# INTERNATIONAL COURT OF JUSTCE

OBLIGATIONS OF STATES IN RESPECT OF CLIMATE CHANGE

(REQUEST FOR AN ADVISORY OPINION)


# WRITTEN STATEMENT OF THE INDEPENDENT STATE OF SAMOA

22 March 2024

# I. INTRODUCTION

1. The Independent State of Samoa ("**Samoa**") submits this Written Statement in accordance with the International Court of Justice (**"ICJ" or "the Court"**) Order of 20 April 2023[1] so as to furnish information to the questions submitted to the Court in General Assembly Resolution 77/276[2], adopted unanimously on 29 March 2023.

2. The terms of the General Assembly's Request in Resolution 77/276 ("**the Request**") are as follows:

> *"Having particular regard to the Charter of the United Nations, the International Covenant on Civil and Political Rights, the International Covenant on Economic, Social and Cultural Rights, the United Nations Framework Convention on Climate Change, the Paris Agreement, the United Nations Convention on the Law of the Sea, the duty of due diligence, the rights recognized in the Universal Declaration of Human Rights, the principle of prevention of significant harm to the environment and the duty to protect and preserve the marine environment,*
>
> *(a) What are the obligations of States under international law to ensure the protection of the climate system and other parts of the environment from anthropogenic emissions of greenhouse gases for States and for present and future generations?*
> *(b) What are the legal consequences under these obligations for States where they, by their acts and omissions, have caused significant harm to the climate system and other parts of the environment, with respect to:*
> *(i) States, including, in particular, small island developing States, which due to their geographical circumstances and level of development, are injured or specially affected by or are particularly vulnerable to the adverse effects of climate change?*
> *(ii) Peoples and individuals of the present and future generations affected by the adverse effects of climate change?"*

3. Climate change is caused by increased concentrations of greenhouse gas (**"GHG"**) emissions in the atmosphere attributed to mainly human activity though the combustion of fossil fuels and extensive land conversion.

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[1] *Obligations in Respect of Climate Change (Request for an Advisory Opinion)*, Order of 20 April 2023, paras 1-2

[2] General Assembly Resolution 77/276, 29 March 2023, A/RES/77/276 (UN Dossier No.2)

4. Climate change has already caused, and is still causing, rapid and extensive decline in the quality and integrity of ecosystems, as immense change in the use of land and sea, thorough exploitation of living and non-living resources and widespread pollution take effect.

5. The Intergovernmental Panel on Climate Change ("IPCC"), which is the United Nations body for assessing the science relating to climate change, reported in 2023 that "[h]uman-caused climate change is a consequence of more than a century of net [greenhouse gas] emissions."[3] Moreover, the IPCC has noted that:

> "Global greenhouse gas emissions have continued to increase, with unequal historical and ongoing contributions arising from unsustainable energy use, land use and land-use change, lifestyles and patterns of consumption and production across regions, between and within countries, and among individuals."[4]

6. As to the role of anthropogenic GHG emissions in the current climate crisis, the IPCC is bluntly emphatic: "Human activities, principally through emissions of greenhouse gases, have unequivocally caused global warming."[5] Although the effects of this crises are experienced globally, it is evidently the case that States like Samoa which are most vulnerable to the adverse impacts of climate change are those which have contributed the least to these anthropogenic emissions.

7. Given Samoa's experience in addressing climate change as an existential threat and its concern for its future trajectory, and given its resolve to comply fully with its international commitments, Samoa has a strong interest in understanding the precise content and character of the international legal rules relating to climate change.

[3] IPCC, *Sixth Assessment Report, Synthesis Report: Climate Change 2023*.
[4] Ibid.
[5] Id at p. 4.

8. Further, Samoa has a traditional saying - 'O le ala i le pule o le tautua'. This translates to "the path to leadership is through service." This statement is a part of Samoa's commitment to serve and share its firm position that this service and true leadership must not end at our borders.

9. Therefore, Samoa is honoured to participate in these proceedings, and it submits this written statement in the hope of assisting the Court in responding to the two questions referred to it by the General Assembly.

10. As a preliminary observation, Samoa considers that the Court has jurisdiction under Article 65 of its Statute to issue the advisory opinion requested of it. In the present case, the three conditions for the Court to exercise its jurisdiction have been satisfied. First, the advisory opinion has been requested by the General Assembly, which is an "organ duly authorised to seek an advisory opinion under the Charter".[6] Second, the referral by the General Assembly in Resolution 77/276 are questions of a legal character: they are framed in legal terms and raise issues of international law, namely the content of States' obligations under international law in respect of climate change, and the consequences for failure to comply with those obligations. Third, there are no compelling reasons for the Court to exercise its discretion to decline to respond to the Request. To the contrary, there are compelling reasons for giving the advisory opinion, given the need to clarify States' obligations under the significant number of international treaties which relate to climate change, and the fundamental need to respond to the "unprecedented challenge of civilizational proportions" that climate change poses.[7]

11. This written statement adopts the following structure. Section II provides a brief introduction to Samoa, and describes the adverse effects which Samoa and its people have already experienced as a result of climate change. Seeing that the Request specifically asks the Court to clarify aspects of international law as they relate to small

[6] UN Charter, Art. 96(1); *Application for Review of Judgement No. 273 of the United Nations Administrative Tribunal, Advisory Opinion, I.C.J. Reports 1982*, p. 333, para. 21.
[7] UN General Assembly, Resolution 77/276.

island developing States, which are particularly vulnerable to the adverse effects of climate change due to their geographical circumstances and level of development, Section II will seek to assist that endeavour by providing details of Samoa's susceptibility to the negative impacts of climate change, while also highlighting the efforts which Samoa has undertaken to date, in fulfilment of its international obligations, to confront the challenge posed by climate change.

12. Section III addresses question (a) of the Request. It identifies and addresses a selection of the obligations which are relevant to the questions put before the Court. In particular, it considers the customary duty to act with due diligence to prevent transboundary harm, as well as a number of treaty-based obligations which are significant to environmental protection: those obligations provided in the UN climate change treaties, and those enshrined in various human rights instruments.

13. Section IV considers question (b) of the Request, and will discuss the legal rules which govern the consequences accruing for States which, by their acts or omissions, case environmental harm in contravention of their international obligations.

14. In Section V, Samoa will provide some concluding observations based on the analysis and findings of the previous sections.

## II. SAMOA'S EXPERIENCE OF CLIMATE CHANGE

### A. Situating Samoa

15. The Pacific Island Forum, of which Samoa is a member, has affirmed that climate change represents the single greatest threat to the livelihoods, security, and wellbeing of the peoples of the Pacific. As a Small Island Developing State (**"SIDS"**), Samoa shares with other SIDS the characteristics of being economically vulnerable and ecologically fragile due to its geographical location, isolation, and limited resources as well as its population's dependence on a healthy environment for physical and cultural sustenance. While Samoa falls within the SIDS category, as mentioned in the Request,

Pacific States, like Samoa, refer to themselves as Big Ocean States (BOSS), reflecting their relationship to and within the Pacific Ocean.

16. Climate change has, and at current projections will continue to have, detrimental effects on all aspects of Samoan life. This harm materialises in the form of increasing temperatures, extreme weather events, prolonged drought, sea level rise, ocean warming, acidification and deoxygenation, coral reef degradation, and other impacts. These impacts are leading to loss and damage worldwide, but especially to SIDS like Samoa who are at the forefront of climate change effects. Samoa is already experiencing food insecurity, loss of biodiversity, damage to coral reefs and subsequent cultural loss, tourism loss, and loss of infrastructure, homes and physical heritage. Additionally, the mental, emotional, and societal strain of the loss of land and potential need for relocation places a significant burden on locals. *Fanua*,[8] meaning land, is central to Samoan culture and is also the basis of peoples sense of belonging (*faasinomaga*)[9] and inheritance (*tofi*). This burden will only worsen as more communities are forced away from the low-lying coastal areas which they primarily rely upon as their homes and places of industry.

17. Projections indicate that these climate change impacts are bound to intensify, reducing the habitability of small island states, even under the lowest global emissions scenario of 1.5°C. The extent to which this existential threat materializes will depend heavily on actions taken to curb anthropogenic greenhouse gas emissions—the vast majority of which is generated outside of Samoan borders—as well as measures to adapt to climate change and respond to the loss and damage it causes. Since the environment is so closely

[8] "Land in Samoan language is *fanua*. *Fanua* is also the word for placenta. *Fanua* meaning land and *fanua* meaning placenta frame and define Samoan rights and access to land…The lands of Samoa are believed to be designed by God for the people of Samoa. As a designation from God each person has a right to their portion.", Tui Atua Tupua Tamasese Ta'isi Efi, "Samoan Jurisprudence and the Samoan Land and Titles Court", *Su'esu'e Manogi: In search of fragrance* (Huia, 2018), pp. 208-9.

[9] Faasinomaga has been described as in this way by the former Prime Minister, Head of State and current paramount chief, Tui Atua Tupua Tamasese Ta'isi Efi: "I am not an individual; I am an integral part of the cosmos. I share divinity with my ancestors, the land, the seas and the skies. I am not an individual because I share a *tofi* (inheritance) with my family, my village and my nation. I belong to my family and my family belongs to me. I belong to my village and my village belongs to me. I belong to my nation and my nation belongs to me. This is the essence of my sense of belonging", "Samoan Jurisprudence and the Samoan Land and Titles Court", *Su'esu'e Manogi: In search of fragrance* (Huia, 2018), p. 206.

and intricately linked to the cultural and heritage values of the *Fa'a Samoa* (the Samoan way of life), reducing the rate of climate change is of fundamental importance to every member of the Samoan community.

## B. Country and Landscape

18. Samoa is a small island state in the southwest Pacific, consisting of four main inhabited islands (the two largest, Upolu and Savai'i) and six smaller uninhabited islands located between latitude 13-15$^0$S and 168-173$^0$W. The islands are of volcanic origin, characterised by rugged and mountainous topography, and have a total land area of 2,841km$^2$. Samoa has the smallest economic exclusive zone (EEZ) in the Pacific at 120,000km$^2$ (0.4% of the region's total EEZ).

19. The population of Samoa is approximately 194,000, with about 75% of Samoans living on the main island of Upolu. Samoa's economy is mainly comprised of tourism and exports including agriculture, fisheries, and forestry products. Around 70% of Samoa's population and infrastructure are located in low-lying coastal areas, where the productivity of these primary industries is mostly located. Most people live in nu'u or villages and rely primarily on subsistence agriculture.

## C. Climate

20. Due to its geographical isolation from large landmasses, Samoa's climate is typical of small tropical islands. The climate is marked by a distinct wet and warm season (November-April) and a dry and cool season (May-October). Temperatures are usually tropical (ranging from 26–32°C daily) and uniform throughout the year, with little seasonal variation due to Samoa's near-equatorial location. The rainfall is generally high (average annual rainfall is about 3,000–6000mm) with approximately 66% of the precipitation occurring during the wet season. Humidity is also high, at approximately 80% or more. Winds are dominated by the south-easterly trade winds, with tropical cyclones occurring during the southern-hemisphere summer. Samoa is also vulnerable to anomalously long dry spells that coincide with the El Niño South Oscillation (ENSO) phenomena.

21. Samoa is in the top 30 countries exposed to extreme hazards. It has been subject to seven category 4 or 5 cyclones, with category 5 cyclones likely to occur every 10 years. Tropical cyclones are of a frequent occurrence, bringing with them damaging wind, rain, and storm surges. The risk of tsunamis, droughts, and floods is high, with Samoa experiencing a high degree of economic and social shock during disaster years. Around 40% of the population is affected during these major disaster events, with economic losses reaching 46% of gross domestic product (GDP).[10]

## D. Current Impact of Climate Change

### 1. Effects on the Sea

22. Stemming from its oceanic history and culture, Samoa remains connected and dependent on its vast oceanic resources. With 98% of Samoa's territory being comprised of the ocean, protecting the ocean is of critical importance to the economy, culture, and wellbeing of the nation. Moreover, as noted above, the vast majority of the population lives along or near the coast. Samoa is home to exceptional marine habitats, such as seamounts, coral reefs, mangroves, and oceanic basins, which provide sustenance to Samoan communities along the coast and bring tourists from around the region and the world.

23. The ocean environment is, however, facing severe challenges as a result of climate change, such as rising sea levels, increases in ocean temperatures, sea acidification, coastal erosion, and coral bleaching. Each of these threaten the integrity of ocean environments which are not only crucial to SIDS, but to every other State which relies on the ocean for economic and cultural purposes.

*(i.) Sea Level Rise*

24. Global mean sea-level rise is caused by thermal expansion and the melting of glaciers and ice caps.[11] Global sea-level has increased by 0.2m between 1901 and 2018, with the

[10] Ministry of Natural Resources & Environment, 2021c, 2023.
[11] IPCC, *Climate Change 2001: The Scientific Basis*, Contribution of Working Group I to the Third Assessment Report of the Intergovernmental Panel on Climate Change, 2001

rate of sea-level rise increasing over that period.[12] In Samoa's capital, Apia, there was a rise of 0.2m in sea-level just in the years between 1990 and 2015, reflecting the fact that sea-level rise is not homogenous across the globe. It has been estimated that global sea-level rise by the end of the century will be +0.48 +/- 0.19m, but the current trends in Samoa appear to indicate a more likely increase of 0.74 +/- 0.35m.

25. At present, the effects of rising sea-levels have already been felt by Samoa. Sensitive coastal habitats and marine biodiversity are now required to endure the harsher conditions that higher sea-levels bring. An influx of fresh sea water alters the ocean's salinity, and deprives ecosystems such as coral reefs of sufficient light. Mangrove areas, for example, begin to flood and cannot cope with the change in ocean salination.[13] Loss of habitats such as these deprives Samoan communities of the many benefits they provide, such as food security, firewood, dyes, fish breeding grounds, coastal pollution control, and protection from storm surges.

26. Based on sea level trends and coastal hazard studies conducted to date, 15 coastal villages would likely be at risk of loss of land and property due to rising sea waters.[14] Community consultations in Saina, one of the villages vulnerable to flooding, revealed that there had been an observed increase in sea water level. Coastal inundation is estimated to have ranged from 8 to 15 metres along the shore, and there are signs of erosion in the village cemetery by the coast, despite the community's efforts to replant the coastal front to prevent erosion. This is consistent with observations from villages on the eastern side of Apia, such as Fagalii, Moataa and Vaiala, where coastal erosion is evident.

27. The IPCC has recognised that the challenges posed by sea-level rise will continue to grow throughout this century and beyond. With 70% of Samoa's population and infrastructure located in low-lying coastal areas, Samoa is particularly vulnerable to the consequences of rising sea levels and its implications for reef viability, sea wall adequacy, ephemeral flooding, and long-term coastal retreat. Even with a relatively

[12] IPCC, *Sixth Assessment Report, Synthesis Report*, Exhibit 26, s.2.1.2, p.11.
[13] Samoa Ocean Strategy 2020-2030, p.19.
[14] Climate Change Vulnerability Assessment for Apia, 2014, p.15.

modest scenario of 26.2cm sea-level rise by 2030, damage caused to low-lying communities by storm surge events represents a serious threat to Samoa (as sea level rise exacerbates storm surge). In addition, sea level rise may cause salt water to encroach into the fresh groundwater aquifer, an effect known as salination – which may lead to significant issues for both health and agriculture. A sea level rise of 26.2 cm is estimated to increase the level or risk across all asset classes by more than 200 percent compared to today.

