

HEALTH IMPACTS OF CLIMATE CHANGE IN THE PACIFIC REGION

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Abstract

Climate change will impact human health in numerous ways. Scientists predict that existing health threats will intensify and new health threats will emerge, affecting everyone in one way or the other. Public health will be impacted by disruptions of physical, biological, and ecological systems. The resultant health effects will be respiratory and cardiovascular disease, deaths related to extreme weather events such as destructive tropical cyclones, water-borne diseases, food insecurity and threats to mental health. Climatic conditions will further ease the way for diseases transmitted through insects and other species. Transmission seasons of vector-borne diseases such as malaria, which is transmitted through the Anopheles mosquitoes and kills almost half a million people every year, will be lengthened. Climate change resulting in temperature rise will increase exposure to dengue because the Aedes mosquito vector of dengue thrives in hotter and wetter climate conditions. All nations will be affected by climate change in the years to come, but the Pacific island nations will bear the brunt of severe climate conditions and dangers to their health more than others. People in these small island states will be particularly vulnerable and experience premature deaths and injuries year-in-and-year-out. Their children in particular will be exposed to the resulting health risks, not to mention that the elderly and people with co-morbidity conditions will be equally endangered.

The best solution and way forward is to convince national legislatures to translate international agreements into domestic laws so that businesses, multinational corporations and governments can be held accountable for their actions. Currently, there is no such legal framework to discourage these entities from increasing their fossil fuel generation and further damaging the environment.

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INTRODUCTION

Climate change clearly poses serious threats to human health and international development³. Over the past 50 years, the global climate has changed markedly due to anthropogenic greenhouse gases released into the lower atmosphere⁴. Scientists predict that environmental hazards will continue to affect human health and damage the planet in the absence of effective global governance.

Recent studies have found that rising temperatures will cause devastation in poorer, hotter countries and kill more people if planet-heating emissions are not reduced. It is predicted that climate change-related deaths will increase by 73 deaths per 100,000 people globally by the end of this century. Environmental fatalities will soon match the current death toll from infectious diseases such as tuberculosis, HIV/AIDS, malaria, dengue and yellow fever⁵.

If the global CO₂ emission is not curbed, environmental fatalities and displacement will continue to rise and perhaps surpass fatalities caused by other man-made disasters⁶. The ensuing civil conflict over shrinking resources such as water, food and land will certainly overwhelm governments and create a massive transnational security challenge⁷. Overcrowding of small islands could lead to the spread of communicable diseases and possibly a global pandemic⁸.

Over the years there has been a steady increase in global CO₂ emissions. This increase is predicted to continue over the next 100 years, precipitating natural disasters. Also, the global temperature will rise between 1.8 to 4°C and the ocean level will rise between 0.18 to 1 meter by mid next century⁹. This suggests that there will be more prolonged droughts causing famine and malnutrition, fatalities related to weather events, heat waves causing

³ Lachlan McIver et al., 'Health Impacts of Climate Change in Pacific Island Countries: A Regional Assessment of Vulnerabilities and Adaptation Priorities' *Environmental Health Perspectives*, Vol. 124, no. 11 (2016), pp. 1707—1714.

⁴ Izuoma Egernuoh-Adindu, 'Climate Change effects and international displacement in Nigeria: Legal and institutional challenges', *Journal on Environmental Law, Policy and Development*, Vol. 7 (2020), pp. 8-38.

⁵ Oliver Milman, *Rising temperatures will cause more deaths than all infectious diseases – study*, 2020 <<https://www.theguardian.com/us-news/2020/aug/04/rising-global-temperatures-death-toll-infectious-diseases-study>> [accessed 19 December 2020].

⁶ *Id.*

⁷ Egernuoh-Adindu, *Supra* note 2.

⁸ Uji, *Supra* note 11.

