

Chapter 5

■ Responding to the health impacts of climate change in the Commonwealth

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This report examines the results of a survey into the response to the health impacts of climate change in the Commonwealth. A questionnaire was sent to all Commonwealth member states and responses were received from 31 out of 53 countries (a response rate of 58 per cent), covering all the Commonwealth regions. The survey found that climate change is anticipated to impact on health throughout the Commonwealth, with the most frequently mentioned health impacts being vector-borne diseases, diarrhoeal disease and temperature-related morbidity and mortality. Children, elderly populations and people living in poverty were the most frequently cited populations vulnerable to the health impacts of climate change. The survey found that the response throughout the Commonwealth is in the early stage of development, with research, activities and plans being conducted very recently or just beginning. Seven countries reported having a climate change and health strategy or having completed a national vulnerability assessment and developed projects from this. The main challenges given were insufficient political support and prioritisation, a lack of relevant policies, financial constraints, a lack of human resources and poor intersectoral collaboration. Several countries would like assistance to overcome these challenges.

Introduction

The aim of the study was to ascertain the status of the response to the health impacts of climate change across the Commonwealth. The objectives were to:

- ◆ Examine the health impacts of climate change in Commonwealth countries.
- ◆ Determine the status of current responses to the health impacts of climate change in Commonwealth countries.
- ◆ Establish the main challenges in responding to the health impacts of climate change in Commonwealth countries.

A questionnaire was developed and sent to all Ministries of Health in the Commonwealth in December 2008. At the time of writing, 31 survey responses, (out of 53 Commonwealth countries) have been returned, a response rate of 58 per cent. (See Box 1).

Health impacts

All countries reported several current or future climate change risks, health impacts and populations that were particularly vulnerable to the health impacts of climate change.

The most frequently stated risks to health posed by climate change were flooding, changing temperature and precipitation (mainly extreme heat) and food insecurity (see Figure 1).

The most frequently reported health impacts of climate change were vector-borne diseases, diarrhoeal diseases and temperature-related morbidity and mortality (see Figure 2). Most climate change impacts on health were reported across all Commonwealth regions.

One country, Papua New Guinea, stated that *'the Department of Health is already experiencing climatic change effects such as malaria carrying vectors climbing to the higher altitudes, poison snakes are also moving to the higher altitudes, malaria cases are at an increase'*.

Non-communicable diseases (NCDs) were reported as another health impact of climate change by 35 per cent of countries. Eleven out of the 31 respondents mentioned NCDs as a health impact of climate change. Many countries concerned with food security and malnutrition feared an increase in NCDs, given less nutritional diets due to a reduction in food production and a resulting reliance on imported foods. Secondly, some

Box 1: Survey responses by region

Europe/North America/Oceania: Australia, Canada, Malta, New Zealand, United Kingdom.

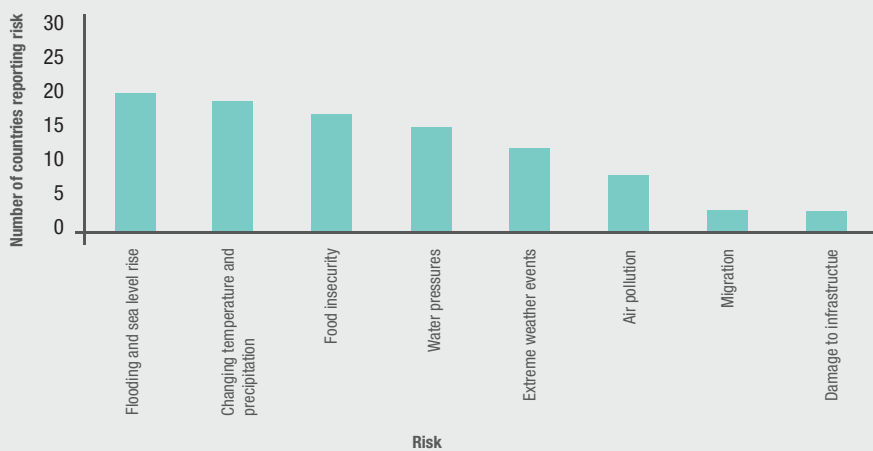
South Pacific: the Cook Islands, Papua New Guinea, Nauru, Samoa, Vanuatu.

