



CLIMATE CHANGE, GENDER, AND HEALTH IN THE PACIFIC



BACKGROUND

According to the Lancet Report, climate change is “the biggest global health threat of the 21st century”¹. The increasingly frequent and severe extreme events associated with it are expected to have largely adverse effects on key determinants of human health, including clean water, sufficient food and adequate shelter. Climate change affects human health both directly and indirectly. For example, cyclones can lead directly to more deaths, disability, and injuries, while slow on-set disasters such as droughts can lead to lower crop yields, which can indirectly adversely affect health through malnutrition and increased disease.

The World Health Organisation notes that the effects of climate on human society, and our ability to mitigate and adapt to them, are mediated by social factors, including gender. Many health risks likely to be affected by ongoing climate change show gender differentials. Globally, disasters such as droughts, floods and storms kill far more women and children than men. Although sex and age disaggregated data on fatalities from disasters is not available in the region, informal information suggests that this trend is continued in the Pacific region.

As the impacts of climate change increase, public expenditure on health may be forced to increase, thereby diverting funds that could otherwise be spent on economic and social development. Climate change therefore has a bearing not only on promoting gender equality by keeping women and girls healthy and engaged in socially and economically productive activities, but also on future sustainable development.

This brief is part of UN Women Fiji Multi-Country Office’s series on the links between climate change, gender, and a number of development issues including women’s economic empowerment, health, food security, and energy. UN Women would like to acknowledge contributions from Development Alternatives with Women for a New Era and Secretariat of the Pacific Community in drafting these publications.

KEY MESSAGES

- Climate change will negatively impact human health in a number of ways, including by contributing to increased rates of disease and malnutrition.
- These impacts would undermine the achievements of future sustainable development efforts by the Pacific region.
- Women and men are socialised into gender-specific roles in their families and communities, which creates differences in how their health is affected by climate change. Due to these gendered roles, women often face increased vulnerability to disease and malnutrition and hold greater responsibility in caring for the sick.
- Women are principal stakeholders and rights-holders regarding health and climate change; and empowering them to contribute their skills and knowledge will be important to improve health outcomes.
- More Pacific specific research and information on the inter-linkages between climate change, gender, health, and development should be prioritised to better inform climate change adaptation and sustainable development.

20%

The percentage of the global reproductive age population either pregnant or lactating at any given time².

20 to 30%

The projected percentage increase in dengue fever in Fiji due to climate change³.

53%

the percentage of people who tested positive for dengue fever in Solomon Islands outbreak of 2013 who were women⁴.

DIFFERENTIAL IMPACTS

The impact of climate change on health is experienced globally, yet countries are affected by these impacts to different degrees depending on the resources they have available. Countries with adequate health infrastructure are better able to cope, whereas poorer economies, with limited health services, have fewer options. Within these poorer countries, climate change-related impacts on health affect women more significantly than men due to a number of social factors. Women and men are socialised into gender-specific roles in their families and communities, which creates differences in their interests, knowledge, abilities and power relations over resources and information. In general, women tend to be poorer than men and have less access to resources. These differences impact how women's and men's health is affected by climate change.

Pacific women tend to be home bound looking after their children and homes. In cities, where the poor live on marginal lands, women and children are more likely to be swept away from their homes in a flood as men are often away from home pursuing economic activities in public places. Furthermore, women and children are more likely to die in a disaster as they often do not receive timely early warning information. This is often because assets such as radios, mobile phones and television, which provide access to critical early warning information about impending disasters, are often controlled by men.

Differences are also found in vulnerability to the indirect and longer-term effects of climate-related hazards. For example, salt water intrusion in Pacific Island countries and territories (PICTs) brings health hazards through reduced availability of potable water for drinking, cooking, and agriculture production. These changes have disproportionate consequences on women's health, especially pregnant women, and also increase the burden on women and girls associated with travelling further to collect clean water. Women's reliance on subsistence activities also exposes them to injury and violence. For example, in drought situations, and in cases where there is salt water intrusion into fresh water, women and girls may have to go further to collect clean water increasing their exposure to potential gender-based violence.

Gender differences, however, also mean that women and men have different skills and knowledge to cope with climate change impacts. For example women may have intimate knowledge of the environment, which guides them on where to get uncontaminated water after salt water from a storm surge has infiltrated local water sources. The unique knowledge held by women can therefore be effectively utilised to adapt to climate change, including addressing its impacts on community and family health.