⁹ Howard Frumkin et al., 'Climate Change: The Public Health Response', *American Journal of Public Health*, Vol. 98, no. 3 (2008), pp.435-442.

hypothermia, the growth of infectious diseases, and water and food contamination.¹⁰

The frequency of prolonged droughts will increasingly affect vulnerable countries across the globe. It will disastrously affect the agriculture sector, which will then precipitate mass displacement and hunger as well as fatalities related to malnutrition. The small Pacific Island nations are some of the most vulnerable countries in the world that have fallen victim to the severe impacts of climate change.

This is due in large part to geographic, demographic and socioeconomic factors, such as low elevation and few natural resources¹¹. Sea level rise will put many Pacific Island nations on the verge of sinking, thereby producing a large body of environmental refugees¹².

HEALTH IMPLICATIONS

Climate change and severe weather events will damage the socio-environmental determinants of health such as clean air, safe drinking water, food security and habitat. Scientists predict that severe weather events will cause additional deaths of around 250,000 people between 2030 and 2050 owing to malnutrition, malaria, diarrhoea and heat strokes. It will also displace millions of people¹³.

The health implications of climate change will be respiratory and cardiovascular disease, injuries and deaths caused by natural disasters, changes in geographical distribution of food, water-borne diseases and mental health¹⁴. Environmental disasters affect all populations, particularly the elderly, children, pregnant women and displaced people. The socio-economic effects of climate change on the Pacific health sector will be far beyond the financial means of the island nations.¹⁵

¹⁰ *Id.*

¹¹ World Health Organization, *Human health and climate change in Pacific island countries*, 2015 <https://apps.who.int/iris/bitstream/handle/10665/208253/9789290617303_eng.pdf?sequence=1&isAllowed=y> [accessed 10 December 2020].

¹² Saber Salem, Armin Rosencranz, 'Climate Refugees in the Pacific', *Environmental Law Reporter*, Vol. 50, no.7 (2020), pp. 10540-10545.

¹³ National Health Portal, *Health and Climate Change*, 2020 <https://www.nhp.gov.in/health-and-climate-change_pg> [accessed 20 December 2020].

¹⁴ Centre for Disease Control and Prevention, *Climate Effects on Health*, 2020 <<https://www.cdc.gov/climateandhealth/effects/default.htm>> [accessed 20 December 2020].

¹⁵ Chanel and Doherty, *Supra* note 10.

Scientists believe that the global climate is changing at a much faster pace than was predicted¹⁶. This potentially catastrophic risk to human health and wellbeing could reverse global health gains of the past decades as the number of diseases and deaths start to surge. Thus, climate change is a global phenomenon, which requires collective global action and cooperation.

Further, the health implications of climate change vary from place to place. Pacific Island developing countries all enjoy the same geographical topology and are affected by similar natural disasters. The most common climate-induced diseases that will cause more deaths in the Pacific region are:

- a. Heat-aggravated illnesses: As global temperatures continue to rise, days will become excessively hot, which then leads to heat strokes, cardiovascular and kidney problems¹⁷. Soaring heat will cause many deaths and particularly affect the elderly, children and people with chronic medical conditions. Heat also causes various skin diseases.

The agriculture sector will also receive its fair share of harm from soaring heat where tropical fruit trees start drying up due to lack of water. This means there are fewer local fruits and vegetables available. This is likely to push up the price of these items, making them less affordable to the general population. A side effect is the growing dependency on imported and processed food, which has its own health implications.

- b. Vector-borne diseases: As the world is continuously warming up and cold seasons become temperate, disease-carrying mosquitoes will thrive, resulting in dengue fever, Zika, chikungunya and malaria. According to Fiji's Ministry of Health, dengue, a viral disease transmitted by the *Aedes* mosquito, is endemic in Fiji as elsewhere in the Pacific¹⁸. It affects people of all age groups, especially the elderly and children. Mortality rates increase when medical assistance is not delivered quickly.