28. The most significant long-term threat is that, as a result of coastal erosion, areas of Samoa will become submerged and those living there will be displaced. This is a devastating loss—indeed, it is scarcely possible to describe adequately the meaning of this loss—given the concepts of *fanua*, *faasinomaga* and *tofi* noted above.

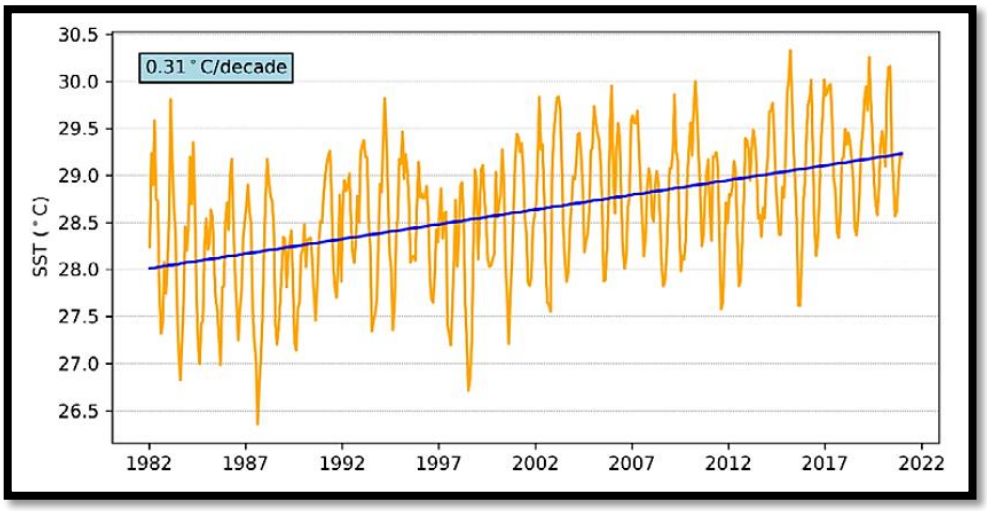
*(ii.) Ocean and Sea Surface Temperature Rise (**"SSTs"**)*

29. Ocean temperature, as measured by the Apia tide-gauge from 1993 to 2021, reaches on average a maximum of almost 30°C in April, with individual months reaching as high as 31.4°C. The SST from 1981–2021, as measured by satellite observations averaged over the EEZ, shows a trend of 0.31°C increase per decade with a 95% confidence interval of ±0.05°C (Fig.1). This SST trend estimate is one of the highest trends among Southwest Pacific countries.[15] SSTs will certainly increase further, but the rate is unclear, being closely linked to the frequency and intensity of El Niño climate patterns.

30. Rising ocean temperatures place increased stress on coral, leading to increasing rates of coral bleaching. Climate change has already led to an average loss of 1% of live coral per year across reefs in the Pacific region.[16] Samoa's coral reefs act as natural barriers to tsunamis and violent storms and provide a significant source of biodiversity, food security and pollution control. The damage that climate change will continue to cause to coral reefs across the Samoan coast will continue to harm one of the many marine environments of significant practical and cultural importance to Samoa.

[15] Expert Report for the Government of Samoa prepared by the Pacific Community 2024, p.8.
[16] Samoa Ocean Strategy 2020–2030, p.36.

**Figure 1. Sea surface temperature from satellite observations averaged across the Samoa EEZ.**[17]




*(iii.) Sea Acidification*

31. Over the last 20 years, the pH of the equatorial south pacific oceans has decreased from about 8.10 to 7.95, which is faster than the global average. There is an estimated further decrease to 7.82 by mid to late century.

32. Sea acidification has a profound effect on the marine environment. Increased acidity prevents sea creatures from developing the necessary skeletons and shells required for survival. As the basis of the food web, harm to these creatures has wider impacts on the long-term availability of the ocean resources accessible to Samoa. The impact of acidification on the health of reef ecosystems is likely to be compounded by other stressors including storm damage and fishing pressure.

33. Acidification also exacerbates the issue of coral bleaching, contributing further to the decline of these vital ocean habitats.

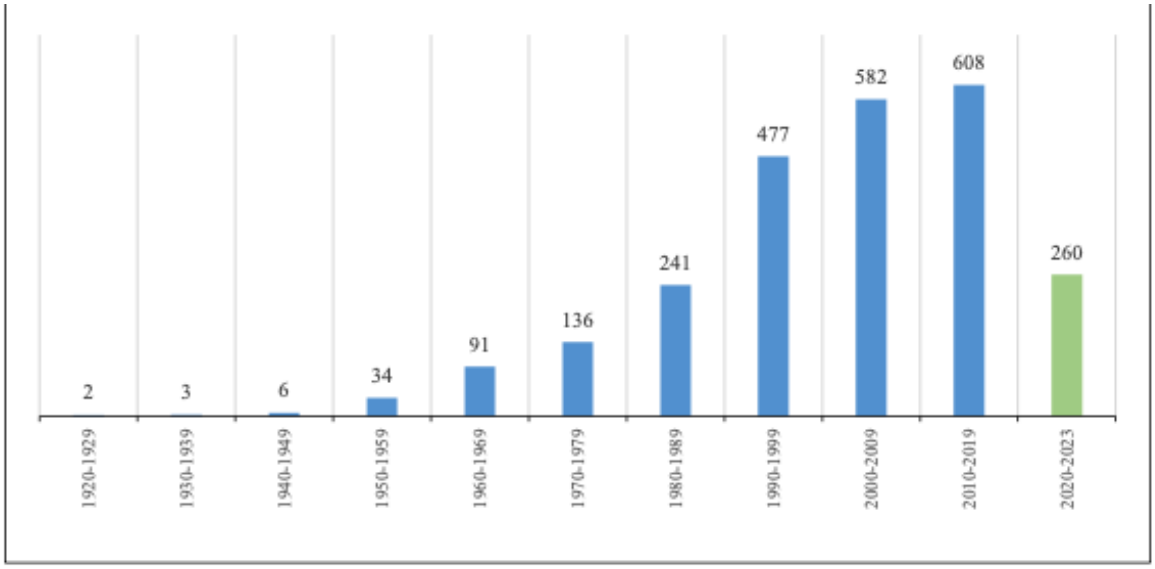
**2. Natural Disasters and Extreme Hazards.**

34. In common with other Pacific Island States, Samoa is prone to natural disasters. Most of these are weather and climate related, with floods, storms and wave surges associated

[17] Expert Report for the Government of Samoa prepared by the Pacific Community 2024, p.8. The orange line represents SST temperatures, and the blue line shows the linear regression trend.

with tropical cyclones being the predominant causes. Samoa's tropical location exacerbates vulnerability, with extreme rainfall, temperatures and tropical storms posing significant risks of flooding and storm surges.

**Figure 2. Number of natural disasters recorded on the EM-DAT database over the last century.**[18]




*(i.) Tropical Cyclones*

35. The extreme events of tropical cyclones Ofa (1990) and Val (1991) caused damage with costs estimates of approximately four times the GDP of Samoa. The high winds, storm surges and heavy rains severely damaged agricultural plantations, infrastructure, and the country's socio-economic base. Changes in tropical cyclone systems increase the risk to life, property, and ecosystems.

36. In late 2012, Cyclone Evan also caused significant destruction of durable physical assets, amounting to damage valued at USD 110 million and production losses (and higher production costs) of USD 100 million. These figures are very significant for the relatively

[18]Samoa Agriculture & Fisheries Climate Change Policy 2023-2028, p.55; FAO's extraction from the International Emergency Events Database (EM-DAT), <https://www.fao.org/e-agriculture/news/em-dat-international-disaster-database>.

small size of the Samoa economy. The impact on the housing sector is estimated to have come to USD 16.8 million.

37. From a cultural and societal perspective, tropical cyclones also diminish the availability of recreational and tourist spaces within Samoa. Parks and other recreational areas along the coast, including beaches and the Palolo Deep Marine Reserve, are constantly under threat from climate events such as storm surges and cyclones.

*(ii.) Droughts*

38. The impacts of droughts are severe in Samoa. Droughts in 1972, 1983, 1987 and 1997 triggered forest fires and destroyed 80% of food crops.[19] The 2010–2011 drought event reduced the Samoa Electrical Power Corporation generation from 35.9% to 10.8%, and resulted in Samoa Fire Services reporting 800 hectares of forest destroyed by bushfires at Asau and Aopo.[20]

39. Overall, droughts are projected to occur more often, become more intense, and go on for longer in Samoa. Future drought events, when they occur, will more often fall under the 'extreme drought' category, rather than the 'moderate' or even 'severe' drought categories.[21]

*(iii.) Flooding*

40. With four major rivers flowing through it and into the sea, the urban areas throughout Samoa's capital, Apia, are potentially exposed to major flooding, in addition to the flooding which is already experienced every year as a result of heavy rainfall. Apia's central business district, which is a primary location for government departments, commerce, and social services such as hospitals, schools, and churches, is situated in a high-risk area for flood, sea level rise, storm surge and cyclone.

41. Flooding has been associated directly with tropical cyclones and strong La Niña events, which have caused widespread damage in Samoa in the past. In early 2008 and 2011, for

[19] Expert Report for the Government of Samoa prepared by the Pacific Community 2024, p.7.
[20] ibid.
[21] Expert Report for the Government of Samoa prepared by the Pacific Community 2024, p.8.

example, transportation and water infrastructure were severely damaged by flooding events. An increase in precipitation and extreme rainfall in Apia would also mean increased soil erosion, landslides, and surface flooding for communities on the coastal plain. Roads and underground infrastructure, including electrical and communication lines, water, septic tanks and sewer systems are highly prone to flooding. There are a total of 7,253 peoples in 19 communities vulnerable to flooding.

42. In the context of preserving biodiversity, protecting important ecosystems such as the Fugalei Mangrove Forest is essential to maintain their ecological functions as a nursery and wildlife habitat. That particular forest area is constantly exposed to flooding, especially from the Gasegase and Fuluasou rivers.

*(iv.) Forest fires*

43. In island states like Samoa, forests and trees serve a vital role in managing watersheds, providing wood and non-timber resources, and protecting biodiversity. Prolonged periods of drought, usually lasting for three months or more, give rise to a high risk of forest fires. Samoa has experienced four major forest fires from the drought/dry periods of 1982–83, 1997–98, 2001–02 and 2002–03; and more recently, 2011–12. Forest fires impede access to woodland areas and forestry resources, as well as damaging the main habitat for the critically endangered tooth-pilled pigeon, (the national bird of Samoa).

**3. Clean Water Supply**

44. A clean, accessible, and sufficient water supply is necessary to Samoa as both a source of life as well as a source of beauty and culture, yet accessibility to healthy water sources is a common problem in all inland and coastal communities. The population relies heavily on water supply networks as well as natural sources of groundwater. In the Apia Urban Area (AUA), as well as the four main rivers, more than ten spring pools are used by families and businesses daily for drinking water, bathing, and laundry. Villages are particularly dependent on coastal springs and rivers for water supply and sanitation. Both areas of supply have, however, been heavily affected by climate change-induced events, leading to significant issues in both quality and supply of water. The adverse

impacts of climate change on these resources hold vast potential for changes in social, cultural, and economic circumstances.

45. The main water supply networks in Apia are extremely vulnerable to climactic patterns. Tropical cyclones and storm surges damage supply infrastructure. As was evident with Cyclones Ofa, Val and Evan, the supply networks are vulnerable to cease functioning in the wake of natural disasters for up to a month, leaving the AUA entirely reliant on spring pools and rivers. Communities in Samoa are also often left without sufficient access to water as a result of droughts. In 1997–1998 and 2001, periodic droughts associated with El Niño events led to rationed water supply and depleted water reservoirs. In 2006, low flows resulting from a 57% below average rainfall resulted in water shortages, despite rains in August and September being 32% and 41% above average, respectively. This has special implications for areas in the northwest of Savai'i Island, where water supplies were cut off for periods of up to eight months during these drought conditions.

46. Sea level rise directly contributes to a reduction in the quality and quantity of potable water due to enhanced intrusion of salt water into freshwater lenses. As Samoa draws one third of its water supply from groundwater, the increased inaccessibility to underground water and coastal springs poses difficulties to water access. Many ocean nations like Samoa are also currently experiencing the devastating effects of sea-level rise on their water supplies and it is projected to worsen. For Samoa, looking at only sea level rise, it is estimated that the 'freshwater lens' could move inland by c.160 metres in Upolu by 2100, with potential for significant contamination of freshwater sources.

47. The reduced availability of water is likely to increase reliance on water sources of lower quality, such as those affected by poor sanitation, stagnation and sedimentation. A reduction in water quality is known to trigger water-borne diseases that affect public health. Heavy rains and flooding exacerbate problems associated with water supplies due to the resulting erosion and sedimentation, and is predicted to increase as a result of climate change.

**4. Temperature rises**

48. Samoa has experienced a consistent and accelerating increase in mean annual temperature, with a 1°C rise in temperature in 2015 relative to the early 20th century. The globally averaged temperature is projected to increase by 1.4-5.8°C over the period 1990 to 2100.

49. Annual warm days in Samoa have seen a 66% increase between 1960 and 2016, with a 20% decrease in cool nights across the same period. Periods of warmer weather place an increased burden on the energy demand required to cool buildings, and the number of days where air conditioning is required to cool a building to 25°C has increased by 45 days per decade.

50. These climbing temperatures cause considerable difficulty for the Samoan population, since access to cooling infrastructure and air-conditioning is limited. The heat is especially taxing for children and the elderly, who struggle in the demanding conditions.

### 5. Agriculture and Food Production

51. As a small economy with limited natural resources, Samoa depends on its agriculture and fisheries for its sustainable development, food and nutritional security, livelihoods, and income security. The sector remains the mainstay of the economy; in 2020 it represented 8.3% of Samoa's GDP with over 90% of families involved in some agricultural and fishing activities, contributing to the alleviation of poverty and vulnerability. Consequently, its resilience and sustainable development is critical to the survival and wellbeing of the population of Samoa and the generations to come.

52. It is, therefore, of major significance that Samoa, largely due to its geographic location, is highly vulnerable to the effects of climate change which pose serious threats to the productivity and sustainability of this sector. Climate change and agriculture and fisheries are inextricably linked. The impacts of climate change on the agriculture and fisheries sector are already seen and experienced, especially by farmers, fishers and other key members of the sector. The numerous effects of climate change and variability - cyclones, flash floods, high rainfall, high temperature and long dry periods, have made agricultural production increasingly challenging.

