



# Health and wellbeing

Key findings for the Pacific from the United Nations

**Intergovernmental Panel on Climate Change's (IPCC) Sixth Assessment Report (AR6) on Impacts, Adaptation and Vulnerability**



## Extreme weather and climate events are resulting in



injury



more disease carriers



compromised food security



disruption to health systems



increased migration



mental health impacts



water contamination



heat-related stress and mortality



loss of livelihood



impacts on medicinal plants

**Health risks are projected to increase**



**under all emissions scenarios**

Using regional, local and indigenous knowledge + considering differences in vulnerability = better responses

### Short-term adaptation options



Strengthened waste management and insect control



Improved water storage



Increased public awareness



Training



Improved data collection and monitoring



Integration of climate services into health decision-making



Strengthened emergency response organisational structure



Sufficient resources and surge capacity

### Long-term adaptation options

Early warning and response systems



Vulnerability and capacity assessments



Adapting health facilities and infrastructure to climate change



Emergency plans



Collaborative projects and strategies with multiple systems of knowledge



Build back better after extreme events



CHANGES

ADAPTATION

# Health and wellbeing

Key findings for the Pacific from the United Nations

**Intergovernmental Panel on Climate Change's (IPCC) Sixth Assessment Report (AR6) on Impacts, Adaptation and Vulnerability**



**Health risks associated with climate change are projected to increase with the scale of impacts depending on emissions pathways.<sup>1\*\*\*</sup>**

## WHAT IS HAPPENING

**Health risks can arise from exposures to extreme weather and climate events, particularly increases in cyclone intensity, floods, drought and heat waves.<sup>2</sup>** These events can result in injuries, more disease vectors, or in compromised safety and security of water and food; and exposures related to disruption of health systems and migration. For example, when category five tropical cyclone Winston hit Fiji in 2016, the World Health Organisation recorded influenza and Zika-like illness, acute watery diarrhoea, viral conjunctivitis and suspected cases of dengue fever in patients.<sup>3</sup>

**Many major health care facilities are in exposed coastal areas and have limited ability to provide health services during or after disasters when services are most needed.** For example, in Vanuatu, the 2015 tropical cyclone Pam severely damaged 2 hospitals, 19 health care centres, and 50 healthcare dispensaries in 22 affected islands.<sup>4</sup> Damages to these critical facilities can have short-term impacts on disaster response and affect long-term treatment and care for people with non-communicable diseases.<sup>5</sup>

**Changes in water availability are increasing the risk of waterborne disease.** Seasonal rainfall changes in Kiribati are associated with diarrhoea, cholera, and typhoid fever. Changing weather patterns can also increase non-communicable diseases, for example by impacting local food production which has implications for malnutrition.<sup>6</sup>

**Evidence is emerging of the mental health impacts of climate change.** For example, Tuvaluans are experiencing distress because of the local environmental impacts caused or exacerbated by climate change, and by hearing about the potential future consequences of climate change.<sup>7</sup>

## WHAT COULD HAPPEN FURTHER

**Climate change could increase the risk of water contamination and diseases in heavily populated areas.** El Niño events are projected to increase in strength due to climate change. Climate change projections indicate increases in the number of days of heavy rainfall by 2050, leading to contamination of drinking water. Furthermore, El Niño events can increase the risk of mosquito-borne diseases.<sup>8</sup>

**Heat-related mortality and risks of occupational heat stress are projected to increase with higher temperatures.** Higher temperatures could also affect the productivity of outdoor workers and increase the risk of allergic diseases such as asthma.<sup>9</sup>

**Increases in both air and marine temperatures can increase exposure to disease and illness.** For example, ciguatera fish poisoning is a foodborne illness caused by toxic algae that thrive on degraded coral reefs in high temperatures; conditions which will increase with climate change. This is endemic in the Cook Islands and French Polynesia, where incidence is associated with unusually high sea surface temperatures.<sup>10</sup>

**Evidence is growing that resettlement can have impacts on sense of place, identity and social fabric of an individual and their community.** It is predicted that by 2050 up to 80% of the land on the island of Buariki, Kiribati and 50% of the land on Bikenibeu, Kiribati may be completely inundated, and these effects will result in significant loss of livelihoods and displacement.<sup>11</sup>

**Climate change is projected to impact some medicinal plant species through changing temperature and precipitation, changes in pests and pathogens and unsustainable harvest of high value species.** However, some medicinal plants such as noni, naupaka, kukui and milo may be less susceptible to climate change as they are fast growing, salt-tolerant, and have high reproduction rates.<sup>12</sup>

1 7.3.1.1

2 Chapter 15, Executive Summary

3 15.3.4.2

4 15.6.2

5 15.3.4.3

6 See 'Food Factsheet' for more information.

7 15.3.4.2

8 15.3.4.2

9 15.3.4.2

10 15.3.4.2

11 8.3.5.1

12 Chapter 5, Table 5.9

\* = medium confidence

\*\* = high confidence

\*\*\* = very high confidence

## RESPONSE OPTIONS<sup>13</sup>

Short-term adaptation options include:

- strengthening sustainable practice on waste management and disease-carrier control
- improving reliability and safety of water storage practices
- increasing public awareness of health risks associated with climate change
- training health sector staff
- improving climate change and health data collection methods and enhancing environmental monitoring
- enhancing the integration of climate services into health decision-making
- strengthening the organisational structure of emergency response
- ensuring sufficient resources and surge capacity.