Zika, another deadly disease caused by the *Aedes* mosquito, is transmissible from person-to-person. Infected travellers from affected countries take it to the non-infected ones. There has also been a large

¹⁶Carol Death, *Governing Sustainable Development: Partnerships, Protests and Power at the World Summits* (Oxford: Routledge, 2010).

¹⁷Samantha Harrington, *How climate change threatens public health*, 2019 <<https://yaleclimateconnections.org/2019/08/how-climate-change-threatens-public-health/>> [accessed 22 December 2020].

¹⁸Ministry of Health and Medical Services, *Rapid Public Health Risk Assessment Tropical Cyclone Winston Republic of Fiji*, 2016 <http://www.health.gov.fj/wp-content/uploads/2016/03/20160315-Rapid-Health-Risk-Assessment-TC-Winston-Mar2016-for-editing_14-March-2016_final-2.pdf> [accessed 22 December 2020].

outbreak of chikungunya in many Pacific Island countries. This vector disease is transmitted from person-to-person. Children and the elderly are the most-affected groups.¹⁹

- c. Water-borne diseases: Climate change and severe weather events increase the risk of water-borne diseases. When tropical cyclones make landfall and cause flash flooding, they contaminate sources of drinking water by washing human and animal faeces in it. The health impacts of it include gastrointestinal illnesses such as diarrhoea, skin diseases, cholera, and liver and kidney damage²⁰.
- d. Mental Health: Climate change and extreme weather events impair mental health when people's properties get damaged or they lose their loved ones. Death and destruction brought about by climatic disasters scar the affected people mentally and emotionally. It affects people of all age groups, but particularly the poor, daily wage workers and farmers.

Additionally, increase in temperature causes heat stress, which makes working conditions unbearable and increase the risk of cardiovascular, respiratory and renal diseases²¹. Each of these health problems increase stress amongst affected people and negatively impact their mental health. So far, there is no direct correlation between mental health and climate change. However, mental illness is caused by the death and destruction that climatic disasters leave behind²².

- e. Food Security and Malnutrition: Climatologists warn that climate change will expose people to food insecurity not only in the Pacific region but also globally²³. Irregular patterns of rainfall, destructive deluges, prolonged droughts and warming of seawater inevitably reduce agricultural and fishery outputs.

Reduction in agricultural outputs induces chronic hunger and malnutrition. According to the WHO, by 2030, climate change will

¹⁹*Id.*

²⁰United States Environment Protection Agency, *Climate Impacts on Human Health*, 2017<<https://19january2017snapshot.epa.gov/climate-impacts/climate-impacts-human-health.html#ref5>>[accessed 22 December 2020].

²¹World Health Organization, *Global climate change and health: an old story writ large* WHO, 2003<<https://www.who.int/globalchange/summary/en/>>[accessed 23 December 2020].

²²United Nations Framework Convention on Climate Change, *Climate Change Impacts Human Health*, 2017 <<HTTPS://UNFCCC.INT/NEWS/CLIMATE-CHANGE-IMPACTS-HUMAN-HEALTH>>[accessed 23 December 2020].

²³WHO, *Supra* note 24.

account for up to 4.7 million cases of malnutrition, or ‘about 10% of the global total’²⁴. It is estimated that marine resources such as fish stock will see a reduction of 40%, which could threaten the food security and livelihoods of the Pacific Islanders. Climate change could also affect up to 2.6 billion people around the world who, like Pacific Islanders, get their protein from seafood²⁵.

Further, climate change and extreme weather patterns are expected to negatively affect crop yields as floods, droughts and storms damage agricultural crops. Also, warm temperatures will make it difficult for some crops to grow. Pest infestations will increase, which, like natural disasters, severely damage crops. An increase in CO₂ levels reduces the nutritional value of wheat and rice²⁶.