53. The impact of climate change on agriculture and fisheries is (and will be) mainly experienced through long-term trends in mean temperature, precipitation, winds, and CO2 concentrations, as well as increasing variability associated with greater frequency and severity of extreme weather events (droughts, floods, heatwaves, tropical cyclones, etc.).

*(i.) Crops*

54. Crop production plays a significant role in promoting self-sufficiency and stimulating income, both in local and export markets. Unstable and inconsistent food production caused by climate change has affected farmers' capacity for self-sufficiency as well as their ability to generate income from their crops.

55. Increased temperatures, more frequent and prolonged dry and wet conditions, increased variability of rainfall, saltwater intrusion, droughts, soil erosion, and cyclones put increasing pressure on commercial and subsistence crop production. Evidence of the difficulty of crop production, and agricultural activities in general, is shown by the declining engagement in these sectors over time. If this trend persists, the availability of many locally produced staples (taro, banana, coconut, yams, taamu, other root crops, vegetables and fruits, etc.) will be compromised, rendering it more difficult to maintain a healthy and nutritional Samoan diet. Further, as the majority of Samoans are farmers (owning their own lands and growing their own food), climate change poses a serious threat to food security, and so introduces the risk of mass impoverishment in the community.

56. Temperature increases will most likely reach the maximum heat tolerance thresholds of crops and induce heat stress, wilting, and crop failure, especially in traditional staple crops. Models indicate that, in tropical and subtropical regions, temperature increases of only 1°–2°C are likely to depress yields as heat tolerance levels are exceeded. Current measurements indicate that this temperature increase has already been exceeded.

57. Conversely, and especially during planting seasons, the increasing frequency of intense rainfall could damage seedlings and reduce growth for seasonal or annual crops. Wetter conditions are also conducive to the multiplication and spread of plant pests and

diseases, and more rapid postharvest deterioration of crops. In areas where waterlogging is a problem, increased rainfall could place equally severe pressure on plant growth and lead to lower production. Overflowing rivers can also lead directly to landslides that wash away crops and leach precious nutrients from the soil. Certain areas have already been affected by such events, particularly along riverbanks and highlands.

58. Extreme events such as tropical cyclones and storm surges also affect coastal plantations. The increasing incidence of forest fires has led to the destruction of crops as evident in the past forest fires in rural communities. A rapid assessment revealed that roughly 45 per cent of agricultural area in Upolu was severely impacted by Cyclone Evan, with another 30 per cent moderately impacted. The main cash crops damaged include coconuts, breadfruit, bananas, cocoa, and other fruit trees. The prospect of more extreme winds is a major risk for the agricultural sector. According to the CRP, the strongest wind gust ever recorded in Samoa was 61 knots (31.2ms-1) in January 2004, during Cyclone Heta. As projected, wind gusts will increase over time, placing the agricultural sector under further strain.

*(ii.) Livestock*

59. Meat remains an important source of the diet for many Samoans. Yet livestock production in Samoa is in decline. For the period of 2009 and 2019, the decline is noted mainly in the reduction of pigs, horses, ducks and goats. The relationship between such declining trend and climate change remains a likelihood and a possibility to explore.

60. Increased temperatures can affect the health, productivity, and reproductive efficiency of animals. Livestock farmers will be most affected by drought through loss of pasture areas (with compacted and dry soil) and loss of streams and rivers as primary sources of water for animal drinking and bathing. Possible overstocking and overgrazing of remaining pasture lands would, in turn, result in further degradation of pasture lands and loss of condition of livestock. More extreme wetter conditions, on the other hand, encourage growth and spread of pests and diseases that can endanger animal health. Increased atmospheric carbon dioxide concentrations and warmer temperatures will be

less conducive to the growth of feed and fodder crops, which could reduce the nutritional value of pastures and result in fewer animals that can be supported per unit area of pastureland. This would have a widespread detrimental effect on animal production and the availability of animal products in Samoa.

*(iii.) Fisheries*

61. Fisheries play a vital role in the livelihoods of most Samoans, as it is the main source of food and income for fishing communities. Economic activity in fishing, as measured by GDP, contributed USD 19 million in the year ending December 2019, and USD 16.6 million in the year ended December 2020. Fish contributes to around 37% of merchandise exports, and about a quarter of Samoan households received some income from fishing.[22] Total fish production in 2021 (latest figure) amounted to 9,186 metric tons. Fish is also an important food for locals in Samoa.

62. The previously mentioned impacts of climate change on the sea are inextricably linked to fisheries. Storm surges and shoreline erosion will lead to the destruction of coastal habitats, affecting coastal level fisheries. Coral bleaching, promoted by increasing acidity and temperatures, can have a disastrous effect on the marine ecosystem. Coral reefs support a variety of marine organisms and, when they die, the ecosystems they support rapidly collapse with a massive impact on fishing. The prospects for reef health are dire, as discussed above.

63. As well as habitat destruction, sea surface temperatures exceeding normal tolerance levels will threaten the ability of current and future fishing stocks, like giant clams, to exist.[23] As it can alter environmental conditions relevant to productivity and habitats for pelagic species, sea surface temperatures are critical to both the coastal and oceanic sectors in the immediate to long-term.

64. The impacts of climate changes are also felt in the detrimental effect on fishing infrastructure. As a result of increasing levels of extreme wind, infrastructure becomes more vulnerable as fishing vessels smash into each other or the hatchery required for

[22] FAO of the UN, 'Food and Agriculture Organisation Country Programme Framework 2018-2022.
[23] Shokita et al, 'Aquaculture in tropical areas', 1991.

spawning is damaged or destroyed by flying objects and fallen trees. The Coastal and Aquaculture component of Fisheries is vulnerable to extreme rainfall as run-off from land affects the coastal marine environment. Extreme wave action is projected to have a devastating effect on coastal fishery and aquaculture, as well as leading to a noticeable reduction in the number of catches.

### 6. Health

65. The most tangible impact on health that climate change has had on Samoa is in relation to extreme weather events, with the latest major tropical cyclones leading directly to loss of life. As the intensity of cyclones and hurricanes increases as a result of climate change, the potential for further casualties inevitably grows.

66. Flooding, which has caused widespread damage to Samoa in the past, is another major cause of health problems, giving rise to water-borne diseases such as typhoid, gastroenteritis, and diarrhoea. Similarly, in times of drought, water scarcity often triggers an outbreak of mosquito-borne diseases like malaria.

67. In the long-term, the deleterious effects of climate change on food security will also lead to an increasing prevalence of conditions such as malnutrition, which will disproportionately affect coastal and island communities that depend on marine life as a source of food.

### 7. Biological Diversity

68. Traditionally, the people of Samoa depended entirely on Samoa's natural biodiversity for their very livelihoods. Today, Samoa's biodiversity still contributes to a large percentage of the economy and Samoans' way of life.[24] The health of biodiversity has direct consequences for inter-related sectors, namely fisheries, forestry, agriculture, tourism, infrastructure, health, and water, making its safeguarding economically

[24] Government of Samoa, 'A Compendium of National Environmental Statistics' 1998; Government of Samoa, 'Treasury Quarterly Bulletin' 1999.

significant for Samoa. Equally significant is the cultural importance of preserving biodiversity.

69. It is, therefore, incredibly detrimental to Samoa that human activities increasingly threaten all of the fragile Samoan ecosystems. Several species are already endangered by climate change induced extreme events including, for instance the endemic Manumea and certain species of turtle.

**Figure 3. Summary of Samoa's biodiversity status[25]**

| Life Form | Endemic Species | % Endemics | Native Species | Introduced Species | Threatened Species | Total Species | Relative Regional Ranking Endemism |
|---|---|---|---|---|---|---|---|
| Flowering Plants | 174 | 30 | 540 | 500 | 136 | 770 | 5th |
| Ferns/Fern Allies | 40 | 18 | 228 | ? | ? | 228 | ? |
| Land Birds | 8 | 23 | 33 | 3 | 14 | 36 | 5th |
| Sea Birds | NA | NA | NA | NA | NA | 21 | ? |
| Reptiles | 1 | 7 | 4 | 11 | 4 | 14 | ? |
| Ants | 12 | 18 | 30 | 7 | ? | 68 | ? |
| Land Snails | 35-38 | 49-53 | 64 | 14[5] | 12? | 72 | 2nd |
| Butterflies | 2 | NA | 19 | NA | 1 | 21 | ? |
| Aquatic Fauna | NA | NA | 25 | 4 | NA | 29 | ? |
| Marine Vertebrates | NA | NA | NA | NA | 4 | 8 | ? |
| Marine Invertebrates | NA | NA | NA | NA | 14 | 95 | ? |
| Fisheries | NA | NA | 890 | 2 | NA | 991 | ? |

*(i.) Marine and Terrestrial*

70. With 541 native species (186 of which are endemic), nearly 300 naturalized flowering plant species and 225 ferns and fern allies, Samoa has the second largest native vascular flora in Polynesia after the Hawaiian Islands. About 34% of Samoa's native plants are found nowhere else. The largest family of flowering plants in Samoa is the orchid family (Orchidaceae), with 101 native species. No other Polynesian islands have such a rich orchid flora. Samoa's second largest family is Rubiaceae, the coffee family, with 47 native and five naturalized species. The main cultivated crops are taro, bananas, breadfruits, yams, cacao, and coconuts. In terms of faunal diversity, there are 13 species of terrestrial mammals, 44 species of land birds, 21 seabirds, 15 reptiles, 59 species of

[25] Samoa's "Biodiversity Strategy and Action Plan: Keep the Remainder of the Basket". 2001, Government of Samoa, p.95.

insects, 64 species of land snails and 28 species of butterflies. Amongst freshwater biodiversity, which remains relatively unknown, there are 30 species of fish and 17 species of macro-crustaceans that have been reported.

71. Samoa's biodiversity is highly prone to tropical cyclones, drought, temperature fluctuation and changes in precipitation patterns which lead to changes in the habitats of endangered and endemic species. Forests have a key role as a reserve of biodiversity and are highly vulnerable to the drought season, facing increasing risks of forest fires. Many forest birds have declined in numbers even to the extent that some bird species populations have been decimated.

72. In general, as stated in Samoa's Biodiversity Strategy and Action Plan,[26] the 'status of wildlife' in Samoa after severe cyclones like Ofa and Val was 'quite critical'; most likely many of the species were predicted to 'survive albeit in very reduced numbers', although some were severely 'threatened in the long-term should additional pressures such as hunting be at unsustainable levels'. Thus, climate change exacerbates and compounds the impact of other factors.

73. Climate change will drive vulnerable species to the point of extinction with adverse conditions contributing to pestilential outbreaks and droughts. Species whose welfare is of particular concern include the endemic Manumea, marine turtles and other marine fauna. As increasing temperatures affect the phenology of certain species so too the morphology, physiology and behaviour of species will change. Changes in species distribution and densities from climatic stress will also affect various groups of animals, as well as the availability of food.

74. For marine life, climate change poses a discernible threat to habitats and the proliferation of invasive species. Accelerated coastal erosion from heavy rainfall, waves and storm surges will remove beaches and mangroves which are vital to certain marine species. This will lead to destruction of habitats and nursery areas, contributing heavily to species decline.

[26] Samoa's NBSAP, 'Keep the Remainder of the Basket', 2001.

*(ii.) Coral*

75. Samoan coastal and marine ecosystems are characterized by large reef cover (490 km2), as well as 14 families with at least 45 species of corals (mainly Acropora). The largest reef in Samoa is on the north-west Upolu, ranging from Apia to Manono Island. Savaii has a smaller area (about 52 km2) of coral reefs, surrounding the island. Off the lava coasts, there is an additional 10–15km2 of rocky shelf that supports some coral growth. Reefs are best developed from Salelologa to Puapua in the east; Saleaula to Manase in the north; Asau to Sataua in the west and Satupaitea in the south-east.

76. Coral reefs are the most complex, diverse, species-rich and highly productive biological systems in the world. They provide ecological services that are extremely important to Samoa's marine biodiversity, economy, food security and coastal protection. Coral reefs are also an important part of Samoan culture, with fishing existing as a long-held practice that is culturally and economically a part of everyday life. This significant area of Samoa's biological diversity is at great risk as climate conditions worsen. The intense wave activity during storms overturns much of the coral that is close to the shore, and can severely damage corals up to a depth of 10 meters (30ft).

77. Coral bleaching will lead to destruction of valuable coral habitats that sustain these diverse ecosystems and is already occurring. Working Group II's contribution to the IPCC's Sixth Assessment Report finds that even at 1.5°C, which is likely to be reached in around 5 years from the beginning of 2024, it is predicted that global warming will result in loss of 70-90% of reef-building corals.[27] 2°C will result in 99% of coral loss.[28] Further damage will also be brought about from the increasing frequency of cyclones and storm surges, which are also attributable to climate change. The two consecutive cyclones, Ofa and Valerie had impacted considerably on Savaii's coral reefs. Large-scale damage was suffered by all reefs, as rubble sediments piled on the reef formed cyclone banks.

[27] *Climate Change 2022: Impacts, Adaptation and* Vulnerability, Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change, 2022, p. 2045, para. 15.2.1.
[28] Ibid, pp.2045–7.

### 8. Infrastructure

78. Around 70% of Samoa's population and infrastructure are located in the coastal area. As set out above, rising sea levels and natural disasters disproportionately affect coastal locations, rendering infrastructure located close to the shoreline particularly vulnerable to the effects of climate change.

*(i.) Transportation*

79. During tropical cyclone Evan in 2012, a number of roads became inaccessible as a result of surface flooding and surges. One of the lifeline bridges linking the route designated for vehicles over 10,000 tonnes to Matautu wharf was damaged. The bridge has not been rebuilt and a new route is now being assigned for heavy duty vehicle movement. Subsequently, road users in the vicinity have been diverted to the Lelata Bridge, increasing congestion and raising travel times.

*(ii.) Housing*

80. Ten coastal villages in Samoa, with a total population of over 4,000 people and on average 6.8 persons per household, lie on the border of floodplains. Around 50 per cent of houses and businesses are located within the coastal flooding hazard zone. All families in this region are permanent residents of the villages and have cultural ties to their land (*fanua*). Coastal erosion and flooding threatens to deprive residents of the full use of their property and to access to important cultural sites such as burial sites.

*(iii.) Energy*

81. The droughts in 2002 and 2003, and low rainfall amount in 2008 to 2009, led to rationing of electricity, as the amount of hydro generated electricity dropped. Predicted future increases in the frequency of droughts as a result of climate change will again have severe energy implications until sufficient renewable energy sources are developed. Even more recently, tropical cyclone Evan inflicted damaged to hydropower stations.

### 9. Social and Cultural Effects

82. The cumulative effect of all of the existing and future effects of climate change is to create a pervasive threat to the Samoan people's ability to benefit from their social and cultural heritage. Physical damage to homes and properties, unstable water sources, threats to food security, coastal erosion, and loss of *malae* (cultural grounds) all contribute towards creating a barrier to the enjoyment of the rich and biologically diverse landscape of Samoa.