Case Study: Linkage between salt water intrusion and eclampsia, Bangladesh^{5 6}

In rural low-lying coastal Bangladesh, drinking water has become extremely saline due to salt water intrusion from sea-level rise and storm surges. This has occurred to such a degree that people in the region take in on average 50–100% of the World Health Organisation's recommended daily salt intake just from drinking water. Once sodium from daily food is added to this, it is easy to see how these levels can build up.

Studies by the Imperial College London found a clear dose response relationship between high salinity in drinking water and the risk of hypertension in pregnant participants in Dacope, meaning that the saltier the drinking water, the

more likely they were to develop hypertensive disorders during pregnancy.

These studies indicate that the rising salinity of drinking water could potentially have a significant impact on public health. Therefore it can be seen that in the Pacific, as sea levels continue to rise due to climate change, low-lying countries and atolls such as Kiribati could face similar health challenges, unless the problem is addressed urgently. Furthermore, In the Pacific this potential increase in hypertensive disorders, could exacerbate the negative health impacts resulting from the existing high prevalence of raised blood pressure due to non-communicable diseases.

CLIMATE CHANGE IMPACTS ON HEALTH FOR WOMEN IN THE PACIFIC

Impacts of disasters: Disasters, such as cyclones, damage hospitals and other health infrastructure, undermining health services when they are needed most. Women and children are more likely than men to die or be injured in disasters, specifically in countries where women have unequal social, economic, and political status. In countries where women have comparable status to men, rates of death and injury from disasters are nearly the same². During the Fiji flooding in 2012, for example, women were more likely to get sick than men, due to having to remain in their wet clothes until dry ones were provided, whereas men were able to strip off their wet clothes³.

Women in the Pacific are already subject to higher levels of sexual and gender-based violence (SGBV). These high rates of SGBV not only put a huge strain on women's health, but also on national health systems, which undermines gender equality, as well as threatening sustainable development. Violence escalates even more following disasters and climate events. After two tropical cyclones in Vanuatu in 2011, a 300% increase in new domestic violence cases was reported⁴. The health effects of violence include immediate injuries, gastrointestinal and eating disorders, and mental health problems such as anxiety, depression, and post-traumatic stress disorder⁵.

Threats to Water Sources: Climate change is expected to reduce the availability of fresh water for human consumption and agriculture⁶. In the Pacific, the fresh water supply is affected by droughts and contamination of ground water due to storm surges and sea level rise⁷. Increased salt water intake is known to cause health problems including hypertension and high blood pressure. Studies in pregnant women have found a clear dose response relationship between drinking water salinity and hypertension. Due to the high settlement concentration in coastal areas in PICTs, the projected rising sea-levels are likely to have serious health consequences.

Threats Food Security: Climate change is also expected to have a negative impact on agricultural yields.

In 1990, Tropical Cyclone Ofa in Niue made this previously food exporting country dependent on imported food for two years⁸. The reduction in the availability of locally grown food in favour of imports is already leading to increased rates of diseases associated with malnutrition and obesity in the region. Imported foods with low nutritional value – such as rice and wheat flour – are replacing more nutritious traditional diets. The associated high rates of obesity leads to cardiovascular and respiratory diseases, and Type 2 diabetes, which are affecting women more than men. Decreased food security and nutrition, also means mothers and children more susceptible to infections and poor health, and women who are pregnant or breastfeeding have an increased risk of malnutrition and dehydration, as they have specific nutritional needs⁹.

Increases in Vector-borne Diseases: Climate conditions affect the rates of diseases caught from unclean water and food, such as cholera and typhoid, as well as diseases that are spread by insects, such as malaria and dengue. A warmer climate, changes in rainfall patterns, and water availability are likely to shift and lengthen the periods during which vector-borne diseases are spread, as well as allow the spread to islands where these diseases are not present. Mosquitoes that carry the malaria parasite, for example, are now detected in areas of PNG, where they had never previously been recorded¹⁰. Further, dengue fever is increasing in severity and spread in the Pacific. This can be seen in Solomon Islands, which documented the first large dengue outbreak in 2013, killing six people, and hospitalising 401¹¹. Climate change is also thought to increase levels of bacteria that cause cholera in coastal waters¹².

The impact of these diseases on women and men is likely to be different. For instance, the risk of malaria infection for pregnant women doubles due to their changed physiology, which makes them more “attractive” to mosquitoes¹³. Maternal malaria can cause miscarriage, stillbirth, premature birth, and low birth weight, dramatically threatening national efforts to reduce maternal mortality¹⁴.



