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Pacific Community
Communauté du Pacifique

INTERNATIONAL COURT OF JUSTICE

Request for an Advisory Opinion on Obligations of States in respect of Climate Change

Expert Report for the Government of Kiribati
prepared by the Pacific Community (SPC)

Authorised by the Director-General of the Pacific Community,
Dr Stuart Minchin

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12 March 2024

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CONTENTS

INTRODUCTION AND EXPERTISE

1. The Pacific Community (SPC) supports Pacific Island countries and territories with scientific and technical solutions to address the region's greatest challenge, climate change. SPC is one of the Pacific region's scientific and technical intergovernmental organisations working alongside its Pacific Island country and territory (PICT) Members[1] to understand and develop effective solutions to the challenges they face. In this case, SPC's core technical abilities to provide the objective science behind observed impacts of the adverse effects of climate change experienced by Kiribati will help provide further substantiation of its state submission.

2. SPC's mandate and work programme addresses the many facets of climate change and its impacts on the region, including but not limited to marine ecosystems, fisheries,[2] coastal hazards, and human rights protections.[3] Additionally, SPC is the regional lead for the implementation of many climate change mitigation and adaptation programmes, including on sea level rise as well as loss and damage, and it sustainably manages Pacific maritime zones, ecosystems, and resources from 'ridge to reef' for current and future generations.[4] Its expertise in global and regional analyses of the impacts of climate change on the marine environment led to its inclusion in the advisory opinion proceedings at the International Tribunal for the Law of the Sea in Case No. 31.[5]

3. Finally, SPC is a consultative and advisory body to participating governments and administrations in matters affecting the economic and social development of its members within its scope, and the welfare and advancement of their peoples.[6] SPC sustainably manages social and environmental

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[1] The Pacific Community (SPC) has 27 members, including 22 PICTs: American Samoa, Cook Islands, Federated States of Micronesia, Fiji, French Polynesia, Guam, Kiribati, Marshall Islands, Nauru, New Caledonia, Niue, Northern Mariana Islands, Palau, Papua New Guinea, Pitcairn Islands, Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu, Vanuatu and Wallis and Futuna.

[2] Note that, under the United Nations Convention on the Law of the Sea (UNCLOS), fishing is singled out among the legitimate uses of the sea that are negatively affected by pollution ('pollution of the marine environment means the introduction by man, directly or indirectly, of substances or energy into the marine environment, including estuaries, which results or is likely to result in such deleterious effects as harm to living resources and marine life, hazards to human health, hindrance to marine activities, including fishing and other legitimate uses of the sea, impairment of quality for use of sea water and reduction of amenities'*)*, UNCLOS, 10 December 1982, 1833 United Nations Treaties Series (U.N.T.S.) 397 (entered into force 1 November 1994) at Article 1(1)(4).

[3] Article IV, §§ 6-10, of the Canberra Agreement establishing the South Pacific Commission (U.N.T.S., vol. 97, 227).

[4] For the full range of SPC's implementation for mitigation and adaptation programming, *see* Pacific Community Strategic Plan 2022–2031 (available at: https://purl.org/spc/digilib/doc/uzzya).

[5] *See* Request for an Advisory Opinion submitted by the Commission of Small Island States on Climate Change and International Law (Request for an Advisory Opinion submitted to the Tribunal), Intergovernmental Organizations invited to submit written statements pursuant to the Rules of the Tribunal.

[6] Article IV, §§ 6-10, of the Canberra Agreement establishing the South Pacific Commission (U.N.T.S., vol. 97, p. 227) at para. 6.

risks and impacts of all its activities in an inclusive manner, with a people-centred approach to maximise whole-of-society benefits. SPC is committed to openness and transparency, maintaining the highest ethical standards, and as such, the statements contained in this report are factually correct and materially complete.

METHODOLOGY

4. Kiribati requested this expert report to include the full scope of climate-related losses and damages experienced, including environmental, human health, socio-economic, and cultural impacts. From this request, several of SPC's largest and most relevant divisions provided the necessary science to put together this report, compiled by an international lawyer with a scientific background to ensure proper competencies.[7]

5. The science captured in this expert report is based on and built upon the best available science, including the Sixth Assessment Report of the United Nations Intergovernmental Panel on Climate Change (IPCC).[8] It covers climate impacts that have already been observed as well as those currently occurring, like temperature rise, wave inundation, flooding, marine environment degradation, and others.