Climate change also causes mass displacement due to persistent sea level rise, landslides, tidal inundation of coastal communities, and loss of croplands and drinking water. There are predictions that the Pacific region will run out of drinking water well before running out of land²⁷. Rising global temperatures will increase poverty, social deprivation and civil conflict²⁸. Population displacement caused by natural disasters will result in overcrowding of small islands. This will increase the risk of transmission of communicable diseases such as respiratory infections, hepatitis A, meningococcal disease and typhoid²⁹.

Acute respiratory infection, measles, diphtheria and pertussis are transmitted from person-to-person through respiratory droplets during coughing and sneezing³⁰. The risks are further increased when evacuation centres in particular are overcrowded and not ventilated adequately. The transmission of meningitis infections and water-related and vector-borne diseases also increase in crowded shelters.

THE WAY FORWARD

Responding to the impacts of the forthcoming climatic shift is a priority for the health sector. Climate change will result in an increase in the

²⁴WHO, Climate change and human health in Asia and the Pacific: From evidence to action, 2008 <http://www.searo.who.int/LinkFiles/Publications_and_Documents_Booklet.pdf> [accessed 23 December 2020].

²⁵*Ibid.*

²⁶Centre for Disease Control and Prevention, *Supra* note 17.

²⁷Salem and Rosencranz, *Supra* note 6.

²⁸Kudrat-E-Khuda, ‘Interrelationship between Environment and Human Rights’, *Journal on Environmental Law, Policy and Development*, Vol. 7 (2020), pp. 39-68.

²⁹Ministry of Health and Medical Services, *Supra* note 21.

³⁰*Id.*

intensity and frequency of extreme weather events such as cyclones, sea level rise, droughts and sea acidification. These impacts will strongly affect the Pacific region³¹. More than other factors, it is the geographic location of these sea-locked island nations in the middle of the vast Pacific Ocean that makes them especially vulnerable to climate change.

The health implications of climate change are more noticeable in the blue Pacific region than in any other regions of the world³². Every year climate change and severe weather events cause extensive damage and destruction to these under-developed island nations. The recent Tropical Cyclone Yasa ripped through Fiji, a small island nation in the South Pacific, causing an estimated damage of hundreds of millions of dollars and many human fatalities³³. Pacific Island countries are subject to unique factors which hinder their socio-economic growth and make them perpetually aid-dependent.

The low-lying nature of these island nations makes them excessively vulnerable to climate change and severe weather events. These island nations are threatened by rising sea levels, destructive tropical cyclones, tidal inundation, sea flooding and sea acidification. Countries such as Kiribati, the Marshall Islands, Tokelau and Tuvalu are barely 4 meters above sea level³⁴. The 10 million people in the Pacific live along the coastline, which suggests that the region will produce a large body of climate refugees. This social phenomenon itself will produce health issues including stress and mental health.

Moreover, climate change and shifting weather patterns are transboundary in character. Therefore, international cooperation and collective action are needed to prevent further environmental degradation. Scientists warn that if global temperature rises beyond 2°C, parts of the earth will become intolerable. Recent studies suggest that even if the global temperature remains at 2°C, there will be a 95% loss of the Great Barrier Reef³⁵, 53%

³¹Georgina Morrow and Kathryn Bowen, 'Accounting for health in climate change policies: a case study of Fiji', *Journal of Global Health Action*, Vol. 7, no. 1 (2014).

³²*Id.*

³³Sheldon Chanel and Ben Doherty, *Cyclone Yasa: two die in Fiji as storm lays waste second-largest island*, 2020 <<https://www.theguardian.com/world/2020/dec/18/cyclone-yasa-two-die-in-fiji-as-storm-hits-second-largest-island>> [accessed 20 December 2020].

³⁴Kazuyuki Uji, *The health impacts of climate change in Asia-Pacific*, 2008 <<https://www.who.int/publications/i/item/the-health-impacts-of-climate-change-in-asia-pacific>> [accessed 21 December 2020].

