, professionals and young people in order to focus minds on the pressures faced by health care systems, the need for education, and efforts to diversify national economies.

Aiding advocates for change

The Secretariat, recognising that climate change may impact basic human rights such as the right to life, food, housing, clean water, livelihoods and health, has been exploring the value of a rights-oriented approach to climate change discussions. This approach throws into sharp relief principles of voice, participation and accountability in respect to policy and decision-making.

The Young Commonwealth Climate Change Summit in October 2009, for instance, gave young people from around the Commonwealth a chance to share their own experiences and establish a youth-led movement to ensure that policy-makers consider young people's health, well-being and economic life in a world affected by climate change.

Improving forestry and land use

The forests remain the lungs of the Earth, yet current rates of deforestation continue at unsustainable levels, contributing about a fifth of all human-made carbon dioxide emissions – the principal greenhouse gas that leads to global warming. It is vital that we start to put in place mechanisms that help to preserve existing forest cover and reforest areas in ways that provide livelihoods for the poorest in society.

With its mandate over Iwokrama International Rainforest, a stretch of forest in Guyana, the Secretariat has been helping to develop methods of sustainable tropical rainforest use. It has facilitated discussions by environment ministers on forestry concerns and looked at practical ways of reducing deforestation and forest degradation.

Supporting trade, competitiveness and growth

Developing countries in the Commonwealth are among the most open and trade-dependent in the world. Their governments need to ensure that their trade and development policies are adapted to the pressures of climate change, diversifying into sectors that are less vulnerable and so safeguarding domestic productivity. But they will need significant international support through finance, technology and capacity-building to enable them to achieve their goals.

Engaging policy-makers, academics and affected groups, from the International Centre for Trade and Sustainable Development to the Fresh Produce Exporters Association of Kenya, the Secretariat has published research on subjects such as the sustainability of agricultural produce from developing countries. A recent study on trade, climate change and sustainable development looked at these concerns from the point of view of small and least developed countries.

Food security

Studies show an estimated 768 million people may be undernourished by 2080. Most of the undernourished will be in developing countries, particularly in Sub-Saharan Africa and South Asia, where crop production is projected to decline considerably. A projected 2–3 per cent reduction in African cereal production by 2030 is enough to put 10 million people at risk of hunger.

Sustainability at the heart of development

A sustainable approach to development is critical to efforts to tame climate change. Our ability to adapt relies on our provision of food, fuel, shelter, water and livelihoods to an expanding world population. Rapid urbanisation has an impact on our ability to harness energy, water and produce food as agricultural land comes under pressure from urban sprawl.

Through its provision of expert advice, the Secretariat helps governments manage their natural resources without jeopardising economic development. It assisted the Government of Botswana, for instance, in setting up a certification scheme and eco-tourism manual for tourist operators covering issues such as sustainable water and energy management.

Reducing the risks of disaster

Hurricanes, floods and famine are only set to become more ruinous under climate change. Any country, no matter how wealthy or well-resourced, can find itself confronted by disaster. But while individual incidents may be unpredictable, a nation's preparedness or ability to respond need not be.

Whether providing specialist training to senior disaster management officials in Singapore or coming to the aid of Maldives following the tsunami of 2004, assisting with reconstruction efforts and providing relief doctors, the Secretariat is able to buttress preparations and support relief around the Commonwealth.





‘A displaced people with no international legal protection’ – the future for Maldives?’

President Mohamed Nasheed claims climate change is the ‘21st century’s greatest human rights and security issue’.



For centuries the Maldives islands have had to contend with the mayhem that nature can inflict – from monsoon gales to the desolation of the 2004 Asian tsunami. Dotted across a 90,000 sq km stretch of the Indian Ocean, they have always stood their ground. Yet today the islands face possibly their gravest threat.

‘The impacts of climate change can already be felt’, says Mr Nasheed, a softly-spoken former journalist who came to power in October 2008 following an election monitored by Commonwealth Observers.

‘One-third of our inhabited islands are suffering from coastal erosion in part attributed to climate change. This erosion threatens people’s property and saltwater intrusion contaminates drinking water and degrades farmland’.

But worse is set to come, says the 42-year-old leader. ‘If atmospheric concentrations of CO₂ are not quickly reduced and temperatures brought under control’, he explains, ‘rising seas could submerge my country’.