Caribbean: Barbados, Belize, Jamaica, St Lucia, St Vincent and the Grenadines, Trinidad and Tobago.

Africa: Botswana, Cameroon, Kenya, Malawi, Mauritius, Seychelles, Sierra Leone, Swaziland, Tanzania, Uganda.

Asia: Brunei Darussalam, Malaysia, Mauritius, Pakistan, Singapore, Sri Lanka.

Figure 1: Risks to health posed by climate change



Category key:

Flooding and sea-level rise - Flooding, sea-level rise, salt water intrusion, drowning of aquifers.
 Changing temperature and precipitation - Extreme heat, heat waves, cold spells, changing seasonal patterns including prolonged dry or rainy seasons, heavier or lighter rainfall, drought and increased ultraviolet rays.
 Food insecurity - Food insecurity, disruption of biodiversity, reduced agricultural production, fish poisoning.
 Water pressures - Water insecurity, water scarcity, water contamination, availability of potable water.
 Extreme weather events - Hurricanes, cyclones, storms, coastal surges, bushfires, landslides and tsunamis.
 Air pollution - Air pollution.
 Migration - Migration and displacement.
 Damaged infrastructure - general damaged infrastructure, and damage to buildings, roads and houses.

countries were concerned that an increase in UV rays and heat could lead to a higher incidence of skin cancer (Papua New Guinea, St Vincent and the Grenadines, United Kingdom) and cardiovascular disease (CVD) (Kenya, Malta). Some countries concerned with worsening air quality reported CVD as a health impact.

Children, especially those under five and the elderly are the most frequently mentioned population groups vulnerable to the health impacts of climate change. Children and the elderly were reported as a vulnerable group by 87 per cent and 81 per cent of respondents respectively. The other most frequently reported vulnerable groups were: people living in poverty or social disadvantage; people with compromised immunity or chronic disease; coastal and atoll populations; people living in remote or rural areas; and pregnant women.

Health sector responses to the health impacts of climate change in the Commonwealth

There is considerable variation in the status of the response to climate change and health across the Commonwealth, however for all countries, action has only begun recently. Reports of responses to climate change and health ranged from countries that have conducted vulnerability assessments and prepared climate change and health adaptation plans, to countries that have not reported any activities in this field. The majority of respondents have recently begun working on climate change and health, and are conducting preliminary activities, such as research and awareness raising, which are likely to inform future work, such as the

development of climate change and health strategies.

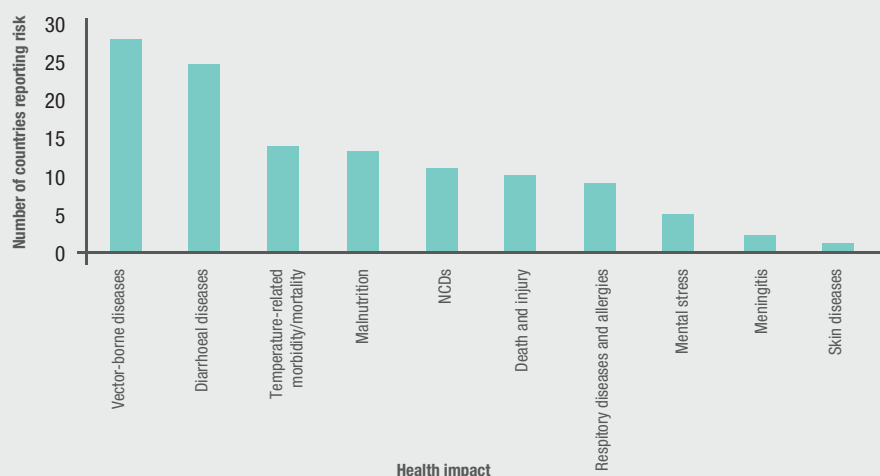
A few countries have strategies on climate change and health, which are in the early stage of implementation. Australia, Brunei Darussalam, Canada, New Zealand, Samoa, Tanzania, and the United Kingdom all reported climate change and health specific plans, strategies or projects, and several of these respondents also mention previously completing a vulnerability assessment to inform their work. Of these seven countries, three reported being in the process of developing health sector specific climate change and health adaptation plans (Australia, New Zealand, and Tanzania). Brunei Darussalam has developed an intersectoral National Environmental Health Plan, in which climate change is a priority issue. Samoa is conducting a project on integrating climate change into the health sector (see Box 2). The United Kingdom and Canada do not report overarching plans, but have both conducted vulnerability assessments and developed programmes and strategies responding to

specific risks from these assessments (see Box 2).