Longer-term adaptation options include:

- developing early warning and response systems for climate-sensitive health risks, for example, rainfall is the best environmental predictor of malaria in North Guadalcanal, Solomon Islands, leading to the development of an early warning tool that could increase resilience to climate change.
- establishing mechanisms for flow of information between key departments (e.g. between meteorological and health authorities)
- increasing the capacity of laboratory facilities for disease testing
- increase the climate resiliency of health facilities and infrastructure
- developing emergency plans
- considering multiple systems of knowledge through collaborative and co-production projects and strategies, which allow for culturally-situated knowledge, values and practices to be at the centre of adaptation.<sup>15</sup>

These adaptation options can contribute towards building 'climate resilient' health systems.

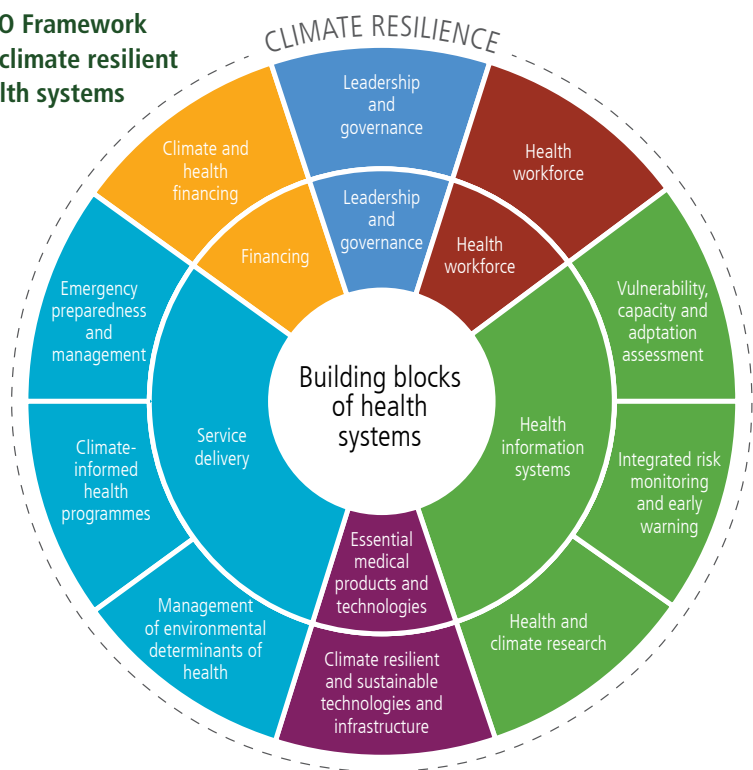
13 15.6.2

14 15.6.5

15 7.15

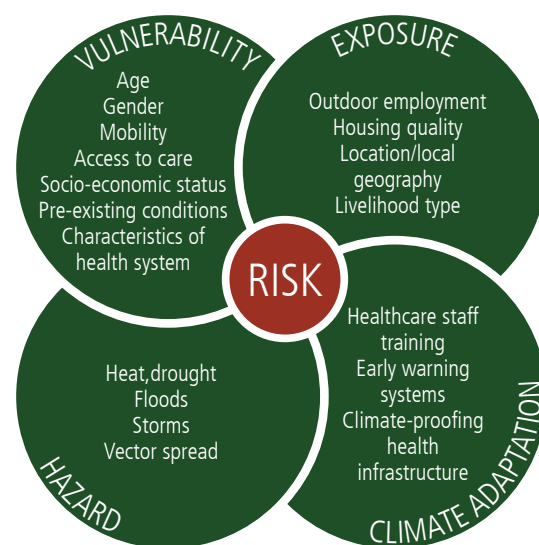
16 Chapter 7, Executive Summary

### WHO Framework for climate resilient health systems



Ten components of the WHO operational framework for building climate resilient health systems, with links to the building blocks of health systems. Source (WHO, 2015b)<sup>15</sup>

**Transformational changes will be more effective if they are responsive to regional, local and Indigenous knowledge and consider the many dimensions of vulnerability, including gender and age.<sup>16</sup>**



Interactions between vulnerability, hazard, exposure and adaptation that determine risk to both individuals and health systems.