A front-line state

Climate change, he says, is not just a problem for low lying countries such as Maldives, which at its highest point is just 2.3 metres above sea level. The phenomenon, he claims, ‘is the 21st century’s greatest human rights and security issue’.



‘Future generations of Maldivians face a potentially bleak future – a displaced people with no international legal protection’, he says. ‘But it won’t just be Maldivians who suffer. Climate change threatens to submerge the homes of tens of millions of Bangladeshis and could devastate large swathes of Africa this century’.

In March 2009, Mr Nasheed helped secure the adoption of a landmark United Nations Human Rights Council resolution on human rights and climate change. Resolution 10/4 recognises that global warming fundamentally undermines the lives and rights of millions of vulnerable people.

Drafted at the United Nations, the declaration was a major milestone in gaining international recognition for human and legal rights amid climate change. But Mr Nasheed believes that the Commonwealth, too, can play an important role in the fight against climate change, helping small nations such as his be heard at vital negotiations.

‘What happens to the Maldives today happens to the rest of the world tomorrow.’



‘The Commonwealth can help ensure that the voices of the most vulnerable people are not drowned out in the global climate change debate’, says Mr Nasheed.

Kenyan farmers association wades into food miles debate, urging supermarkets to resist 'crude' carbon labelling schemes

Hasit Shah
Kenyan farmer



Farmers in developing countries across the Commonwealth face an uncertain future as climate change takes its toll on their lives and livelihoods.

Over successive seasons, Hasit Shah, a successful farmer from Kenya, has been grappling with the 'double whammy' of a lack of rain and soaring temperatures.

Rivers such as the Mara, famous to television audiences as the crossing point for Africa's wildebeest, are fast drying up, their once mud-soaked banks today cracking under the glare of the sun, he says.

'The rains just haven't come. We normally get two rainy seasons a year, in April–May and then again in November. But the rains last year pretty much failed', Mr Shah explains. 'As a country we are now beginning to struggle quite badly'.

Enticed by the abnormal heat, insects usually confined to the plains are making their way to land high up in the hills. These creatures lay eggs and mine into the crops, further damaging the planters' chances of a decent harvest.

As chair of the Fresh Produce Exporters Association of Kenya, Mr Shah was asked by the Commonwealth Secretariat to contribute to a new report on the impact of climate change on trade and sustainable development in countries.

Carbon footprint of freighted exports



Stemming from commitments made in the Lake Victoria Action Plan – the 2007 declaration by Commonwealth leaders which recognised climate change as a 'direct threat to the very survival' of some countries – Mr Shah's contribution to the report looks at the hotly contested issue of food miles and carbon-labelling.

Proponents of the food miles agenda claim that the further fruit and vegetables are freighted from source to consumer the more damage is caused to the climate through carbon emissions from transportation by air, sea or road.

Supermarkets keen to demonstrate their concern for the environment are turning to special labels or stickers to mark out products with a high 'food mileage', asserting that they are empowering consumers to make choices between items freighted in from overseas or sourced more locally.

But Mr Shah refutes the value of this 'crude' form of labelling, insisting that calculating carbon emissions solely on methods of transport is at best simplistic and at worst misleading.



‘As a country we are now beginning to struggle quite badly.’

In his view, by singling out just one part of the carbon footprint of food – namely transport – these labelling schemes are ‘ignoring other parts of the process’, such as emissions caused by processing, storage and purchase.

He adds that they also neglect the fact that many exporters in countries like Kenya produce ‘goods with lower carbon emissions as compared to their counterparts in developed countries, which produce out-of-season vegetables in a highly mechanised fashion in greenhouses using large amounts of carbon-intensive fertiliser input’.

In regions which do not support large-scale agricultural industries during winter months, the alternative to importing fresh foods from countries like Kenya is to turn to refrigerators or greenhouses to store food for months on end. But, insists Mr Shah, the carbon emissions created through storage often outweigh those emitted by long haul travel.

Expanding the debate beyond food miles

‘It makes sense to grow your products in the tropics’, he says. ‘This refrigerated stuff emits much more in terms of global warming and fluorocarbons and other gases. It’s much, much worse’.

What are food miles?



'Food miles' refers to the distance food is transported from its source to consumers and is seen as a measure of the 'carbon footprint' created by its consumption. However, the concept ignores emissions associated with farming, processing, storage and means of shopping, all of which have a significant impact on total carbon emissions.