Five of these countries are the five countries with the highest Human Development Index ranking¹ in the Commonwealth, and within the top 20 Commonwealth countries on the basis of GDP. It is assumed that these countries may have more funds available to invest in adapting health systems to climate change. However, Tanzania and Samoa have been identified by the UN Framework Convention on Climate Change (UNFCCC) as ‘Least Developed Countries’ and through this categorisation have been able to access funds through the UNFCCC Adaptation Fund, to work on the health impacts of climate change.

In most of these countries, the response to the health impacts of

Figure 2: Health impacts of climate change



Category key:

Vector-borne diseases - Dengue fever, malaria, leptospirosis, rift valley fever, chikungunya, chagas, filariasis, encephalitis, onchocerciasis and yellow fever.
 Diarrhoeal diseases - Water-borne and food-borne diseases, cholera, salmonellosis, gastroenteritis, typhoid, dysentery and Hepatitis E.
 Temperature-related morbidity/mortality - Heat stroke, heat stress, heat-related CVD, hypothermia, pneumonia.
 NCDs - general NCDs, skin cancer, diabetes, renal diseases, CVD.

Box 2: Examples of climate change and health strategies

Samoa: Has developed a National Adaptation Programme of Action (NAPA). Published the 'Health Sector Climate Change Vulnerability and Adaptation Assessment Report' and within the NAPA has developed the project 'Integrating Climate Change Risks in the Agriculture and Health Sectors in Samoa' (2008-2012).

UK: Published the report 'Health Effects of Climate Change in the UK' (2008). The United Kingdom Department of Health prioritises the development national and local adaptation plans for the health impacts identified in the report. This includes a National Heatwave Plan.

Canada: Published the report 'Human Health in a Changing Climate: A Canadian Assessment of Vulnerabilities and Adaptive Capacity' (2008). Canada is implementing a Heat Resiliency Project, a Climate Change and Health Adaptation Project in the Northern and Inuit communities and an Infectious Disease Alert and Response System.

climate change is in the early stages, with vulnerability assessments only recently completed and strategies completed either recently or still in development. Samoa, United Kingdom and Canada appear to have moved further into implementation and begun to implement specific projects. Samoa, for example, has successfully obtained US\$2 million in funding from the Global Environment Fund for the project 'Integrating climate change risks in the Agriculture and Health Sectors in Samoa' – which was scheduled to start in March 2009.

Countries are responding to health problems that will be exacerbated by climate change; but are health systems being 'climate-proofed'? The majority of respondents did not report a strategy on climate change and health. However, they are all responding to the health problems that are anticipated to be exacerbated by climate change. Climate change will impact on health through existing health risks – whether extreme weather events, vector-borne diseases, diarrhoeal diseases or other categories, and therefore health systems are responding to these conditions. What is not clear from these results is whether these existing responses have been adapted to accommodate any new pressures introduced by climate change, or 'climate proofed'.

No respondents mentioned making radical changes to health systems specifically in response to the health impacts of climate change. This indicates that climate change will not require fundamental changes in the health sector but rather the strengthening and adaptation of existing systems.

The majority of respondents (74%) reported having made improvements to health systems that would benefit the response to the health impacts of climate change. The most common changes were improvements to vector-borne disease management, improvements to water and sanitation services, improvements to disaster response management, disaster proofing healthcare facilities, and the development of early warning systems (for

floods, natural disasters and heat waves).