83. Like other people who are similarly situated, including peoples who are dependent upon their environments for their physical and cultural sustenance (such as, indigenous peoples) the loss of land, the loss of other environmental and cultural treasures, such as burial sites, and a degraded environment has a profound and devasting impact on Samoans.

## III. INTERNATIONAL OBLIGATIONS FOR ENVIRONMENTAL PROTECTION

84. Climate change is an immense, sprawling, polycentric problem with myriad complexities involved. As climate change continues along its worryingly steady trajectory, it interferes with a wider range of places and processes, it affects a growing number of human activities, and it presents a greater variety of challenges and threats to seemingly every aspect of life on the planet.

85. With this scale and complexity, the climate crisis attracts and engages a broad spectrum of international legal rules, including all of those rules and principles which are set out in the preamble of the General Assembly's Request. All of these rules relate to the climate crisis in different ways, just as they all relate to each other as parts of the integrated system of international law.

86. While acknowledging the importance of all of the rules identified in the Request, Samoa focuses its submissions on certain rules which it considers to be central to the task of confronting the climate crisis, and which help structure the cooperative international

efforts needed to protect the climate system, and the environment generally, from the many deleterious effects of climate change. Section III.A examines the customary duty to prevent transboundary environmental harm; Section III.B considers commitments under the UN climate change treaties; and Section III.C addresses international human rights instruments.

## A. Customary Obligations of Environmental Protection

### 1. No-Harm Rule / Duty of Prevention

87. The no-harm rule, or prevention principle, is a now well established rule of customary international law, having been recognised as such by a number of international courts and tribunals. Although there can be no doubt as to the customary status and binding character of the rule, no authoritative formulation of the rule has emerged. Rather, international courts and tribunals have articulated the rule in various ways over the course of almost a century.

88. The no-harm principle was first recognized in the Trail Smelter arbitration in 1941. In a famous and oft-quoted statement, the *Trail Smelter* tribunal held that:

> "[U]nder the principles of international law, as well as of the law of the United States, no State has the right to use or permit the use of its territory in such a manner as to cause injury by fumes in or to the territory of another or the properties or persons therein, when the case is of serious consequence and the injury is established by clear and convincing evidence."[29]

89. Since 1941, the principle has been reaffirmed several times by international courts and tribunals. The Court recognised the duty in its first case, the *Corfu Channel* case, in these terms:

> "The obligations incumbent upon the Albanian authorities consisted in notifying, for the benefit of shipping in general, the existence of a minefield in Albanian territorial waters and in warning the approaching British

[29] *Trail Smelter Arbitration*, Decisions of 16 April 1938 and 11 March 1941, vol. III, RIAA, 1905–82, 1965.

warships of the imminent danger to which the minefield exposed them. Such obligations are based… on certain general and well-recognized principles, [including] every State's obligation not to allow knowingly its territory to be used for acts contrary to the rights of other States."[30]

90. In the *Nuclear Weapons Advisory Opinion*, the Court stated:

> "The Court also recognizes that the environment is not an abstraction but represents the living space, the quality of life and the very health of human beings, including generations unborn. The existence of the **general obligation of States to ensure that activities within their jurisdiction and control respect the environment of other States** or of areas beyond national control is now part of the corpus of international law relating to the environment."[31]

91. The tribunal in the *Iron Rhine* arbitration recalled the Court's *Nuclear Weapons Advisory Opinion* as it endorsed the duty of prevention:

> "Today, in international environmental law, a growing emphasis is being put on the duty of prevention. Much of international environmental law has been formulated by reference to the impact that activities in one territory may have on the territory of another. The International Court of Justice expressed the view that "[t]he existence of the general obligation of States to ensure that activities within their jurisdiction and control respect the environment of other States or of areas beyond national control is now part of the corpus of international law relating to the environment" [citing *Nuclear Weapons Advisory Opinion* para. 29]."[32]

92. In the *Gabčíkovo-Nagymaros* case, the ICJ offered these remarks:

> "The Court is mindful that, in the field of environmental protection, vigilance and prevention are required on account of the often irreversible character of damage to the environment and of the limitations inherent in the very mechanism of reparation of this type of damage.

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[30] *Corfu Channel case*, Judgment, ICJ Reports 1949, p. 22.
[31] *Legality of the Threat or Use of Nuclear Weapons*, Advisory Opinion, ICJ Reports 1996, pp.241–2, para. 29.
[32] *Award in the Arbitration regarding the Iron Rhine ("Ijzeren Rijn") Railway between the Kingdom of Belgium and the Kingdom of the Netherlands,* decision of 24 May 2005, 27 RIAA 35, p. 116, para. 222.

> Throughout the ages, mankind has, for economic and other reasons, constantly interfered with nature. In the past, this was often done without consideration of the effects upon the environment. Owing to new scientific insights and to a growing awareness of the risks for mankind—for present and future generations—of pursuit of such interventions at an unconsidered and unabated pace, new norms and standards have been developed, set forth in a great number of instruments during the last two decades. Such new norms have to be taken into consideration, and such new standards given proper weight, not only when States contemplate new activities but also when continuing with activities begun in the past. This need to reconcile economic development with protection of the environment is aptly expressed in the concept of sustainable development.
>
> For the purposes of the present case, this means that the Parties together should look afresh at the effects on the environment of the operation of the Gabčíkovo power plant."[33]

93. One of the more commonly cited judicial pronouncements of the duty of prevention is to be found in the Court's decision in the *Pulp Mills* case. The Court stated:

> "The Court points out that the principle of prevention, as a customary rule, has its origins in the due diligence that is required of a State in its territory. It is "every State's obligation not to allow knowingly its territory to be used for acts contrary to the rights of other States" (Corfu Channel (United Kingdom v. Albania), Merits, Judgment, I.C.J. Reports 1949, p. 22). A State is thus obliged to use all the means at its disposal in order to avoid activities which take place in its territory, or in any area under its jurisdiction, causing significant damage to the environment of another State. This Court has established that this obligation "is now part of the corpus of international law relating to the environment" (Legality of the Threat or Use of Nuclear Weapons, Advisory Opinion, I.C.J. Reports 1996 (I), p. 242, para. 29).
>
> 102. In the view of the Court, the obligation to inform CARU allows for the initiation of co-operation between the Parties which is necessary in order to fulfil the obligation of prevention."[34]

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[33] *Gabčíkovo-Nagymaros Project (HungarylSlovakia)*, Judgment, ICJ Reports 1997, p. 7, at p.78, para. 140.

[34] *Pulp Mills on the River Uruguay (Argentina v. Uruguay)*, Judgment, ICJ Reports 2010, pp. 55–6, paras 101–2.

94. In its decision in the *Costa Rica v Nicaragua and Nicaragua v Costa Rica* case, the Court stated:

> "to fulfil its obligation to exercise due diligence in preventing significant transboundary environmental harm, a State must, before embarking on an activity having the potential adversely to affect the environment of another State, ascertain if there is a risk of significant transboundary harm, which would trigger the requirement to carry out an environmental impact assessment … If the environmental impact assessment confirms that there is a risk of significant transboundary harm, the State planning to undertake the activity is required, in conformity with its due diligence obligation, to notify and consult in good faith with the potentially affected State, where that is necessary to determine the appropriate measures to prevent or mitigate that risk"[35]

95. The Seabed Disputes Chamber of ITLOS in its Advisory Opinion has also remarked on due diligence obligations. It stated:

> "The content of "due diligence" obligations may not easily be described in precise terms. Among the factors that make such a description difficult is the fact that "due diligence" is a variable concept. It may change over time as measures considered sufficiently diligent at a certain moment may become not diligent enough in light, for instance, of new scientific or technological knowledge. It may also change in relation to the risks involved in the activity… The standard of due diligence has to be more severe for the riskier activities."[36]

96. A statement of the no-harm principle was included in Principle 21 of the 1972 Stockholm Declaration on the Human Environment[37] and also Principle 2 of the 1992 Rio Declaration on Environment and Development. The Rio Declaration offers the most representative formulation of the no-harm principle as a customary norm:

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[35] *Certain Activities Carried Out by Nicaragua in the Border Area (Costa Rica v. Nicaragua) and Construction of a Road in Costa Rica along the San Juan River (Nicaragua v. Costa Rica)*, Judgment, ICJ Reports 2015, pp. 706–7, para. 104.

[36] *Responsibilities and obligations of States with respect to activities in the Area, Advisory Opinion*, 1 February 2011, ITLOS Reports 2011, p. 10, at p. 43, para. 117.

[37] United Nations Conference on the Human Environment, Stockholm Declaration on the Human Environment, available in (1972) 11 ILM 1416 (June 5–16, 1972), Principle 21.

> States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental and developmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction.[38]

97. This formulation includes the three main components of the principle, that is, the underlying right to exploit natural resources, the duty not to cause harm to the environment of other states, and the duty not to cause harm to the environment beyond national jurisdiction. But it omits two important components of the principle, namely the characterization of the harm as 'significant' and the requirement to minimize 'risk' thereof, which implies that the principle may be breached even in the absence of harm. These two components are found in the 2001 ILC Draft Articles on Prevention of Transboundary Harm from Hazardous Activities, though those articles have not been widely taken up in international practice.[39]

98. Although there are variations in these many formulations, the current rule may be summarised as follows: states must act with due diligence to ensure that activities under their jurisdiction or control do not cause damage to other States or to areas beyond national jurisdiction. Thus, it appears that a State's customary obligation to prevent transboundary harm is breached if three conditions are met: (1) harm occurs within the territory of a foreign State; (2) the damage caused is of a certain magnitude (damage below the required threshold is not enough to trigger responsibility); and (3) a duty of diligence is not met. This last element implies that even when the damage meets the conditions of scale and scope, a State would not be responsible if it acted with due diligence, judged according to the specific circumstances.

99. Three elements of the no-harm rule need to be addressed: the nature of the harm against which the rule protects; the threshold of harm which must manifest for a

[38] United Nations Conference on Environment and Development (UNCED), Rio Declaration on Environment and Development (June 3–14, 1992), available in (1992) 31 ILM 874, Principle 2.
[39] ILC Draft Articles on Prevention of Transboundary Harm from Hazardous Activities 2001, YILC, vol. II, Part Two.

breach of the rule to be established; and the precise content of the due diligence standard which is integral to the rule.

*(i.) Harm*

100. A State's obligation to act with due diligence so as to prevent harm arises whenever *the risk* of such harm appears. It is no defence for a State to claim that it was unaware of any such harmful risk: the due diligence standard requires each State to be vigilant, and to take steps to ensure that it detects if any risk of transboundary harm appears. In that sense, the duty becomes operative not only when a State becomes aware of harmful risks, but also when a State *ought reasonably have been aware* that a risk of harm has emerged.

101. Further reinforcement to this position can be found in the growing endorsement in international practice of the precautionary principle as an element of international environmental law. The most commonly cited definition of the precautionary principle states that "where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation".[40] The ITLOS Seabed Disputes Chamber identified the link between due diligence obligations and the precautionary principle in its Advisory Opinion on *Responsibilities and Obligations of States with respect to Activities in the Area*. It observed:

> "[I]t is appropriate to point out that the precautionary approach is also an integral part of the general obligation of due diligence of sponsoring States, which is applicable even outside the scope of the Regulations. The due diligence obligation of the sponsoring States requires them to take all appropriate measures to prevent damage that might result from the activities of contractors that they sponsor. This obligation applies in situations where scientific evidence concerning the scope and potential negative impact of the activity in question is insufficient but where there are plausible indications of potential risks. A sponsoring State would not meet

[40] Principle 15 of the Rio Declaration on Environment and Development, adopted by the United Nations Conference on Environment and Development: UN Conference on Environment and Development 'Rio Declaration on Environment and Development', 14 June 1992, UN Doc A/CONF. 151/26/Rev 1 vol I, 3.

its obligation of due diligence if it disregarded those risks. Such disregard would amount to a failure to comply with the precautionary approach."[41]

102. As a result, a State must take preventative steps even if full scientific certainty has not been achieved. A State may not eschew or avoid its obligation to act with due diligence because, or on the basis that, there remains scientific uncertainty as to the incidence of harm; the precautionary principle *informs* the due diligence standard in this situation, with the result that the State is required to act diligently to prevent harm notwithstanding doubt as to whether, as a matter of scientific fact, the risk will, or even might, materialise.

103. In the case of climate change due to GHG emissions, there is no longer any room at all for doubt: the IPCC has confirmed that anthropogenic GHG emissions have "unequivocally caused global warming".[42] As a result, at the very least, States ought to be aware of the risk of harm posed by GHG emissions. Therefore, all States are bound by the customary duty of prevention, in fulfilment of which they must act with due diligence to prevent transboundary harm occasioned by anthropogenic GHG emissions.

104. While the obligation becomes operative—or, in the case of anthropogenic GHG emissions *became* operative for all States—when the risk is perceptible, the obligation is not breached unless transboundary harm occurs. But while the manifestation of harm is a necessary element of breach, it is not sufficient: a State violates the duty of prevent to which it is now unavoidably subject only if its actions do not meet the standard of conduct required of it in that State's specific circumstances by the due diligence standard.

105. It is now widely accepted that GHG emissions themselves constitute transboundary harm. Indeed, and unfortunately, it is all too obvious—certainly to Samoans and to our Pacific community—that GHG emissions constitute environmental harm for the purposes of the customary no-harm rule. GHG emissions induce climate change, the

[41] *Responsibilities and obligations of States with respect to activities in the Area, Advisory Opinion*, 1 February 2011, ITLOS Reports 2011, p. 10 at p. 47, para. 131.
[42] IPCC, *Sixth Assessment Report, Synthesis Report*, p. 4.

many and varied impacts of which have been, and are being felt, by Samoa, as described briefly above in Section II, and as recorded more generally by the IPCC.[43]

106. Furthermore, recent international practice has converged on the clear understanding that GHGs are properly characterised *as pollution*.[44]

107. On this accepted characterisation, GHG emissions are analogous to the aerial pollution which was dispersed across the US/Canada boundary in the *Trail Smelter arbitration*, in which the no-harm rule was famously articulated. This supports the analysis, presented here, that the no-harm rule is applicable in respect of transboundary harm caused by GHG emissions.

108. GHG emissions are harmful in themselves; they poison the atmosphere and disfigure the climate system, in addition to, and by which, they produce, and have long produced, an unwelcome array of immediate and lasting adverse impacts, including those described in Section II above, and recorded in successive IPCC reports.

*(ii.) Threshold for breach*

109. It must be admitted that not every instance of environmental damage constitutes a breach of the no-harm rule/duty of prevention; only harm of a certain magnitude amounts to breach. While the rule has long served to protect States, their sovereign territory and population from environmental harm emanating from another State's

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[43] IPCC, *Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* (2022), Chapter 15 – Small Islands.