The food miles agenda, adds Mr Shah, belies the fact that many of the planes used to transport produce are not specially chartered – they are already carrying passengers. 'The flights are going to fly anyway because tourists are going to keep coming to Africa on holiday', he says.

'You have got major industries in Europe and the UK that bring everything from bank notes to machines – cars, wine and whisky – which travel by air'.

But perhaps most worryingly, asserts Mr Shah, the 'labelling and shaming' of freighted products risks strangling agricultural production in developing countries which are heavily reliant on exporting fresh foods.

For this Kenyan farmer, the choice is clear. Rather than relying on ill-thought through supermarket schemes, the emissions debate needs to be expanded to include not just transportation, but the 'total carbon emissions of a product through the supply chain'.

The fallout from an effective boycott of foodstuffs from Kenya hardly bears contemplation, he says: 'Our horticulture sector employs between 250,000 to 300,000 smallholders, plus another 250,000 people on the farms. Each one has got an average minimum family of five.

'So you are talking about putting two to three million people out of jobs, who don't have food, medical health care, education – nothing'.



Commonwealth expert is trying to unravel the escalating costs of climate change to the hurricane prone Caribbean

Dr Mark Bynoe
Environmental economist



Caribbean countries are only too familiar with the ravages of climate change. Hurricanes yearly batter shores, floods wreak havoc and harvests wither as the pace of global warming seems to quicken with every passing season.

'The potential threat is severe', warns Dr Mark Bynoe, an environmental economist whose research at the Caribbean Community Climate Change Centre is funded by the Commonwealth Fund for Technical Co-operation. 'With a 1°C increase we could get a three to six feet (one to two metres) rise in sea levels. In a country like Guyana, where 90 per cent of the populace live on land that is as much as six feet below sea level, the impacts of a 2°C rise are unimaginable'.

Financial cost-benefit analysis

But there is hope. Just as the effects of climate change are varied, manifested in sun-scorched crops or devastating tornadoes, so too the options for mitigating or adapting to change are wide-ranging – provided you have the technology and resources.

From his office in Belize, Dr Bynoe has been conducting a cost-benefit analysis into the ways in which governments can adapt to threats to tourism, agricultural and agro-forestry, energy, health and infrastructure sectors.

Working in collaboration with the Economic Commission for Latin America and the Caribbean, Dr Bynoe's research is designed as a follow-up to the Stern Review – a groundbreaking 2006 report commissioned by the UK Government which concluded that without prompt action the economic impact of climate change could be as severe as that of the world wars and depression of the early 20th century.

In his analysis Dr Bynoe is drawing upon studies from Jamaica, Barbados and Guyana, among other countries, as well as organisations such as the World Bank, the University of the West Indies and the Institute of Marine Affairs in Trinidad and Tobago.

One such study, from Belize, looks at how the country's renowned coral reef – vital to the nation's fishing and tourist industries – might be rehabilitated. Threats to this reef, the second longest stretch of coral in the world, caused by pollution and overdevelopment, sedimentation, overfishing and rising sea temperatures place the country's economy at risk.

'Once the coral goes, it will affect the whole of Belize', says Dr Bynoe. 'Whole livelihoods will be put under strain if fishermen cannot provide for their families'.

A 'business as usual' approach?

'Part of my remit', he continues, 'is to ascertain what is possible and what is not possible. What we have to recommend is whether to re-examine our building laws – do we need more resilient structures? Do utility lines need to be above or beneath ground?'

'If we have floods, how do we deal with them? Does it mean building more structures, more sluices, more pump stations, or does it just mean changing the way we conduct certain activities?'

Dr Bynoe insists that the region can no longer afford to follow a 'business as usual' approach. World Bank estimates suggest the damage to Caribbean Community countries caused by climate change will rise to US\$11 billion annually by 2080 – a staggering 11 per cent of the region's collective GDP.



'We hope to show the policy-makers the costs of inaction.'

'Challenge of realisation'



Yet, despite the evidence, overcoming what Dr Bynoe terms the 'challenge of realisation' is proving no mean feat. Though climate change deniers are on the wane, scientists still face problems convincing government ministries of the urgency for action.

'Why are we going down this route? Let's be quite candid', he says. 'We hope to show the policy-makers the costs of inaction'.

If governments do not fully grasp the increasing costs of climate change, countries such as Guyana may no longer be able to defend themselves from the rising seas, he explains. Natural sea defences like jetties, dykes and mangroves will simply prove inadequate.