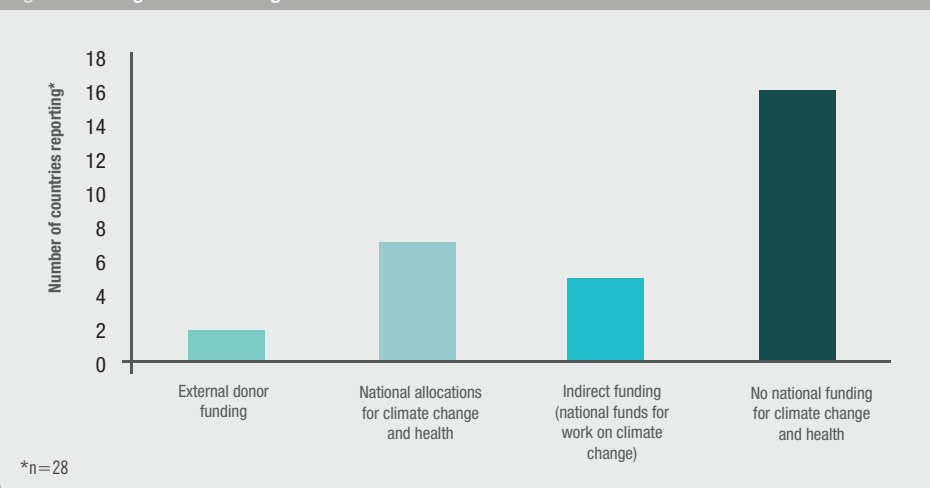
Sixteen respondents mentioned improvements to vector-borne disease management (Barbados, Belize, Brunei Darussalam, Canada, Cook Islands, Jamaica, Kenya, Malawi, Malaysia, Mauritius, Nauru, St Lucia, Seychelles, Trinidad and Tobago, Uganda and Vanuatu). Twelve respondents mentioned activities related to reducing the risk of diarrhoeal disease, which included strategies to improve sanitation, drinking water quality legislation and policies and improved outbreak control (Kenya, Malawi, Malaysia, Mauritius, New Zealand, Nauru, Pakistan, Seychelles, Swaziland, Trinidad and Tobago, Uganda and Vanuatu). Six respondents mentioned improvements to disaster response management (Cook Islands, Mauritius, Nauru, Seychelles, Trinidad and Tobago and the United Kingdom). Five respondents refer to efforts to reduce the vulnerability of healthcare facilities to extreme weather events and flooding (Belize, Seychelles, St Lucia, Trinidad and Tobago and the United Kingdom). Four respondents reported the development of early warning systems (for floods, natural disasters and heat waves) (Australia, Canada, Malta and the United Kingdom).

National funding for work on climate change and health is not universally available. Only seven countries reported that specific funding was available for work on climate change and health (Australia, Canada, New Zealand, St Lucia, Samoa, Sri Lanka and Trinidad and Tobago). Five countries reported that national funding had been allocated for work on climate change and this could be accessed for work on health impacts (Cook Islands, Jamaica, Seychelles, Singapore and the United Kingdom). Samoa and the Cook Islands reported securing external funding, from the Global Environment Fund and the Asian Development Bank, respectively. (See Figure 3)

There is intersectoral collaboration between health and other sectors on climate change issues. Ninety per cent of respondents reported that the Ministry of Health was working with or in communication with other Ministries in its work on health and climate change. Several countries reported intersectoral work on specific projects, such as integrated disaster response management or vector control. Many countries highlighted information sharing between agencies. Tanzania, for example, noted the improved communication between the meteorological agency and the Ministry of Health, which has facilitated the establishment of an early warning system for climate sensitive diseases such as malaria, cholera and Rift Valley Fever.

There is a growing body of research on climate change in Commonwealth countries. Forty-five percent of respondents are

Figure 3: Funding for climate change and health in the Commonwealth



conducting or have conducted research into the health impacts of climate change. Fourteen countries reported ongoing or planned research into the health impacts of climate change, either epidemiological studies into a specific health risk or general climate change and health vulnerability assessments (Australia, Belize, Canada, Cook Islands, Malaysia, Malta, New Zealand, Pakistan, Samoa, Seychelles, Singapore, Sri Lanka, St Vincent and the Grenadines and the United Kingdom). Five of these countries (Cook Islands, Malaysia, Malta, St Vincent and the Grenadines and Singapore) indicate that they are awaiting the results of this research to inform them of any necessary changes to the health sector or to inform the development of a climate change and health plan. (See Box 3).

Approximately 40 per cent of respondents have conducted awareness raising activities *'Increasing the awareness amongst the public and the medical profession of the health impacts of climate change, and what they can do to reduce them'*, is a key priority in the United Kingdom's climate change and health adaptation strategy.