[44] See, for example, the positions presented by States in the course of the recent proceedings before the International Tribunal for the Law of the Sea in the *Request for an Advisory Opinion submitted by the Commission of Small Island States on Climate Change and International Law*. The following States accepted that GHGs amount to pollution in the context of UNCLOS: Australia (ITLOS Oral Hearing C31_5; p. 9), Bangladesh (C31_6; p. 22), Portugal (C31_7; p. 16), Guatemala (C31_8; p. 15), Latvia (C31_9; p. 14), New Zealand (C31_10; p. 10), Republic of Korea (C31_10; pp. 19–20), Belize (C31_11; p. 33), Comoros (C31_16; pp. 11–12); see also the Written Statements of Canada, Democratic Republic of Congo, Egypt, France, United Kingdom, Mozambique, Nauru, Vietnam, Singapore, Rwanda, Sierra Leone and The Netherlands.

territory, a certain level of harm has been required to constitute a breach of the rule. In other words, injured States have been expected to tolerate a degree of harm before they are entitled to implement the international responsibility of the State which has failed to abide by the requirements of the duty of prevention of transboundary harm.

110. This *de minimis* threshold has been described as 'material' harm[45] or 'significant' harm.[46]

111. The ILC has indicated its views of the requisite degree of damage. In the Draft Articles on Prevention of Transboundary Harm from Hazardous Activities 2001, the ILC offered these remarks:

> "The term "significant" is not without ambiguity and a determination has to be made in each specific case. It involves more factual considerations than legal determination. It is to be understood that *"significant" is something more than "detectable" but need not be at the level of "serious" or "substantial"***.** The harm must lead to a real detrimental effect on matters such as, for example, human health, industry, property, environment or agriculture in other States. "[47]

112. For the purposes of the Draft Principles on the Allocation of Loss for Transboundary Harm 2006 (which are proposed to operate in circumstances where a State *has complied* with its customary obligation to act with due diligence to prevent transboundary harm), the ILC understood damage is understood to mean "significant damage caused to persons, property or the environment".[48]

113. While the threshold should properly be set at the lowest possible mark in all cases concerning climate change effected by anthropogenic GHG emissions, the threshold is very clearly satisfied in the case of climate change losses and damages, irrespective of the precise formulation. All of the adverse impacts of climate change are

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[45] *Trail Smelter*, p. 1980.
[46] See *Pulp Mills on the River Uruguay (Argentina v. Uruguay)*, Judgment of 20 April 2010, ICJ Reports 2010, 14, para. 101.
[47] ILC Draft Articles on Prevention of Transboundary Harm from Hazardous Activities, with commentaries, YILC, 2001, vol. II, Part Two, p. 152 (emphasis added).
[48] UN ILC 'Draft Principles on the Allocation of Loss in the Case of Transboundary Harm Arising out of Hazardous Activities (with Commentaries)' (2006) GAOR 61st Session Supp 10, 106, Principle 2.

significant. The damage done to climate systems, ecosystems, peoples and places by the polluting emissions of GHGs is obdurate and great. This seems especially true given the fact that this damage is far from easily repaired, restored or otherwise remedied, and that each instance of damage is followed and exacerbated by new and additional injuries, as climate change continues to produce an accumulating sequence of devastation.

*(iii.) Required standard of conduct: due diligence*

114. In *Pulp Mills*, as well as in its subsequent decision in the *Costa Rica v Nicaragua*/*Nicaragua v Costa Rica* cases, the ICJ expanded on what due diligence requires of states in the harm prevention context. According to the Court, states are "obliged to use all the means at [their] disposal in order to avoid" transboundary harm from activities occurring in their territories or under their jurisdiction'. More specifically, due diligence "entails not only the adoption of appropriate rules and measures, but also a certain level of vigilance in their enforcement and the exercise of administrative control applicable to public and private operators, such as the monitoring of activities undertaken by such operators".[49] In other words, due diligence has substantive as well as procedural aspects. Due diligence is also an inherently contextual standard. What is reasonable and appropriate depends in part on the risks of harm that attach to a given activity. The required level of care may also change over time, as risks or technological and regulatory standards evolve, and may differ as between economically and technologically advanced countries and countries with capacity limitations.

115. The ILC's 2001 Draft Articles on Prevention of Transboundary Harm from Hazardous Activities constitute the most detailed effort to date to tease out the implications of the harm prevention rule and its attendant due diligence requirements. The Draft Articles underscore the role of due diligence in "the phase prior to the situation where significant harm… might actually occur".[50] They also highlight a crucially important

[49] *Pulp Mills,* para 197.
[50] UN ILC 'Draft Principles on the Allocation of Loss in the Case of Transboundary Harm Arising out of Hazardous Activities', above.

point that follows from the very idea of harm prevention: the attendant due diligence obligations are triggered not by significant harm, but when activities entail a risk of such harm. The ICJ appears to agree. In *Costa Rica v Nicaragua/Nicaragua v Costa Rica*, the court observed that:

> "[T]o fulfil its obligation to exercise due diligence in preventing significant transboundary environmental harm, a State must, before embarking on an activity having the potential adversely to affect the environment of another State, ascertain if there is a risk of significant transboundary harm".[51]

116. The term due diligence amounts to a framework concept which must be given legal meaning for specific activities and risks. It can been described as the conduct that can be expected of a good government. What constitutes the appropriate standard of care is, thus, determined by looking at a State's means and capacities at its disposal in an international context.

117. In terms of preventing climate change damages, acting with due diligence requires States to take measures to prevent harm to the climate system and the environment of another State when they know, or ought reasonably have known, of the risk of injury. In the climate change context, this now requires that climate policies and respective regulations are in place which at least aim at reversing the trend of ever increasing GHG emissions.

118. Determining the precise standard of care in specific circumstances typically involves, and should involve, consideration of a range of elements. In particular, the level of due diligence required in specific circumstances should take account of: the opportunity to act or prevent; foreseeability of harm and its possible severity; and proportionality of the feasible measures to prevent harm.

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[51] *Certain Activities Carried Out by Nicaragua in the Border Area (Costa Rica v. Nicaragua) and Construction of a Road in Costa Rica along the San Juan River (Nicaragua v. Costa Rica)*, Judgment, ICJ Reports 2015, p. 665, p. 706, para. 104.

*Opportunity to act*

119. A State may fall short of the requirements of due diligence if it does not act in circumstances where it was capable of doing so.

120. The no-harm rule does not require a State to guarantee that a certain harm will be prevented, since due diligence merely requires that the State makes every effort to minimise the risk of appreciable harm. It requires a State to do the best it can in reducing the risks that may emanate from its territory, to take *all necessary measures at its disposal* to prevent significant harm.

121. Seen in this light, due diligence is not a rigid or static standard; rather it may change over time when, for example, scientists assess that the risk and the resulting environmental damage involved is greater than previously thought. A further implication is that improvements in the extent and detail of scientific understanding recalibrate the due diligence standard: greater knowledge of environmental risks and of the effects of inaction results in the inflation of the preventive action required to qualify as duly diligent. In other words, as the scientific community converges on the consensus that urgent, widespread and intensive action is required to avoid the worst predicted outcomes for the global climate system, the range of conduct which can acceptably be characterised as diligent narrows considerably. As the scientific orthodoxy crystallises on the paramountcy of prevention, there is less flexibility afforded to States as they are obliged to do more. Again, when this narrowing has occurred here is a question of fact, but it must have transpired before the UNFCCC was concluded.

*Foreseeability*

122. The due diligent requirement is also shaped by the foreseeability of harm. An appreciable link between the neglected activity (such as, the failure to regulate GHG reductions) and the resulting environmental damage can be established if, as the ILA described it, the State "actually knew or foresaw or ought to have known or foreseen

that its individual conduct was or would be part of a composite cause bringing about inadmissible harm".[52]

123. A State is not required to have positive knowledge of the foreseeability of a certain situation: constructive knowledge will suffice, as the State "ought to have known" the consequences. Equally, the responsible State need not have foreseen the precise nature or scale of the damage caused.

124. In the context of climate change, where it is now widely known on the basis of an authoritative scientific consensus that an increase in concentrations of GHGs will produce increased temperatures, which in turn will result in climate change damages. There can be little scope, if any, for States to claim that the due diligence requirement is also shaped by the foreseeability of harm. An appreciable link between the neglected activity (such as, the failure to regulate GHG reductions) and the resulting environmental damage can be established if, as the ILA described it, the State "actually knew or foresaw or ought to have known or foreseen that its individual conduct was or would be part of a composite cause bringing about inadmissible harm".[53]

125. A State is not required to have positive knowledge of the foreseeability of a certain situation: constructive knowledge will suffice, as the State "ought to have known" the consequences. Equally, the responsible State need not have foreseen the precise nature or scale of the damage caused.

126. In the context of climate change, where it is now widely known on the basis of an authoritative scientific consensus that an increase in concentrations of GHGs will produce increased temperatures, which in turn will result in climate change damages. There can be little scope, if any, for States to claim that the probable impacts of increased GHG concentrations were not foreseeable.

[52] ILA Report of the 64th conference (1990).
[53] ILA Report of the 64th conference (1990).

127. It should be noted that the First Report of the IPCC in 1990 presented a near-uniform scientific consensus that human activities were affecting the climate system and that environmental damage would result. States acknowledged this scientific fact in 1992 when they ratified the UNFCC, as the preamble of that instrument recognised that climate change was already a real threat. On this view, States have foreseen, or at least ought to have foreseen, from no later than 1990 that anthropogenic GHG emissions interfere with the climate system and so lead to environmental damage. This is ultimately a question of fact.

*Proportionality*

128. If a State has the opportunity to act and ought to have foreseen damage resulting from increased GHG concentration, it must introduce preventive measures. The precise nature of the required measures will reflect both the risks involved and the national circumstances of the State: there must be a proportional relationship between those factors. As such, due diligence is a context-sensitive standard, and States are afforded a margin of discretion in choosing the means to reduce GHG emissions. In order to determine whether a State has taken proportionate measures to prevent or minimise the risk of damage, the technical and economic capabilities of the State required to control the activity should be taken into account, and balanced against the interests of the other State to be protected against injury. As is typical of proportionality assessments, the determination is ultimately fact-specific. However, the risk involved for particularly vulnerable States—not least the small island developing States like Samoa—is immense. As a result, only extensive and urgent measures to reduce GHG emissions very significantly could be considered proportionate.

129. But not all States have the same economic capacity to reduce their GHG emissions. The principle of common but differentiated responsibility, which is endorsed in the UNFCCC and discernible in the provisions of both the Kyoto Protocol and Paris Agreement, informs the determination of the degree of action required to satisfy the due diligence standard. A State with a well-developed economy and ample resources, both human and material, is in a very different circumstances to small developing

States whose scope of action is much diminished by comparison. These differences are, and rightly should be, reflected in the specification of the precise requirements of the due diligence standard in varying circumstances. States are required by the customary duty of prevention to exercise due diligence to reduce their GHG emissions in a manner which is proportionate and appropriate to their capabilities.

130. Ultimately, the due diligence standard embedded within the customary duty to prevent transboundary harm is not singular, static or strict. It is a standard which is responsive to context, and must be determined in specific circumstances in light of a country's capacity to act—in the climate change context, by reducing its GHG emissions—and the risks of harm in play. Irrespective of the precise degree of the due diligence standard in each national circumstance, an important commonality warrants emphasis: all States have a duty to do the best they can in the circumstances to prevent the transboundary pollution in the form of GHG emissions which lead to environmental damage.

### 2. Relationship between Customary and Treaty-Based Obligations

131. Applying the no-harm rule to climate change damages requires consideration of the principle of *lex specialis*, which specifies that "if a matter is being regulated by a general standard as well as a more specific rule, then the latter should take precedence over the former".[54] Thus, general rules or principles of international law might not apply if a certain international rules are intended to apply exclusively. Accordingly, the question arises whether specific provisions in the climate change treaty framework are intended to coexist with, or else exclude, the general customary rules that would otherwise apply. The extent to which the more general rules and principles under customary international law are displaced by any special treaty rule will depend on the scope and content of that treaty rule, as properly interpreted.

[54] Report of the Study Group of the International Law Commission, 'Fragmentation of International Law: Difficulties Arising from the Diversification and Expansion of International Law', 13 April 2006, UN Doc. A/CN.4/L.682 and Add.1, p. 19, para. 56.

132. The most authoritative statement of the *lex specialis* principle, which is widely accepted as customary international law, is provided by Article 55 of the Articles on Responsibility of States for Internationally Wrongful Act (2001). Article 55 provides:

> "These articles do not apply where and to the extent that the conditions for the existence of an internationally wrongful act or the content or implementation of the international responsibility of a State are governed by special rules of international law."

133. The text of Article 55 indicates that *lex specialis* principle is essentially a rule regulating situations of norm conflict. As a result, and as the ILC Commentaries to the Articles explain, "For the *lex specialis* principle to apply it is not enough that the same subject matter is dealt with by two provisions; there must be some actual inconsistency between them, or else a discernible intention that one provision is to exclude the other. Thus, the question is essentially one of interpretation." [55]

134. Considering the no-harm rule, there is no inconsistency between the provisions of the climate change treaty regime and the customary rule requiring due diligence to prevent transboundary harm. The texts of the climate change treaties offer no indication that the parties intend to renounce the rules of customary international law. Moreover, several countries declared upon ratification of the Paris Agreement that their acceptance of the Agreement:

> "shall in no way constitute a renunciation of any rights under international law concerning State responsibility for the adverse effects of climate change and that no provision in the Paris Agreement can be interpreted as derogating from principles of general international law or any claims or rights concerning compensation due to the impacts of climate change."[56]

[55] ILC P. 140 of the Commentary.

[56] See the declarations of the Cook Islands, Federated States of Micronesia, Marshall Islands, Nauru, Niue, the Philippines, Solomon Islands, Tuvalu and Vanuatu: https://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXVII-7-d&chapter=27&clang=_en#EndDec.

135. Similar declarations were made by a number of States when ratifying the UNFCCC[57] and the Kyoto Protocol.[58]

136. Samoa reiterates that the climate change treaties come into operation well after significant harm has already been caused. However, as analysed above, many (indeed the majority) of the treaty provisions in the UNFCCC, Kyoto Protocol and Paris Agreement do not create binding primary obligations, and so do not affect the conditions for the existence of a wrongful act under international law.

137. Considering those provisions which are properly interpreted as creating obligations for States parties (see above), there is no incompatibility between those obligatory provisions and the customary no-harm rule; they deal with different subject matter.

138. With respect to those provisions which do, on a proper interpretation, create binding obligations, there is no incompatibility with the no-harm rule, since none of the treaty provisions deal with the same subject matter.

139. As for the customary requirements to produce an environmental impact assessment and to co-operate, these are replicated in the three instruments comprising the UN climate change treaty regime, with no resulting incompatibility or conflict. Moreover, the treaty provisions related to these two subjects are more detailed and especially adapted, and so will apply in place of the customary rule to States parties to the relevant conventions. For non-parties, or in respect of issues not governed by the climate change treaty regime, the customary obligations are still binding. In this way, those obligations arise from compatible sources in treaty and in custom.