³⁵^eThe Great Barrier Reef is a site of remarkable variety and beauty on the northeast coast of Australia. It contains the world's largest collection of coral reefs, with 400 types of coral, 1500 species of fish and 4000 types of mollusc. It also holds great scientific interests as the habitat of species such as the dugong (sea cow) and the large green turtle, which are threatened with extinction³. UNESCO, *Great Barrier Reef*, 2019 <<https://whc.unesco.org/en/list/154/>> [accessed 20 December 2020].

transformation of tundra ecosystems, rapid sea level rise and displacement of millions of people from the coastal areas³⁶.

According to the Intergovernmental Panel on Climate Change (IPCC), climate change is a 'crisis of governance, not a crisis of the environment or a failure of the market'³⁷. Many environmental challenges are transnational in character, thus requiring international cooperation and collective action. The current system of nation states tends to encourage competition rather than cooperation.

Diplomatic efforts from the Pacific leaders to encourage a reduction of global carbon emission are failing due to lack of consensus. Tony de Brum, Minister of Foreign Affairs of Marshall Islands, asserted that 'there has been a failure of traditional diplomacy at the UN... we need a new brand of diplomacy... one voice diplomacy'³⁸.

Thus, it is important that world leaders unite and curb climate change before environmental catastrophes become unmanageable. They must consider health a central dimension of climate change and act accordingly. The time for goal setting has passed. It is time to translate words into actions by translating international agreements into domestic laws.

For the past three decades, there have been bilateral and multilateral talks, agreements and gatherings around the world aimed at finding a sustainable solution to environmental problems. Nonetheless, given that international law and agreements are not enforceable at the domestic level, most governments have been slow in implementing those international agreements in their respective countries. Thus, there are growing concerns particularly from the Pacific Island nations that global commitments under these 'global accords are not ambitious or urgent enough'³⁹.

Some governments have acted as free riders by disregarding climate change and continuing with their coal-burning practices. Australia, China and India each burn coal to produce at least 80% of their energy. In the U.S. the Bush Administration opted out of the Kyoto Protocol of 1997: it set no standards

³⁶Evans, *Supra* note 3.

³⁷Quoted in J.P. Evans, *Environmental Governance*, (Oxford: Routledge, 2012), p. 2.

³⁸George Carter, *Establishing a Pacific Voice in the Climate Change Negotiations*, in *The New Pacific Diplomacy* (Greg Fry & Sandra Tarte eds., Australian National Univ. Press 2015).

³⁹Lindsay Maizland, 'Global Climate Agreements: Successes and Failures', 2021 <<https://www.cfr.org/backgrounder/paris-global-climate-change-agreements>> [accessed 20 June 2021].

for major emitters of greenhouse gases, i.e., China and India, while creating mandates for the U.S. that could have harsh economic effects⁴⁰.

In the U.S., the Trump Administration rejected the Paris Agreement of 2015 which encourages the member nations to reduce global temperature to below 2°C, preferably to 1.5°C, compared to pre-industrial levels⁴¹. Despite the fact that it was ratified by 196 Parties at COP 21 in Paris and entered into force in November 2016, the Trump Administration was the first government to withdraw from it⁴². However, President Joe Biden reinstated the United States to the Paris Agreement soon after being sworn in to office and signed a series of executive orders aimed at tackling climate change⁴³.

In the absence of a global coordinating body, the global environment has become an object of global governance without an accompanying regulatory or legal framework. The best solution to address environmental problems is for international agreements to be transposed into national laws.

The rational response to climate change and global warming is that developed nations must make some sacrifices regarding their standard of living and help poorer nations to adopt cleaner technologies and avoid emitting massive pollutants. Unfortunately, most actors prefer their own short-term interests, which leads to further environmental deterioration.

Multilateral organisations such as the UN and the European Union must take the lead to discourage free riding and set boundaries for free riders. Environmental issues do not respect national borders. Carbon emissions are correlated with national economic output. Most developing countries will need to increase their economic activities to address their high level of poverty and underdevelopment.