'Unless they can find resources to rehabilitate new sea defence structures, they will have to beat a hasty retreat inland', he says. 'So they are stuck between the devil and the deep blue sea'.

Scientist on a quest to unlock the secrets of the rainforest

Dr Isabella Bovolo
Hydrologist



Dr Isabella Bovolo's explorations have taken her from the deepest, most remote parts of the Guyana rainforest to the coast of the Caribbean and beyond.

'You can't get down some of the river tributaries by boat, so you have to go by foot', Dr Bovolo says, recalling one trip when she and colleagues from the Iwokrama International Centre (IIC) had to resort to machetes to hack their way through dense jungle.

'We were assessing where to put some of the weather stations and river monitoring equipment that we're going to be installing'.

Dr Bovolo, a hydrologist from Newcastle University, UK, has been on the hunt for vital data that will help scientists unlock the secrets of the rainforest's changing climate.

She is preparing the way for a large-scale hydrology and climate monitoring programme focusing on a 1-million acre stretch of forest known as Iwokrama – inhabited by Amerindians, jaguars, giant otters, caimans and macaws.

The project is set to help establish Iwokrama, managed by the IIC with support from the Commonwealth Secretariat, at the forefront of climate research.

Iwokrama Forest



A stretch of tropical forest covering more than a million acres (371,000 hectares) of Guyana, Iwokrama is a hive of biological diversity – supporting 1,125 species of plant, 420 species of fish and 127 species of mammals as well as 114 species of amphibians and reptiles.

In 1989, the President of Guyana dedicated Iwokrama as the site of a programme to study how forestry can be managed sustainably. The Iwokrama programme is run by the Iwokrama International Centre, an international not-for-profit organisation governed by an International Board of Trustees. The Commonwealth Secretariat sits on the board and has provided technical and governance advice to the programme since its inception.

Weather stations and rain gauges



'The rainforests in general are quite poorly understood', says Dr Bovolo. 'The idea is to learn more about the whole Earth system and to establish a baseline for future research. In other words, we need to understand what has happened in the past in order to understand what might happen in the future'.

Dr Bovolo has visited government institutes and university faculties, and met with private companies and voluntary organisations in the pursuit of statistics dating as far back as 1892 to today on rainfall, temperature, evaporation, humidity, wind and sunshine levels.

Each nugget of information is gleaned from a variety of devices, such as sophisticated weather stations or modest rain gauges. 'Some are very simple manual devices like a funnel and a bottle usually in a metal casing', explains Dr Bovolo. 'The water collected in the bottle should be measured at eight o'clock each morning to show how much rainfall has fallen in the past 24 hours.'

'Measurements have been taken by various people – enthusiasts, volunteers and organisations. The idea is to seek the data out and collate it so that we can see what gaps there are. Once we have collated it all we can start analysing it and looking for trends – monthly, seasonal, long term or spatial'.

‘We need to find out what the rainforests are really worth to the local and international community.’

Sleuthing in the jungle

Working closely with some 50 organisations, including the Guyana Hydrometeorological Service and the Caribbean Institute of Meteorology and Hydrology in Barbados, Dr Bovolo and colleagues from the IIC are slowly, but surely, building up a picture of the climate of Guyana and the surrounding region.

‘It’s a bit like being a detective’, she says, ‘trying to find clues about possible information sources by talking to people and then following a trail of leads’.

The task has often sprung surprises, she admits. Data is sketchy and can be hard to come by, and Dr Bovolo frequently has to contend with inaccurate information. ‘There is very little climate data available for Iwokrama itself’, she explains.

‘In the rainforest interior some of the Amerindian communities have encouraged their school children to record weather observations on a daily basis. They only take measurements during school periods and there can be issues with the quality of data, but it’s better to have it than not’.



Sustainable future



The findings will be published and circulated for use by scientists to help them better assess the value of the rainforests to the global ecological system.

'We need to find out', Dr Bovolo says, 'what the rainforests are really worth to the local and international community in terms of rainfall generation, climate buffering, carbon storage, flood protection, biodiversity or soil conservation – and how vulnerable these rainforests are.'

'We hope to be able to show the rest of the world how tropical forests can be both conserved and sustainably used for ecological, social and economic benefits.'

'This is just the start of Iwokrama's new long-term research plan. But it has the potential to yield some very important and exciting outcomes'.



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