### B. Commitments under the UN Climate Change Conventions

[57] See declarations made by Fiji, Kiribati, Nauru, Papua New Guinea and Tuvalu upon ratification of the UNFCCC: https://treaties.un.org/pages/ViewDetailsIII.aspx?src=TREATY&mtdsg_no=XXVII-7&chapter=27&Temp=mtdsg3&clang=_en.

[58] See the declarations made by the Cook Islands, Kiribati, Nauru and Niue when ratifying the Kyoto Protocol: https://treaties.un.org/pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXVII-7-a&chapter=27&clang=_en.

140. In addition to the obligations which bind States as a matter of customary international law, a diverse range of treaties make provision for State obligations which relate to the protection of the climate system and the environment more generally. When a State chooses to become a party to a treaty, it freely accepts to be bound by the obligations contained therein, and to comply in good faith with the terms of the treaty.

141. There are a number of treaties which address climate change. This section will focus on the three binding instruments—the United Nations Framework Convention on Climate Change (**"UNFCCC"**)[59], the Kyoto Protocol[60] and the Paris Agreement[61]—within which operate a wide and varied group of bodies, commissions and mechanisms, each of which generates contributions, in the form of decisions, policies, reports, guidance and data, which add detail to the operation of this treaty regime. From this regime emerge important environmental protection obligations under international law.

### 1. United Nations Framework Convention on Climate Change

142. The UNFCCC provides a framework for addressing climate change, though, like all instruments, its scope is limited.

143. The numerous concerns which motivated the States parties to conclude the UNFCCC are recorded in its preambular paragraphs, which provide context for the Convention text and may inform the process of interpreting it. The preamble states::

> "*Concerned* that human activities have been substantially increasing the atmospheric concentrations of greenhouse gases, that these increases enhance the natural greenhouse effect, and that this will result on average in an additional warming of the Earth's surface and atmosphere and may adversely affect natural ecosystems and human kind,

[59] United Nations Framework Convention on Climate Change, 9 May 1992, 1771 UNTS 107.
[60] Kyoto Protocol to the United Nations Framework Convention on Climate Change, 11 December 1997, 2303 UNTS 162.
[61] Paris Agreement, 12 December 2015, 3156 UNTS 79.

"*Noting* that the largest share of historical and current global emissions of greenhouse gases has originated in developed countries, that per capita emissions in developing countries are still relatively low and that the share of global emissions originating in developing countries will grow to meet their social and developmental needs, …

"*Acknowledging* that the global nature of climate change calls for the widest possible cooperation by all countries and their participation in an effective and appropriate international response, in accordance with their common but differentiated responsibilities and respective capabilities and their social and economic conditions, …

"*Recalling also* that States have… the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction…

"*Recognizing* that all countries, especially developing countries, need access to resources required to achieve sustainable social and economic development…"

144. The UNFCCC also expressly endorses a suite of principles which "shall" guide State's actions to achieve the objective of the UNFCCC and to implement its provisions: intra and inter-generational equity; common but differentiated responsibilities and respective capacities (which entails acceptance that developed countries should take the lead in combating climate change, and that the needs of vulnerable and developing States should be given full consideration); the precautionary principle; sustainable development and international cooperation.

145. The States parties' 'ultimate objective' in concluding the UNFCCC agreement is formally enshrined in Article 2 of the Convention. Article 2 provides:

"The ultimate objective of this Convention and any related legal instruments that the Conference of the Parties may adopt is to achieve, in accordance with the relevant provisions of the Convention, stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner."

146. As a framework convention, all instruments subsequently adopted by the Conference of the Parties must be aligned with the UNFCCC's 'ultimate objective'.

147. In addition, the UNFCCC defines many of the key concepts relevant to climate change, including: "adverse impacts of climate change";[62] "climate change";[63] "climate system";[64] "emissions"[65] and "greenhouse gases";[66] "reservoir";[67] "sink"[68] and "source"[69]. These definitions offer legal clarity and provide an essential basis for consistency and co-ordination in international action under these treaties to address the causes and effects of climate change, and they inform the interpretation and application of other relevant international obligations.

148. Furthermore, the framework established by the UNFCCC both embodies and promotes a set of important principles, as summarised above. These principles influence/ permeate/ flow through/ appear again in subsequent international agreements on climate change. As a result, it is important that their scope and content is clarified and understood.

149. For a start, the UNFCCC recognizes that international cooperation is essential for confronting the many challenges posed by climate change. The Convention records that climate change is a "common concern of humankind",[70] and that the "global nature" of the problem "calls for the widest possible cooperation by all countries and their participation in an effective and appropriate international response".[71]

[62] UNFCCC, Article 1(1)
[63] UNFCCC, Article 1(2)
[64] UNFCCC, Article 1(3)
[65] UNFCCC, Article 1(4)
[66] UNFCCC, Article 1(5)
[67] UNFCCC, Article 1(7)
[68] UNFCCC, Article 1(8)
[69] UNFCCC, Article 1(9)
[70] UNFCCC, Recital 2 of the Preamble.
[71] UNFCCC, Recital 6 of the Preamble.

150. The UNFCCC also acknowledges that responsibility for climate change is not evenly distributed, since there are, and have been, substantial differences between the contributions of developed and developing countries. The Preamble notes that:

> "[T]he largest share of historical and current global emissions of greenhouse gases has originated in developed countries, that per capita emissions in developing countries are still relatively low, and that the share of global emissions originating in developing countries will grow to meet their social and development needs."[72]

151. In response to this acknowledged fact, the UNFCCC notes that international cooperation to address climate change must be based on the differentiation of States parties' responsibilities, and must reflect the wide variety in States' respective capabilities and in their social and economic conditions.[73]

152. The UNFCCC also endorses the principles of precaution, sustainable development, and intra- and inter-generational equity.

153. In pursuit of the Convention's stated objective, States parties to the UNFCCC make a number of legally binding commitments. The obligatory nature of these commitments is indicated by the mandatory language employed in Article 4(1), which provides:

> "All Parties, taking into account their common but differentiated responsibilities and their specific national and regional development priorities and objectives and circumstances, *shall*…" (emphasis added).

154. Among other commitments, all States parties to the UNFCCC accept the obligations[74] to:

> "Formulate, implement, publish and regularly update national and, where appropriate, regional programmes containing measures to mitigate climate change by addressing anthropogenic emissions by sources and removals by

[72] UNFCCC, Recital 3 of the Preamble.
[73] UNFCCC, Recital 6 of the Preamble.
[74] These obligations do not apply to gases controlled by the Montreal Protocol on Substances that Deplete the Ozone Layer 1987, 1522 UNTS 3: Arts 4.1(a)–(d).

sinks of all greenhouse gases not controlled by the Montreal Protocol, and measures to facilitate adequate adaptation to climate change"[75]

"Promote and cooperate in the development, application and diffusion, including transfer, of technologies, practices and processes that control, reduce or prevent anthropogenic emissions of greenhouse gases not controlled by the Montreal Protocol in all relevant sectors, including the energy, transport, industry, agriculture, forestry and waste management sectors"[76];

"Promote and cooperate in the conservation and enhancement, as appropriate of sinks and reservoirs"[77]; and

"Cooperate in preparing for adaptation to the impacts of climate change".[78]

155. All parties are also obliged to cooperate in a number of endeavours: scientific, technological and socio-economic research;[79] the full and prompt sharing of relevant climate-related information;[80] and education, training and public awareness.[81]

156. In addition to these obligations binding upon all States parties, and reflecting the principle of common but differentiated responsibility, the UNFCCC allocates a number of specific obligations for developed country Parties only.[82] These Parties "commit themselves specifically" to adopt policies and take measures on the mitigation of climate change "with the aim of returning individually or jointly" to their 1990 levels of GHGs by the year 2000.[83]

157. A sub-set of these developed countries, listed in Annex II, made further commitments to "*provide new and additional financial resources* to meet the agreed full costs incurred by developing country Parties" in complying with their reporting obligations, and to

[75] UNFCCC, Article 4.1(b)
[76] UNFCCC, Article 4.1(c).
[77] This obligation relates to all greenhouse cases not controlled by the Montreal Protocol; UNFCCC, Article 4.1(d)
[78] UNFCCC, Article 4.1(e)
[79] UNFCCC, Article 4.1(g)
[80] UNFCCC, Article 4.1(h)
[81] UNFCCC, 4.1(i)
[82] The developed country parties are those States parties listed in Annex I. That list represents the membership of the Organization of Economic Co-operation and Development in 1992.
[83] Articles 4.2(a)-(b).

"provide such financial resources, including for the transfer of technology, needed by the developing country Parties to meet the full incremental costs of implementing" their own commitments of promotion and cooperation, as their cooperation commitments under the Framework Convention]".[84] While it is clear that developed countries are subject to an obligation to provide the financial resources needed by developing countries for certain specified purposes, the amount to be paid by developed countries remains to be determined by agreement between a developing country and the financial mechanism established by Article 11.[85]

158. Furthermore, developed country Parties and those listed in Annex II "shall also assist the developing country Parties that are particularly vulnerable to the adverse effects of climate change in meeting costs of adaptation to those adverse effects". The obligation under Article 4.4, expressed in mandatory language ("shall"), requires concrete action by developed country Parties to provide assistance in meeting the costs of adaptation. While the scope of this provision is broad enough to permit developed country States to provide assistance in various forms – perhaps by subsidies, discounts, dispensations or direct payments – the wording of the provision clearly requires the developed country States which agreed to be bound by it to take some specific action.

### 2. Kyoto Protocol

159. The Kyoto Protocol strengthens and supplements the climate change regime established by the UNFCCC. It was adopted on 11 December 1997 and entered into force on 16 February 2005.

160. Under the Kyoto Protocol, those developed countries listed in Annex B (along with the European Union) made commitments/ assumed obligations to reduce their overall emissions of a number of GHGs[86] "by at least 5 percent below 1990 levels in

[84] UNFCCC, Article 4.3.
[85] UNFCCC, Articles 4.3 and 11
[86] The Kyoto Protocol's provisions do not apply to greenhouse cases controlled by the Montreal Protocol.

the commitment period 2008 to 2012".[87] The Protocol also prescribed 'quantified emission limitation and reduction commitments' – that is, precisely specified individual targets – for the Annex B parties. These targets are binding obligations of result. Accordingly, any shortfall by an Annex B party in meeting its reduction obligations is a breach of the Protocol. In addition, States parties are subject to reporting requirements.[88] The Protocol also establishes a set of procedures and mechanisms to ensure compliance with its provisions.[89] Further discussion of the consequences of a State party's breach of the Kyoto Protocol's binding obligations is set out below in Section IV.

### 3. Paris Agreement

161. Like the Kyoto Protocol, the Paris Agreement seeks to *enhance* implementation of the UNFCCC, including its ultimate objective, and it establishes a variety of means and methods oriented to that purpose. It was adopted on 12 December 2015, entered into force soon after on 4 November 2016, and became fully operational in 2020 when the parties' nationally determined contributions took effect. As the Paris Agreement is an agreement "under the UNFCCC"[90] the provisions of the UNFCCC that apply to "related legal instruments" apply to the Paris Agreement. The Paris Agreement also makes use of the UNFCCC's institutions, including the Conference of Parties and the financial mechanism.

162. The Agreement aims "to strengthen the global response to the threat of climate change". It purports to do this by "[h]olding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels"—the so-called 'global goal' of the Agreement.[91]

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[87] Kyoto Protocol, Article 3(1).
[88] Kyoto Protocol, Article 3(3).
[89] Article 18; See Decision 27/CMP.1, 'Procedures and mechanisms relating to compliance under the Kyoto Protocol' (30 March 2006) UN Doc FCCC/KP/CMP/2005/8/Add.3, 92.
[90] Decision 1/CP.21, 'Adoption of the Paris Agreement' (29 January 2016), FCCC/CP/2015/10/Add.1, 2, para. 1. See Paris Agreement, preambular recital 1.
[91] Paris Agreement, Article 2(1).

163. By this provision, the Paris Agreement sets a concrete target. Achieving this target requires the contribution, and cooperation, of the international community, as composed by the States parties. In that sense, realising the aim of limiting the global average temperature requires each State to comply with its obligations under the Agreement, and to do so in a manner which is responsive to, or at the very least, cognizant of the expectations set, principles endorsed and guidance supplied by the Agreement's various provisions.

164. The specific result stipulated by Article 2(1)(a) cannot be achieved by a State acting individually; though, unfortunately, the inverse does not hold true: the conduct of a single State could, depending on the scale and intensity of its conduct, suffice to frustrate the achievement of the global goal. But the means by which the global goal—the stipulated, accepted result—is by fulfilment of the obligations of conduct which are binding individually on each State party.

165. As relevant for question (b), and as will be discussed in Section IV, Samoa considers that the global goal of the Paris Agreement has not been met.

166. The Paris Agreement establishes a set of procedural obligations for all States parties, the most of significant of which concern mitigation and transparency. Under the Agreement, States are obliged to communicate a 'nationally determined contribution' (NDC)[92] every five years,[93] accompanied by information that enhances its clarity, transparency, and understanding,[94] and to account for it.[95] In addition to requiring States to produce and submit NDCs, the Agreement attaches a number of expectations to this process: parties are expected to ensure that every successive NDC "will represent a progression" by improving upon its predecessor, and that it will "reflect its highest possible ambition", as well as its "common but differentiated

[92] Paris Agreement, Article 4(2).
[93] Paris Agreement, Article 4(9).
[94] Paris Agreement, Article 4(8).
[95] Paris Agreement, Article 4(13).

responsibilities and respective capabilities",," in the light of different national circumstances".[96]

167. Central to the mitigation obligations established by the Agreement, Article 4(2) prescribes clear and defined actions to be undertaken by Parties, and thereby creates individual binding obligations for Parties. These are obligations of conduct, subject to a good faith expectation that the party will act on the intention to achieve their NDCs.

168. The second clause of 4(2) requires Parties to aim at achieving the objectives of their contributions. Parties thus have binding obligations of conduct to prepare, communicate and maintain contributions, as well as to pursue domestic measures. There is also a good faith expectation that Parties intend and will aim to achieve the objectives of their NDCs.

169. As discussed below, these provisions, particularly those related to "highest possible ambition" must be interpreted and applied in light of the customary duty to prevent transboundary harm incumbent upon all States, as well as their obligations under human rights instruments.

*(i.) Adaptation*

170. Article 7 addresses adaptation. It establishes a "global goal on adaptation" to strengthen resilience and reduce vulnerability to climate change, and requires States, under Article 7(9) to "engage in adaptation planning processes and the implementation of actions, including the development or enhancement of relevant plans, policies and/or contributions".