Climate change has conjured up an environment of mistrust, fear and danger. The global environment is suffering because of the absence of a global power to influence state behaviour. This has led to the ‘prisoner’s

⁴⁰David E. Sanger, *Bush Will Continue to Oppose Kyoto Pact on Global Warming*, 2001<<https://www.nytimes.com/2001/06/12/world/bush-will-continue-to-oppose-kyoto-pact-on-global-warming.html>>[accessed 25 December 2020].

⁴¹United Nations Climate Change, *The Paris Agreement*, 2020<<https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>>[accessed 24 December 2020].

⁴²**Matt McGrath**, *Climate change: US formally withdraws from Paris agreement*, 2020<<https://www.bbc.com/news/science-environment-54797743>>[accessed 24 December 2020].

⁴³Oliver Milman, ‘Biden returns US to Paris climate accord hours after becoming president’, 2021<<https://www.theguardian.com/environment/2021/jan/20/paris-climate-accord-joe-biden-returns-us>>[accessed 20 June 2021].

dilemma⁴⁴ situation where countries continue with their greenhouse gas emissions and pollute the atmosphere because they are not sure that others would stop if they do. Therefore, it is about time that the international community creates an environment of trust because collective actions need trust and frameworks that create certainty for the actors involved.

Developed countries fear that they will lose their comfortable lifestyles if they make too many concessions to protect the environment. Developing and least developed countries, on the other hand, see it as a danger to deprive human beings of necessities in the name of saving the planet. It is due in large part to these unwarranted fears and mistrusts that governments have not taken bold steps to reduce pollution.

The United States can create this environment of trust. All eyes are now on the Biden Administration to lead the way and create a global coalition to address environmental problems. The environmental catastrophes that we are facing today can be seen as a ‘tragedy of the commons’. Common fish stocks in the ocean have been over-exploited by fishing companies, trees have been logged for timber, mining and creating space for more polluting commercial activities. The atmosphere has been used by individuals, commercial companies and nations as a commons in which to dump polluting gases.

International talks must lead quickly to international actions. International agreements must become incorporated into domestic law to make them implementable and to hold polluters accountable. Without the formation of such a legal framework, environmental challenges will become increasingly severe.

According to the International Energy Agency, coal is responsible for 30% of all energy-related carbon dioxide emissions. In 2018, it accounted for 14.66 billion tonnes of carbon emissions. It is predicted to drop slightly to 14.34 billion in 2030 and 13.89 billion in 2040. However, the sustainable development path ‘calls for coal’s carbon emissions to plunge to 8.28 billion tonnes by 2030 and 3.4 billion by 2040’⁴⁵.

⁴⁴“The prisoner’s dilemma involves two (or more) prisoners, who may opt to remain silent or collaborate with their captors to obtain a more lenient punishment. But each prisoner knows that if they remain silent and their accomplice talks then they will receive a very heavy punishment... As a result, both prisoners talk and both receive moderately heavy punishments, the very worst outcome in terms of the amount of punishment suffered overall.” Evans, *Supra* note 3.

⁴⁵Clyde Russell, *China, India are both the problem and solution for coal, climate change*, 2019 <<https://www.reuters.com/article/column-russell-coal-ia/column-china-india-are-both-the-problem-and-solution-for-coal-climate-change-russell-idUSL4N27U10R?rpc=401&>> [accessed 28 December 2020].

The U.S. is responsible for 11.1% and EU for 5.2% of coal consumption. Interestingly, coal burning is declining in these two regions owing to cheap natural gas in the U.S. and the ‘penetration of renewables’ in Europe. However, there will be a surge in China’s coal use from 2.83 billion tonnes to 2.84 billion in 2030 and 2.87 billion by 2040. The sustainable development path framework, according to the careful research of Clyde Russell, dictates that it must drop to 2.07 billion by 2030 and 1.15 billion by 2040⁴⁶.