RECOMMENDATIONS FOR SUSTAINABLE DEVELOPMENT GOALS

The above examples demonstrate the ways in which climate change could impact on human health, some of the likely effects based on gender, and how this could undermine achievement of future sustainable development goals. The relationships between these issues are highly relevant for the Pacific region. Long-term social and economic development will neither be effective nor sustainable unless measures to address climate change, and health problems include clear strategies for promoting gender equality and women's empowerment. Some recommendations for the development of Sustainable Development Goals include:

- Investment in research is urgently needed to understand how climate change is affecting and contributing to existing energy decreases, as well as the impact on women's and men's health to ensure that policy formation addresses the needs of all members of society.
- Given the unique situation of Pacific regional realities, the collection of new data should be disaggregated by sex and age and analysed to promote research and policies related to disease incidence and patterns. This information can be used to improve planning and response for the likely health impacts of climate change.
- Acknowledgment of and commitment to address the high rates of SGBV experienced across the Pacific, including provision of services for the prevention of SGBV in disaster risk reduction management plans.
- Additional resources should be put into the water and sanitation needs of PICTs which will be increasingly affected by droughts, flooding and rising sea levels. This is particularly true for smaller, low-lying, Pacific atolls. The different needs of women and men should be taken into account, to ensure these investments equally benefit women and men.
- Women in the Pacific have intimate knowledge of their environment and are often caregivers for their families and the sick. Women should therefore be an integral part of all decision-making on health system strengthening, and responses to emerging diseases and health issues resulting from climate change.
- A standalone gender goal must address the underlying reasons why women's and men's health are differently affected by climate change. This will reduce women's vulnerability, and empower them to take a more active role in preventing and adapting to changes in Pacific health.



- 1 Costello et al, 2009. Managing the Health Effects of Climate Change. The Lancet, number 373: pp 1693-1733.
 - 2 Aneire Khan et al 2011; Drinking Water Salinity and Maternal Health in Coastal Bangladesh: Implications of Climate Change. Environmental Health Perspectives Volume 119 | number 9 | September 2011
 - 3 Potter S, 2008. The Sting of Climate Change. Available at: http://www.lowyinstitute.org/files/pubfiles/Potter%2C_The_sting_of_climate_change.pdf
 - 4 Neumayer, E and Plümper, T, 2007. The Gendered Nature of Natural Disasters: The Impact Of Catastrophic Events On The Gender Gap In Life Expectancy, 1981–2002. Annals of the Association of American Geographers, 97 (3). pp. 551-566.
 - 5 Aneire Khan et al 2011; Drinking Water Salinity and Maternal Health in Coastal Bangladesh: Implications of Climate Change. Environmental Health Perspectives Volume 119 | number 9 | September 2011
 - 6 Imperial College London 2014: The effects of sea level rise on human health. Accessed on 14 August 2014 <http://www3.imperial.ac.uk/grantham/resources/ipccwg2/sealevel>
 - 7 Neumayer, E and Plümper, T, 2007. The Gendered Nature of Natural Disasters: The Impact Of Catastrophic Events On The Gender Gap In Life Expectancy, 1981–2002. Annals of the Association of American Geographers, 97 (3). pp. 551-566.
 - 8 UN Women, 2013. The 2012 Fiji Floods: Gender Sensitivity in Disaster Management. Suva, Fiji, 2013.
 - 9 Kilsby, Di, and Rosenbaum, H, 2012. Scoping of Key Issues in Gender, Climate Change And Disaster Risk Management To Inform Proposed UN Women Five-Year, Five-Country Pacific Program. Internal briefing Document, UN Women.
 - 10 Stop Violence Against Women, 2013. Health Effects of Domestic Violence. Available at: http://www.stopvaw.org/Health_Effects_of_Domestic_Violence
 - 11 ADB, 2013. The Economics of Climate Change in the Pacific
 - 12 FAO, 2008. Climate Change and Food Security in Pacific Island Countries.
 - 13 FAO, 2008. Climate Change and Food Security in Pacific Island Countries.
 - 14 WHO, 2011. Gender, Climate Change, and Health.
 - 15 UNDP, 2012. The Health Impacts of climate change in Asia-Pacific. Background Papers Series 2012/16.
 - 16 Nogareda F et al. Ongoing outbreak of dengue serotype-3 in Solomon Islands, January to May 2013. Western Pacific Surveillance and Response Journal, 2013, 4(3):28-32. Available at: <http://ojs.wpro.who.int/ojs/index.php/wpsar/article/view/206/308>
 - 17 UNDP, 2012. The Health Impacts of Climate Change in Asia-Pacific. Background Papers Series 2012/16.
 - 18 UNDP, 2012. The Health Impacts of climate change in Asia-Pacific. Background Papers Series 2012/16.
 - 19 UNDP, 2012. The Health Impacts of climate change in Asia-Pacific. Background Papers Series 2012/16.
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