171. While Article 7(9) affords States parties a degree of discretion, as it provides that States shall undertake adaptation planning processes "as appropriate", it is important to note that the inclusion of discretionary or flexible elements alongside a clear indication of obligation ("Each Party shall…") does not rob that provision of its obligatory force. While there may be a degree of flexibility afforded to States, there

[96] Paris Agreement, Article 4(3).

remains an obligatory component which may not be avoided, ignored or contravened. International law is familiar with such a structure, whereby treaty terms impose minimum core obligations while permitting a certain degree of toleration for a State's own perception of the appropriate way to achieve those mandatory minima.[97]

172. Parties are also encouraged to submit and update adaptation communications (possibly as part of their NDCs, should they so choose) which identify priorities and needs, for listing on a public registry,[98] and to strength cooperation on adaptation.[99]

*(ii.) Loss and Damage*

173. The Paris Agreement also includes provisions on 'Loss and Damage'. Although this term remains undefined in the Agreement, the IPCC employs a distinction between 'Loss and Damage' (capitalized) and 'losses and damages', delineated as follows:

> "Loss and Damage, and losses and damages – Research has taken Loss and Damage (capitalised letters) to refer to political debate under the United Nations Framework Convention on Climate Change (UNFCCC) following the establishment of the Warsaw Mechanism on Loss and Damage in 2013, which is to 'address loss and damage associated with impacts of climate change, including extreme events and slow onset events, in developing countries that are particularly vulnerable to the adverse effects of climate change.' Lowercase letters (losses and damages) have been taken to refer broadly to harm from (observed) impacts and (projected) risks and can be economic or non-economic."[100]

174. Samoa asserts that it must be understood to mean all of the deleterious and adverse effects of climate change suffered by States parties and their populations. The concept includes extreme weather events, slow-onset deleterious phenomena, including sea-

[97] See discussion of minimum core obligations in Committee on Economic, Social and Cultural Rights, *General Comment No. 3: The Nature of States Parties' Obligations (Art. 2, Para. 1, of the Covenant)*, 14 December 1990, UN Doc. E/1991/23)
[98] Articles 7(10), 7(12) and 13(8), Paris Agreement.
[99] Article 7(7), Paris Agreement..
[100] IPCC, *Climate Change 2023: Synthesis Report* (2023) Annex I: Glossary, p. 126.

level rise and desertification, and also entails all human experiences of loss and injury occasioned by climate change.

175. Under Article 8 of the Agreement, parties commit to work together to "avert, minimize, and address" these effects, including through the work of what has now become the Warsaw International Mechanism (WIM). The inclusion of this Article is testament to the importance of loss and damage – it is a matter of utmost concern to Samoa, and to many States which have suffered, and continue to suffer, comparable, irreparable effects of climate change—and there is a clear difference of views among the States parties as to the scope and character of this provision, and the implications of its contravention. On one hand, the Conference of the Parties, by paragraph 51 of Decision 1/CP.21, "[a]grees that Article 8 of the Agreement does not involve or provide a basis for any liability or compensation." On the other hand, a number of Pacific Island States indicated their understanding at the time of entering the Agreement that Article 8 did not prejudice their prior rights under general international law.[101] The COP decision cannot be construed as excluding the applicability of existing rights under international law. While the decision may provide important guidance for the interpretation of the Agreement,[102] it is not itself legally binding, and it may yet be superseded by a later COP decision. While the text may, for the time being, preclude claims for compensation specifically under the Paris Agreement, it does not affect the application of the no-harm rule/duty of prevention nor the general rules of state responsibility under international law.

176. For the purposes of Article 8, as for all elements of the international legal framework which concern environmental harm including the customary duty of prevention, an expansive view must be taken of the forms of loss caused by climate change. In addition to the loss of the opportunity to preserve and transmit cultural traditions and modes of expressing collective identity, it is vital that the economic costs related to human suffering caused by adverse environmental impacts occasioned by GHG

[101] See fn 55 and accompanying text.

[102] On the interpretive utility of resolutions if they are adopted by consensus or unanimously, see *Whaling in the Antarctic (Australia v. Japan: New Zealand intervening)*, Judgment, 31 March 2014, ICJ Reports 2014, p. 226, 248, para. 46.

emissions are expansive. Connections to land, such as that permeating Samoan culture, can also be encompassed in orthodox heads of damages, such as injury to feelings.[103] Further, the understanding of loss and damage must include health-related impacts such as the spiking incidence of disease and illness directly related to extreme weather events and slow-onset environmental changes. In Samoa, following floods and severe rainfall in what have traditionally been dry seasons, diarrhoea and water-borne diseases have become far more common, necessitating increased levels of government action in order to provide the health services required. There is no principled reason why these experiences and exigencies should be excluded from the scope of any legal mechanism applicable to address the negative effects of climate change.

177. Samoa will submit below that the obligation to prevent significant harm to the environment includes human rights harms within its purview and is also a standalone obligation.

178. Given that many human rights are relevant to climate change and its effects—in particular, the rights to life, to water, to home, to housing and, in some treaty systems, a healthy environment—it will go a long way towards meeting the challenge posed by climate change, to ameliorating some of its worst effects, and to devising humane and just responses to the adverse impacts of climate change if States abide by their obligations and honour the duties they've assumed to realise the rights of those present within its territory or otherwise under their control or in relation to other international obligations they have, such as transboundary harm.

179. Lastly, Samoa submits that human rights obligations are clearly relevant to determining highest possible ambition under the Paris Agreement.

### C. <u>Obligations under Human Rights Instruments</u>

[103] For an example in domestic judicial practice, see Australian case *Northern Territory v Griffiths* [2019] HCA 7 where compensation for non-economic losses (loss of culture and connection) were awarded in litigation concerning native title of Aboriginal and Torres Strait Islander peoples.

180. International human rights conventions are another treaty-based source of States' international legal obligations relevant to environmental protection.

181. When a State becomes party to any of the wide range of international or regional human rights instruments, it freely accepts a commitment to respect, protect and fulfil the human rights of all those subject to its jurisdiction.

182. The obligations incumbent upon States under international human rights instruments differ in their structure from the other obligations addressed in this written statement. Whereas the obligations arising under the climate change conventions, or UNCLOS, or customary environmental law focus primarily on obligations that States owe to one another, human rights instruments define numerous obligations that States owe to individuals.

183. States must meet a number of obligations, both procedural and substantive, in addressing the threats which climate change poses to the enjoyment of human rights. In terms of procedural obligations, States must assess the possible environmental effects of their actions relating to climate change, disseminate information about those impacts to those who may be affected, allow all those affected to participate in the decision-making processes relating to climate change, and provide legal remedies in their national legal system to ensure that these requirements are met. As for substantive obligations, States are afforded a certain discretion to attempt a balance between protecting human rights from climate change and pursuing other legitimate societal interests, such as economic development, but the balance cannot be unreasonable, and States must take into account the additional protections they may owe members of vulnerable groups. States must abide by these requirements not only in respect of their own actions, but also in connection with the actions of non-State actors within their jurisdiction.[104]

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[104] United Nations Human Rights Council, *Report of the Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment*, 15 July 2019, A/74/161. See also United Nations Human Rights Council, *Report of the independent expert on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment: Mapping report*, 30 December 2013, UN Doc. A/HRC/25/53.

184. Generally, States owe these obligations to those who are subject to its jurisdiction, though it has been accepted by a number of international human rights courts that a State's jurisdiction for the purposes of human rights protection may extend extra-territorially in certain circumstances, with the result that the State owes its duties to respect, protect and fulfil human rights to individuals beyond the borders of its own sovereign territory.[105] Recently, in its Advisory Opinion on *The Environment and Human Rights*, the Inter-American Court stated:

> "When transboundary harm or damage occurs, a person is under the jurisdiction of the State of origin if there is a causal link between the action that occurred within its territory and the negative impact on the human rights of persons outside its territory. The exercise of jurisdiction arises when the State of origin exercises effective control over the activities that caused the damage and the consequent human rights violation."[106]

185. It is now widely recognized[107] that many human rights are likely to be impacted by climate change, including the rights to life, to adequate food, water and shelter, the right to private life, the right to the highest attainable standard of health, and the right to self-determination.[108] In a joint statement, five UN Human Rights Treaty Bodies discussed the linkage between climate change, the Paris Agreement and human rights, and called upon States to comply with their obligations under all of these related instruments.[109]

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[105] For example, in the European Court of Human Rights, *Loizodou v. Turkey (Preliminary Objections)*, Judgment, 23 March 1995 (no. 15318/89) and *Chiragov and others v. Armenia*, Judgment (Merits)(GC), 16 June 2015, (no. 13216/05).

[106] Inter-American Court of Human Rights, *The Environment and Human Rights*, Advisory Opinion OC-23/17 (English translation), 15 November 2017, p. 44, para. 104(h).

[107] United Nations High Commissioner of Human Rights, *Report on the relationship between climate change and human rights*, 15 January 2009, UN Doc. A/HRC/10/61. See also the series of resolutions adopted by the Human Rights Council alerting states to the linkages between human rights and climate change, and reminding them of their human rights obligations: Human Rights Council (HRC) Res 32/33, 'Human Rights and Climate Change', 18 July 2016, UN Doc. A/HRC/RES/32/33; HRC Res 29/15, 'Human Rights and Climate Change', 22 July 2015, UN Doc. A/HRC/RES/29/15; HRC Res 26/27, 'Human Rights and Climate Change', 15 July 2014, UN Doc. A/HRC/RES/26/27; HRC Ees 18/22, 'Human Rights and Climate Change', 17 October 2011, UN Doc. A/HRC/RES/18/22.

[108] HRC Res 32/33.

[109] Committee on the Elimination of Discrimination Against Women et al, Joint Statement on 'Human Rights and Climate Change', 16 September 2019,

186. While there is a growing series of cases concerning the human rights implications of environmental degradation and pollution,[110] only recently have cases been initiated with specific focus on the impacts of climate change on human rights.[111] The leading decided case to date is a decision of the Human Rights Committee, *Billy v Australia (Torres Strait Islanders Petition)*, which found that Australia had failed to adequately protect indigenous Torres Strait Islanders against adverse impacts of climate change, thereby violating their rights "to enjoy the territories and natural resources that they have traditionally used for their subsistence and cultural identity."[112] The Human Rights Committee held that "the State party is obligated, inter alia, to provide adequate compensation to the authors for the harm that they have suffered", and to engage meaningfully in consultation with the local communities in order to conduct assessments, to implement measures necessary to secure the communities' safe existence on their respective islands, and to monitor and review the effectiveness of the measures implemented.[113]

## IV. CONSEQUENCES OF WRONGFUL ENVIRONMENTAL INJURY

187. When considering question (b), and the legal consequences under the international obligations binding upon States to ensure the protection of the climate system and

[110] For example: Human Rights Committee, *Andre Brun v France*, communication no. 1453/2006, 23 November 2006, UN Doc. CCPR/C/88/D/1453/2006; African Commission on Human and People's Rights, *Social and Economic Rights Action Center & the Center for Economic and Social Rights v. Nigeria* (Communication No. 155/96), 27 May 2002; Inter-American Court of Human Rights, *Case of the Mayagna (Sumo) Awas Tingni Community v. Nicaragua*, 31 August 2001, Series C, No. 79; European Court of Human Rights, *López Ostra v Spain* (1994) 20 EHRR 277.

[111] For example, there are currently three cases concerning climate change action pending before the Grand Chamber of the European Court of Human Rights: *Duarte Agostinho and others v. Portugal and 32 Other States* (no. 39371/20), *Verein KlimaSeniorinnen Schweiz and Others v. Switzerland* (no. 53600/20), and *Carême v. France* (no. 7189/21).

[112] HRC, *Daniel Billy and others v Australia (Torres Strait Islanders Petition)*, Views adopted by the Committee under article 5(4) of the Optional Protocol, concerning communication No. 3624/2019, 9 March 2022, para. 8.13.

[113] Id at para. 11.

the environment in circumstances where a State causes, or fails to prevent environmental harm, the *lex specialis* principle must again be addressed.

188. As noted in the previous section, the legal framework constituted by the international climate change treaties (UNFCCC, Kyoto Protocol and Paris Agreement) establishes various primary obligations which do not exclude or displace the customary rules applicable under general international law. Nor do they exclude or displace human rights obligations.

189. The relationship requires further consideration in specific connection with the determination of consequences. As the ILC commentaries to the Articles on State Responsibility explain, the *lex specialis* principle may be applicable where and to the extent that either the existence or an internationally wrongful act or its legal consequences are determined by special rules of international law.[114]

### A. General framework: State responsibility

190. The ILC Articles on State Responsibility indicate that "[e]very internationally wrongful act of a State entails the international responsibility of that State".[115] Clearly, in order that a State be legally responsible for an international wrong (either an act or an omission) so as to incur the legal consequences of that responsibility, there must be a breach of an international obligation by a State by an act or omission which is attributable to it.[116]

191. Section III has examined some (but not all) of the international obligations relating to the protection of the climate system and other parts of the environment which are binding upon States under the current international law. That analysis reveals that there may be a number of ways in which consequences accrue for internationally wrongful conduct related to climate change. For example failing to take both negative and positive measures under international human rights law with respect to climate

[114] UN ILC, 'Draft Articles on Responsibility of States for Internationally Wrongful Acts, with Commentaries' (2001) GAOR 56th Session Supp 10, 43., p. 140.
[115] ARSIWA, Article 1.
[116] ARSIWA, Article 2.

change could also entail the international responsibility of a State. Another example is, breaching a specific obligation under the UNFCCC, Kyoto Protocol or Paris Agreement could entail the international responsibility of a State. Thus, the international responsibility of a developed country State party could arise from its failure to "adopt national policies and take corresponding measures on the mitigation of climate change",[117] as it is obliged to do under the UNFCCC, or to ensure that its GHG emissions do not exceed its capped quota under the Kyoto Protocol.[118] Similarly, any State party could be held responsible for omitting to "formulate, implement, publish and regularly update… programmes containing measures to mitigate climate change",[119] an obligation they accepted when ratifying the UNFCCC. Further, failure in relation to "highest possible ambition" under the Paris Act could entail international responsibility. And, as discussed above, the responsibility of a State could be invoked for causing environmental harm, or failing to prevent it, in contravention of the customary no-harm principle/duty of prevention.

192. Focusing initially on the customary duty to prevent transboundary harm, the obligation requires States to not inflict, or allow harm, upon another State or to violate the sovereign rights of other States.

193. A State is accountable for acts and omissions conducted on its territory—including by private actors—if it can be established that it did not take proper care in exercising its governmental functions to manage and control activities carried out on its territory. The due diligence standard assumes importance in this context. The standard has been described as the conduct that can reasonably be expected of a good government in the same situation, which includes taking all appropriate measures to address private behaviour, including by adopting and implementing laws and regulations, and monitoring their enforcement.[120]

**B. <u>Consequences</u>**

[117] UNFCCC, Article 4(2)(a).
[118] Kyoto Protocol, Article 3 and Annex B.
[119] UNFCCC, Article 4(1)(b).
[120] See *Pulp Mills,* para. 187.

194. If a State is found to be responsible for a breach of an international obligation, on account of its failure to comply, through acts and/or omissions attributable to it, with the requirements stipulated in the obligation, four legal consequences follow.

195. First, the primary obligation—that is, the rule which has been breached—persists, and remains binding upon the responsible State. This is described in Article 29 of the Articles on State Responsibility as the 'duty of continued performance'.