With that in mind, the future of coal is in the hands of China and India, which currently account for 60.2% of the global electricity that is generated by coal. India’s demand was 586 million tonnes of coal equivalent in 2018. This could rise to 938 million by 2030 and 1.16 billion by 2040. It has to drop to 546 million to meet the sustainable development scenario⁴⁷.

Since governments are not bound by any domestic laws to reduce their coal use and accompanying greenhouse gas emissions, the outlook for a significant reduction in carbon dioxide is bleak. Therefore, environmental protection must become entrenched in civil laws in order that governments can be held accountable.

CONCLUSION

Climate change has undeniably become an existential threat to coastal communities. Many island nations, particularly in the Pacific region, have already started sinking. The ten million Pacific islanders who will be dislodged from their homes will have no place to take shelter. Compounded with this disaster are the health risks associated with climate change. These displaced peoples will be exposed to various types of diseases, malnutrition and premature deaths. Extreme weather events have already taken a heavy toll on their subsistence agriculture and other sources of food. This reduced availability of nutritional sustenance and clean drinking water poses a major health danger.

Destructive natural disasters have increased markedly, claiming many human lives and severely damaging properties. Each of these natural disasters introduces new diseases and pushes available resources to the limit. Climate change is an existential threat to sea-locked island nations. We are indeed in a climate emergency, which requires immediate action from all nations. Every nation is obligated to fulfil its moral and legal obligations towards the environment and rescue its endangered people.

⁴⁶*Id.*

⁴⁷*Id.*

The global environment is deteriorating because of ever-increasing human activities. This deterioration is compounded by the absence of a global authority and of domestic legal frameworks to discourage free riding, encourage cooperation and prevent further environmental damage. Governments in the global North and global South are pursuing their short-term economic gains with complete disregard to environmental consequences.

The best solution and way forward is to convince national legislatures to translate international agreements into domestic laws so that businesses, multinational corporations and governments can be held accountable for their actions. Currently, there is no such legal framework to discourage these entities from increasing their fossil fuel generation and further damaging the environment.

There have been many international talks and agreements aimed at addressing the current environmental challenges. However, many governments either disregarded them or walked out of them. The Bush and Trump Administrations withdrawing from the Kyoto Protocol and the Paris Agreement respectively are prime examples. As one of the major global carbon emitters, it was not expected of the US to behave irresponsibly towards a major global challenge, which threatens the very existence of current and future generations.

This was a justifying ground for countries such as China, India and the rest of the world to continue with their business-as-usual trajectory. Today however, with the coming of the Biden Administration, all global hopes are in the hands of the United States to behave as a responsible global power and spearhead the fight against climate change.