Nine countries (Canada, Brunei Darussalam, Malta, Barbados, Botswana, Malaysia, Samoa, Tanzania, and the United Kingdom) reported training or events involving health professionals. Malaysia, for example, organised and hosted the Asia-Pacific Health Ministers' Conference on Climate Change and Health in September 2008. Malta hosted in April 2009 a conference on health and climate change organised by the Environmental Health Department. It expects this *'could be a fertile ground to spark off a strategy on the health impacts of climate change'*.

Five countries (Barbados, Cameroon, Trinidad and Tobago, Singapore and the United Kingdom) reported initiatives to increase public awareness of the health risks of climate change generally, or on specific risks, such as vector control and sanitation. Responses did not indicate whether the training referred to climate change and health in particular or focused on managing one of the impacts, such as vector control, and whether the impact of climate change on these strategies was a focus of the training.

Most countries are engaged in the global or regional dialogue on the health impacts of climate change. The vast majority of respondents (81%) reported being involved with international efforts to address climate change and health. Descriptions of international engagement ranged from participation at regional and international events and initiatives, providing technical and financial assistance to other countries, for example, specialist disaster relief and research collaborations. Of the countries reporting no international involvement (Cameroon, Sierra Leone, Nauru, Mauritius, Malawi), or limited international involvement (Seychelles, St Lucia), four are small island states.

However, one third of countries lack the human, technical and financial resources to actively participate in the global discussions on health and climate change. For example, Kenya reported that 'weak evidence on the impact of climate change and health due to poor research' and not having *'adequate resources to engage of climate change and health'* limited capacity. At the same time, countries are willing to play a more active role, as illustrated by the Seychelles, which stated that it *'could become a model country or a communication hub by actively participating in research activities and contributing in terms of our local expertise, established infrastructures, scientific databases and achievements in the areas of sustainable development, environmental protection and high levels of public health and sanitation'*.

Box 3: Research initiatives on health and climate change

Australia: The Australian National Health and Medical Research Council included climate change as a funding priority in 2009. A National Adaptation Research Network for Human Health and a National Climate Change Adaptation Research Facility have been established.

Malaysia: The National Institute of Health has a research and development fund for climate change-related research of US\$1.03 million for the period 2006–2010.

Approximately 40 per cent of respondents state that health is integrated into national climate adaptation plans or represented on national climate change committees. Seven countries report that health has been integrated into national climate change adaptation plans (Australia, Canada, Cook Islands, Malaysia, Samoa, Uganda and the United Kingdom). Malta does not have a national climate change adaptation plan but rather a national climate change mitigation plan, and health has been integrated into this. Nine countries reported that health was represented at national level climate change committees or similar interagency bodies (Australia, Cameroon, Cook Islands, Malaysia, Papua New Guinea, Seychelles, Tanzania, Uganda and the United Kingdom).

The health sector can also help mitigate climate change. The United Kingdom was the only country to mention efforts of the health sector to mitigate climate change (i.e. reduce greenhouse gas emissions), reporting that the National Health Service is working towards mandatory energy and carbon efficiency targets, and has a *'NHS Carbon Reduction Strategy'* to assist them in this.

Challenges to an effective response to climate change and health

There were a number of challenges to planning and implementing a response to climate change and health. The main challenges can be categorised as follows.

Increasing high-level political support and prioritising climate change and health. Nine countries (31%) mentioned that the lack of prioritisation accorded to climate change within the health sector is a major barrier an effective response. It was suggested that climate change is not seen as a priority for the health sector (New Zealand), that the health sector has competing priorities (for example, Botswana's main priority is HIV, the Cook Islands' priority is basic health services), that there was a lack of commitment or political will from policy-makers and relevant stakeholders or that there was a need to prioritise climate change at a national level. Lack of prioritisation was given as a reason by Jamaica and St Lucia for not having a relevant policy.