196. Second, the State is obliged to cease the wrongful act (the 'duty of cessation').[121] This obligation applies in respect of acts with a continuing character. As the ILC Commentaries explain,

> "The function of cessation is to put an end to a violation of international law and to safeguard the continuing validity and effectiveness of the underlying primary rule. The responsible State's obligation of cessation thus protects both the interest of the injured State or States and the interests of the international community as a whole in the preservation of, and reliance on, the rule of law." [122]

197. There is ample cause to view the secondary obligation of cessation as more stringent than the primary obligation of mitigation. Considered in connection with the customary primary obligation to prevent transboundary harm, the duty of cessation would require more immediate and effective measures to control the harm-causing emissions.

198. Third, the responsible State must "offer appropriate assurances and guarantees of non-repetition, it circumstances so require" (the duty of non-repetition).[123]

199. Fourth, the responsible State is obliged under Article 31 of the Articles to make full reparation for any injury caused by its wrongful act.[124] In the words of the PCIJ in a much-quoted statement, the State responsible for an illegal act must "wipe out all the

[121] ARSIWA, Article 30(a),.
[122] ILC ARSIWA Commentaries, p. 89.
[123] ARSIWA, Article 30(b).
[124] ARSIWA, Article 31.

consequences of the illegal act and re-establish the situation which would, in all probability, have existed if that act had not been committed."[125]

200. The Articles clarify that injury can take any form: it "includes any damage, whether material or moral, caused by the internationally wrongful act of a State."[126] The ILC Commentaries explain that material damage refers to damage to property or other interests of the State and its nationals which is assessable in financial terms, while moral damage includes pain and suffering. It also includes the "personal affront" associated with an intrusion on one's home, which seems highly relevant in light of Samoa's experience of families' homes being destroyed or damaged by the adverse effects of climate change. However, "any damage" is also broad and would include the loss of culture and connection situation of Samoa and the people of Samoa.

201. The Articles on State Responsibility provide that reparation for the injury shall take three forms, singly or in combination, with the three forms applied sequentially, as necessary in the circumstances.[127] First, the responsible State must provide restitution, unless doing so is materially impossible or involves an entirely disproportionate burden.[128] Next, the responsible State is obliged to compensate for any financially assessable damage caused by the wrongful act, insofar as that damage is not made good by restitution.[129] Finally, the State in breach of its obligations must give satisfaction for the injury caused, to the extent that restitution or compensation cannot make good the injury suffered.[130]

202. Applying this general framework to an assumed breach of the customary duty of prevention resulting in damage to a foreign State—that is, a situation in which a State, through its direct action or failure to prevent activities causing harm to the territory and/or population of another sovereign State—there is a reasonable prospect that the

[125] *Factory at Chorzów, Merits,* p.47
[126] ARSIWA, Article 31(2).
[127] ARSIWA, Article 34.
[128] ARSIWA, Article 35.
[129] ARSIWA, Article 36,. See also *Gabčíkovo-Nagymaros Project (Hungary/Slovakia)*, p. 81: "It is a well-established rule of international law that an injured State is entitled to obtain compensation from the State which has committed an internationally wrongful act for the damage caused by it."
[130] Article 37, ARSIWA.

case will involve irreversible damage, in which case restitution will be insufficient to make good the injury, since it will be materially impossible to restore the situation *ex ante*. The victim State will, therefore, seek financial compensation to cover all costs associated with the damage sustained, since the responsible State is obliged to pay compensation in respect of "any financially assessable damage". This concept of financially assessable damage "encompasses both damage suffered by the State itself (to its property or personnel or in respect of expenditures reasonably incurred to remedy or mitigate damage flowing from an internationally wrongful act) as well as damage suffered by nationals, whether persons or companies, on whose behalf the State is claiming within the framework of diplomatic protection."[131] Accordingly, in connection with failures to act with due diligence to prevent transboundary harm, it is possible that financially assessable damages will include physical damage to environmental resources (what might be thought of as 'pure environmental damage', if, indeed, there is such a thing as there is now a long line of instruments and decisions recognising the intersection between humans and the environment, including the ICJ),[132] and also consequential damage to people and property. The latter category is apt to entail a wide range of costs associated with the environmental damage: these include the costs of providing health services necessitated by the incidence of illness, disease or other forms of human suffering accompanying the environmental damage; costs of relocation, reconstruction and restoration required after the manifestation of the environmental damage, both to public infrastructure and to private dwellings; the costs of property lost or damaged by the environmental injury; and the costs of recovery from lost agricultural or industrial activities; impacts on traditional knowledge and customary tenure, both recognised forms of property. Compensation for personal injury may also be recoverable and, as noted above, this could include injury to feelings which would encompass cultural harms and loss of connection, which have emotional dimensions. Article 36(2) specifically provides for the

[131] ILC Commentaries, p. 99.

[132] The Security Council resolution adopted to reflect Iraq's responsibility under international law as a result of its unlawful invasion and occupation of Kuwait recognised as reparable loss "any direct loss, damage including environmental damage and the depletion of natural resources or injury to foreign Governments, nationals and corporations as a result of" the wrongful act: Security Council Reslution 687 (1991) of 3 April 1991, para. 16.

compensation of loss of profits flowing from the interference caused to agricultural, industrial or commercial enterprises.

203. The ILC Commentaries explain in specific respect of environmental damage:

> "In cases where compensation has been awarded or agreed following an internationally wrongful act that causes or threatens environmental damage, payments have been directed to reimbursing the injured State for expenses reasonably incurred in preventing or remedying pollution, or to providing compensation for a reduction in value of polluted property. However, environmental damage will often extend beyond that which can be readily quantified in terms of clean-up costs or property devaluation. Damage to such environmental values (biodiversity, amenity, etc…) is, as a matter of principle, no less real and compensable than damage to property, though it may be difficult to quantify."[133]

204. This observation is apt in respect of environmental damage like the devastation of coral reefs, derangement of an ecosystem's equilibrium or integrity, or destruction of biological diversity, since the impact of these effects go beyond the mere quantification of clean-up costs or property devaluation. And yet, these elements fall within the contemporary concept of environmental harm, and require financial assessment by some method.

205. In the ILC Draft Principles on the Allocation of Transboundary Harm (2006), damage means "significant damage caused to persons, property or the environment; and includes:

a. loss of life or personal injury;
b. loss of, or damage to, property, including property which forms part of the cultural heritage;
c. loss of damage by impairment of the environment;
d. the costs of reasonable measures of reinstatement of the property, or environment, including natural resources;
e. the costs of reasonable response measures."[134]

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[133] ILC ARSIWA Commentaries, p. 101.
[134] Draft Principles on the Allocation of Loss in the Case of Transboundary Harm arising out of Hazardous Activities, with Commentaries 2006, YILC 2006, vol II, p. 64.

206. The commentaries to the ILC Articles on Prevention of Transboundary Harm from Hazardous Activities (2001) conceive of environmental harm as effects on "human health, industry, property, environment or agriculture in other States. The 2010 Nagoya–Kuala Lumpur Supplementary Protocol on Liability and Redress to the Cartagena Protocol on Biosafety offers a more extensive understanding, comprising "adverse effects on the conservation and sustainable use of biological diversity, taking into account risks to human health".[135]

207. In combination with these material aspects of damage, environmental damage often involves non-material elements, such as ecological disruption, and social and cultural impacts on individuals and communities. These have been quantified on the basis of an equitable assessment by international courts and tribunals.

208. Where the non-material damage involves some form of oral injury, and so cannot be made good by compensation, an apology, expression of regret or acknowledgement of the breach by the responsible State may be appropriate.

209. It has been speculated that the general framework of state responsibility is ill-suited to situations where States suffer injury as a result of the GHG emissions generated on the territory of another State or States and so ought not to be applied. This assertion rests primarily on an attempt to draw a distinction between classical cases, such as the *Trail Smelter* arbitration, where foul pollutants released from the territory of one State directly affect a neighbouring State's territory in violation of the no-harm principle, and cases involving the adverse effects of climate change. It has been argued that excessive GHG emissions do not directly affect a neighbouring State's territory, but instead affect the global climate change system, which may in turn indirectly produce adverse impacts in many States throughout the world. The argument goes that none of the negative impacts of climate change are the direct consequence of GHG emissions in any particular place at any particular moment, but are instead the consequence of the cumulative effect of GHG emissions in many

[135] Article 2(2)(b), Nagoya–Kuala Lumpur Supplementary Protocol on Liability and Redress to the Cartagena Protocol on Biosafety (2010).

places over an extended period. The harms are distributed, and produced in less direct ways.

210. However there is cause to question the distinction being asserted. Recent state practice, as discussed above, appears to accept that GHG emissions may be characterised as pollution, in which case there seems little basis for distinguishing GHG cases from pollution cases. Furthermore, this distinction does not appear to affect the application of the no-harm principle/duty of prevention in any case. James Crawford, the ILC Rapporteur, explicitly recognised "harm to the environment by emissions exceeding the prescribed limit" as a form of damage in the Commentaries to the Articles on State Responsibility.[136] In addition, the ICJ made no distinction between cumulative or direct forms of environmental damage in its advisory opinion in the *Legality of the Threat or Use of Nuclear Weapons.* While two of the dissenting opinions in that case suggested that such a distinction should be made, and that different treatment should apply to damage affecting the global environment, they did not exclude the application of the no-harm principle to cumulative damages. Indeed, they argued that a *more stringent* application of the no-harm principle would be warranted, if not necessary, in such circumstances.[137] Undoubtedly, an international prohibition on causing or allowing damage being inflicted on another State must apply fully also to acts damaging *all* other States. It would be perverse to suggest that action which is wrongful when it harms a single State is somehow permissible when it harms a number of other States, if not all other States.

211. Another argument which has been made against the applicability of the general framework of state responsibility in respect of damage caused via climate change relates to the multiple and widespread sources of GHGs. In particular, it has been suggested that difficulties associated with attributing damage to the acts, or inaction, of another State, and with establishing causation between the wrongful acts and the harm incurred, overwhelm the system and render it inoperative. First, the IPCC has

[136] ILC ARSIWA Commentaries, p. 92.
[137] See *Nuclear Weapons Advisory Opinion*, Dissenting Opinion of Judge Koroma and Dissenting Opinion of Judge Weeramantry, at pp. 456–8.

made clear (which corresponds with factual situation) that the historical and ongoing contribution to climate change is unequal.[138] Secondly, the IPCC has also made clear that the harms are disproportionately experienced: "Vulnerable communities who have historically contributed the least to current climate change are disproportionately affected".[139] Thirdly, the ILC Commentaries on the Articles on State Responsibility discuss situations where the injury in question was effectively caused by a combination of factors only one of which is to be ascribed to the responsible State. In those cases, international practice does not support the reduction of reparation for concurrent causes.[140] "Unless some part of the injury can be shown to be severable in causal terms from that attributed to the responsible State, the latter is held responsible for *all the consequences*, not being too remote, of its wrongful conduct."[141] The Commentaries indicate that the onus falls on the responsible State what proportion of damage was not attributable to its conduct if it is to avoid responsibility for all consequences.

212. Furthermore, the fact that a case involving climate change is more complex than a more obvious bilateral transboundary case is inadequate reason to concede defeat, in effect, and claim that the principle is, or should be excluded. For a start, international courts and tribunals have shown themselves to be capable of dealing with complicated factual determinations in the past. Moreover, there have been considerable strides in the field of attribution science in recent years, which are swiftly and significantly improving the forensic ability to determine which emissions are causative of which injuries to which degree.[142]

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[138] IPCC, *Climate Change 2023: Synthesis Report*, p.42

[139] Ibid.

[140] The ILC Commentaries cite the *Corfu Channel* decision as an example, as the injured State, the United Kingdom, recovered the full amount of its claim against Albania based on Albania's failure to warn of the presence of mines, even though it had not positioned those mines itself: ILC Commentaries, p. 93, citing *Corfu Channel*, *Assessment of Amount of Compensation, Judgment*, 1CJ Reports 1949, p. 244 at p. 250.

[141] ILC Commentaries, p. 93 (emphasis added).

[142] See, for example, P. Stott, N Christidis et al, 'Attribution of extreme weather and climate-related events', (2016) *Wiley Interdiscip Rev Clim Change*; 7(1):23-41.; Knutson, T., J.P. Kossin, C. Mears, J. Perlwitz, and M.F. Wehner, 'Detection and attribution of climate change', in: Wuebbles et al (eds.),

213. Finally, it should be noted that the Articles on State Responsibility make specific provision for situations where a plurality of States suffer injury as the result of the same internationally wrongful act, such as a contravention of the duty of prevention/no-harm principle by a failure to act with due diligence.[143] Equally, the Articles make provision for a situation where several States are responsible for the joint commission of the same internationally wrongful act. In that situation, the general principle is that each State is separately responsible for conduct attributable to it, while the injured State has a right of recourse against all of the responsible States, provided that it may not recover more compensation than the damage it has suffered.[144]

## V. CONCLUDING OBSERVATIONS

214. As a Small Island Developing State, Samoa is one of those States which stands to suffer the most from a problem to which it has contributed the least. For this reason, binding obligations under international law to ensure protection of the climate system and the environment carry immense significance, as they represent one of the vital means by which international cooperation can be achieved. Without international cooperation, the chances for success seem slender; without international law, our prospects for surviving this crisis remain dim.

215. As Samoa has shown in its analysis of the customary no-harm rule, the various provisions set out in the UN climate change treaties, and in human rights instruments, States are today subject to a range of relevant obligations. Some of these obligations are owed to the individuals and groups who are most vulnerable to

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*Climate Science Special Report: Fourth National Climate Assessment, Volume I*, U.S. Global Change Research Program, Washington, DC, USA, pp. 114-132;
C Harvey, 'Attribution Science Linking Warming to Disasters Is Rapidly Advancing' *Scientific American*, 3 June 2022, https://www.scientificamerican.com/article/attribution-science-linking-warming-to-disasters-is-rapidly-advancing/; M Burger, J Wentz, R Horton, 'The Law and Science of Climate Change Attribution' (2020) 45 *Columbia Journal of Environmental Law* 1.

[143] ARSIWA, Article 46.

[144] ARSIWA, Article 47; ILC ARSIWA Commentaries, p. 124.

suffering the adverse impacts of climate change; some of them are owed to our neighbours and other States. While these diverse rules can be used towards a common goal of confronting climate change, each of them focuses on a different aspect of the climate crisis—its causes and effects—and each operates in a different way and is subject to different limitations.

216. In this written statement, Samoa has shown that States are bound under international law to adopt various behaviours, and we have explained the consequences which are expected to flow from any failures to abide by those rules. For those obligations which are binding on States, any failure to comply amounts to an internationally wrongful act, which necessarily entails consequences under the general law of State responsibility. To be sure, the duties of cessation and non-repetition, which are core components of the content of international responsibility, are desired outcomes when we face the collective need to stop emissions urgently. Just as critical is the material and financial support, needed to carry out all the action that our people and our home need to adapt and to survive. For this reason, we hope that the concept of international responsibility can live up to its name, and we hope for a concrete outcome that helps us in our need. We hope for a route to reparations.