REFERENCES

- Carol D., (2010). *Governing Sustainable Development: Partnerships, Protests and Power at the World Summits*, Oxford: Routledge.
- CDC (2020). Climate Effects on Health. Accessed on 20.12.2020: <https://www.cdc.gov/climateandhealth/effects/default.htm>.
- Clyde, R., (2019). China, India are both the problem and solution for coal, climate change. Accessed on 28.12.2020: <https://www.reuters.com/article/column-russell-coal-iea/column-china-india-are-both-the-problem-and-solution-for-coal-climate-change-russell-idUSL4N27U10R?rpc=401&>.
- David E. S., (2001). Bush Will Continue to Oppose Kyoto Pact on Global Warming. Accessed on 25.12.2021: <https://www.nytimes.com/2001/06/12/world/bush-will-continue-to-oppose-kyoto-pact-on-global-warming.html>.
- Evans, J.P., (2012). *Environmental Governance*. Oxford: Routledge.
- George Carter, *Establishing a Pacific Voice in the Climate Change Negotiations*: in *The New Pacific Diplomacy*. Greg Fry & Sandra Tarte eds., Australian National Univ. Press 2015.
- Georgina, M., and Kathryn, B., (2014). Accounting for health in climate change policies: a case study of Fiji, *Journal of Global Health Action*, Vol. 7, No. 1.
- Howard, F., et al., (2008). Climate Change: The Public Health Response, *American Journal of Public Health*, Vol. 98, No. 3, pp.435-442.
- Izuoma, E.A., (2020). Climate Change effects and international displacement in Nigeria: Legal and institutional challenges, *Journal on Environmental Law, Policy and Development*, Vol. 7, pp.8-38.
- Kazuyuki, U., (2008). The health impacts of climate change in Asia-Pacific. Accessed on 21.12.2020: <https://www.who.int/publications/i/item/the-health-impacts-of-climate-change-in-asia-pacific>.
- Kudrat, E.K., (2020). Interrelationship between Environment and Human Rights, *Journal on Environmental Law, Policy and Development*, Vol. 7, pp. 39-68.
- Lachlan, M., et al., (2016) Health Impacts of Climate Change in Pacific Island Countries: A Regional Assessment of Vulnerabilities and Adaptation Priorities, *Environmental Health Perspectives*, Vol. 124, No. 11, pp. 1707—1714.
- Matt, M.**, (2020). Climate change: US formally withdraws from Paris agreement. Accessed on 24.12.2020: <https://www.bbc.com/news/science-environment-54797743>.

- Ministry of Health and Medical Services. (2016). Rapid Public Health Risk Assessment Tropical Cyclone Winston Republic of Fiji. Accessed on 22.12.2020: http://www.health.gov.fj/wp-content/uploads/2016/03/20160315-Rapid-Health-Risk-Assessment-TC-Winston-Mar2016-for-editing_14-March-2016_final-2.pdf.
- National Health Portal. (2020). Health and Climate Change. Accessed on 20.12.2020: https://www.nhp.gov.in/health-and-climate-change_pg.
- Oliver, M., (2020). Rising temperatures will cause more deaths than all infectious diseases – study. Accessed on 19.12.2020: <https://www.theguardian.com/us-news/2020/aug/04/rising-global-temperatures-death-toll-infectious-diseases-study>.
- Saber, S., Armin, R., (2020). Climate Refugees in the Pacific, *Environmental Law Reporter*, Vol. 50, No.7, pp. 10540-10545.
- Samantha, H., (2019). How climate change threatens public health. Accessed on 22.12.2020: <https://yaleclimateconnections.org/2019/08/how-climate-change-threatens-public-health/>.
- Sheldon, C., and Ben, D., (2020). Cyclone Yasa: two die in Fiji as storm lays waste second-largest island. Accessed on 20.12.2020: <https://www.theguardian.com/world/2020/dec/18/cyclone-yasa-two-die-in-fiji-as-storm-hits-second-largest-island>.
- UNEP (2017). Climate Impacts on Human Health. Accessed on 22.12.2020: https://19january2017snapshot.epa.gov/climate-impacts/climate-impacts-human-health_.html#ref5.
- UNFCCC (2017). Climate Change Impacts Human Health. Accessed on 23.12.2020: <HTTPS://UNFCCC.INT/NEWS/CLIMATE-CHANGE-IMPACTS-HUMAN-HEALTH>.
- UNCC (2020). The Paris Agreement. Accessed on 24.12.2020: <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>.
- WHO (2008). Climate change and human health in Asia and the Pacific: From evidence to action. Accessed on 23.12.2020: http://www.searo.who.int/LinkFiles/Publications_and_Documents/Booklet.pdf.
- WHO (2015). Human health and climate change in Pacific Island countries. Accessed on 10.12.2020: https://apps.who.int/iris/bitstream/handle/10665/208253/9789290617303_eng.pdf?sequence=1&isAllowed=y.
- WHO (2003). Global climate change and health: an old story writ large. Accessed on 23.12.2020: <https://www.who.int/globalchange/summary/en/>