Developing relevant policies. When asked about gaps in policy, seven countries answered that there was no current policy specifically on climate change and health, and two of these countries (Barbados and Trinidad and Tobago) expressly stated the need for such a policy. Three further countries (Kenya, Sierra Leone and Swaziland) stated a lack of policy when asked what they saw as the main constraints to addressing the health impacts of climate change. Indeed, the importance of adopting one overarching health and climate change policy across sectors was emphasised by countries. When asked about policy gaps, the second most frequent response was the need for cross-sectoral

Box 4: The challenge of coordination

'Climate change is not yet fully streamlined in the Health Sector'
Uganda

'yet to integrate the Department of Health climate change strategies into the National climate change mitigation and adaptation strategies' Cameroon

'the Ministry of Health is not included in the main Committee on Climate change which has its secretariat in Ministry of Economic planning and Development. The way forward would be to include the Ministry of Health in this committee.' Malawi

'Although there is a health rep on the climate change country team, it is not their job description to look at these issues. Similarly it is not part of vector preparedness plans to look at scenarios that are likely under climate change or new threats such as heat stress.' Cook Islands

collaboration on policy issues. Some countries also mentioned specific policy gaps such as a need to improve waste management policies and disease surveillance systems.

Increasing financial resources. The majority of respondents (59% of respondents) reported that limited financial or material resources were a barrier to implementing health and climate change work. Papua New Guinea states that *'Priority in terms of funding and resource allocation to address climate change at the sectoral level is perhaps the greatest challenge right now.'*

Human resource constraints. A lack of human resources was stated by 45% of respondents (all but two of these were small states, and nine of the 13 were small island developing states) as a major factor inhibiting the health sector response to climate change. Countries mentioned a shortage of or inadequately trained health workers. Suggestions for addressing this included higher financial input into recruiting health workers as well as providing improved training. Human resource issues were a challenge across all regions: 85% of countries mentioning human resource issues were small states, and 69% of them were small island developing states. In addition to this, 34% of respondents cited a lack of technical experts or specialists (Botswana, Cook Islands, Jamaica, Kenya, Papua New Guinea, St Vincent and the Grenadines, Seychelles, Trinidad and Tobago, Uganda and Vanuatu) as a constraint to addressing the health impacts of climate change.

Improving intersectoral collaboration and mainstreaming. Despite the majority of countries (90%) reporting that they are working intersectorally, intersectoral collaboration and planning was seen as a major challenge for addressing the health impacts of climate change for over a third of respondents. In some cases climate change had not been sufficiently mainstreamed, and therefore health personnel were not aware of the national activities on climate change, or health had not been identified as a stakeholder in national climate change initiatives, and therefore the health sector had not been involved (See Box 4). This point is highlighted by experiences of conducting the survey. For example, in at least one case the survey, which was sent to all Commonwealth Ministries of Health, is known to have been sent to the Ministry of the Environment, as the subject was not thought relevant to

the Ministry of Health. In another example, two countries reported in the survey limited activity on climate change and health; however, they both had NAPAs and programmes within their NAPAs that addressed the health impacts of climate change.

Increasing knowledge and awareness. A lack of knowledge and awareness at the political level, amongst policy-makers, health professionals and the general public was cited by eight countries (Belize, Canada, Cook Islands, Jamaica, Malta, Sierra Leone, Uganda and United Kingdom), as one of the main challenges to the response to health and climate change. Countries mentioned the need for expanded awareness-raising with policy-makers and felt that educating and raising the awareness of both health workers and the general public was essential to accelerate the response. For example, Malta reported that *'the main constraint at this point in time is lack of awareness and education on climate change and health among first and foremost health professionals and the lay public'*.

Generating research. The absence of relevant research was identified by eight countries (Barbados, Canada, Jamaica, Malaysia, Malta, Seychelles, Trinidad and Tobago and Uganda), as a challenge to responding effectively to climate change and health. There is a need to conduct risk assessments, to collect baseline data and information on the possible impacts of climate change on health, to monitor the impacts of climate change on health and to address the lack of scientific evidence to guide policy.

Overall, the challenges Commonwealth countries reported in addressing climate change and health did not appear to differ much between those countries at the most advanced stages of developing a response to climate change and health, and those at the very initial planning stages.

The statement made by Botswana captures the challenge many countries are facing: *'Climate change always results in phenomena that have not been prepared for. The Country needs to do a lot of work regarding impacts even in other sectors which are not health.'*

Individual country surveys can be found at www.thecommonwealth.org/chmm2009 and in the Annex that follows. ♦