6. It concludes that (i) reef islands (atolls) like Kiribati are highly vulnerable to the impacts of anthropogenic climate change; (ii) Kiribati has experienced significant harm as a result of anthropogenic climate change; and (iii) future losses and damages are bound to occur, with the extent of future harm depending on actions taken to avert, minimise, and address such losses and damages.

CLIMATE CHANGE–RELATED IMPACTS

7. Small island developing states, due to their geographical circumstances and level of development, are specially affected and particularly vulnerable to the adverse effects of climate change. For Kiribati, these well-documented harms include, but are not limited to, sea-level rise; coastal erosion; ocean warming, acidification, and deoxygenation; and adverse effects on pelagic and coastal fisheries; coral reefs and biodiversity; temperature rise; drought and water security; agriculture; and

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[7] SPC's relevant divisions include Geoscience, Energy and Maritime (GEM), Fisheries, Aquaculture and Marine Ecosystems (FAME), Land Resources Division (LRD), Human Rights and Social Development (HRSD) and Climate Change and Environmental Sustainability (CCES). The profiles of these divisional directors as well as the author's curriculum vitae for this expert compilation can be found packaged at the end of this report.
[8] Intergovernmental Panel on Climate Change (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, Cambridge University Press, 2022 (also available at: https://report.ipcc.ch/ar6/wg2/IPCC_AR6_WGII_FullReport.pdf).

food security.[9] These impacts are described under the progression of time and corresponding increased temperature projections, and where possible, including climate impacts likely to occur at 2.8°C, the level of warming projected to occur if nationally determined contributions (NDCs) submitted under the Paris Agreement are fully implemented.[10]

Sea-level rise

8. Climate change–induced sea level rise is an existential threat to Kiribati. This low-lying country, composed of 33 atolls and reef islands, stands on average just two metres above sea level, rendering it particularly vulnerable to rises in sea level. Rising sea levels have caused increased coastal erosion and saltwater intrusion into the freshwater lens.

9. The highest sea levels in Kiribati typically occur between January and March and in August/September with El Niño years typically having higher levels. Sea-level rise in the Kiribati exclusive economic zone (EEZ), as measured by satellite altimeters from 1993 to mid-2020, ranges from about 3–4 mm per year in the vicinity of the Gilbert and Phoenix Islands, and up to 4.5 mm per year in the vicinity of the Line Islands.[11] Kiribati experiences a semidiurnal tidal cycle, meaning two high and two low tides per day. The highest predicted tides of the year at Tarawa typically occur in August/September as well as December to February. For Kiritimati, the highest predicted tides are around August, and also from November to January. Since approximately 2009, the number of hours that exceed the 99th percentile threshold has been increasing. This is due to a combination of sea-level rise and subsidence occurring in Kiribati.[12]

10. Sea level across the three Kiribati island groups, measured by satellite altimeters (see Figure 1) since 1993, has risen between three and four millimetres (mm) per year. This rise is partly linked to a pattern related to climate variability from year to year and decade to decade. For Tarawa, the sea level trend is reported at 4.4 mm per year, slightly higher than the altimetry trends for the rest of Kiribati and this difference is likely attributed to subsidence occurring at Tarawa.[13]

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[9] *See mainly*, McGree, S., Smith, G., Chandler, E., Herold, N., Begg, Z., Kuleshov, Y., Malsale, P., and Rittman, M. SPC. *Climate Change in the Pacific 2022: Historical and recent variability, extremes and change.* Chapter 5 'Kiribati'; Gillett, R. and Fong, M. 2023. Fisheries in the economies of Pacific Island countries and territories (Benefish Study 4). Chapter 9: 'Kiribati', Noumea, New Caledonia: Pacific Community. SPC also received further data from experts at the Secretariat of the Pacific Regional Environment Programme (SPREP) in consultation with the Kiribati government.

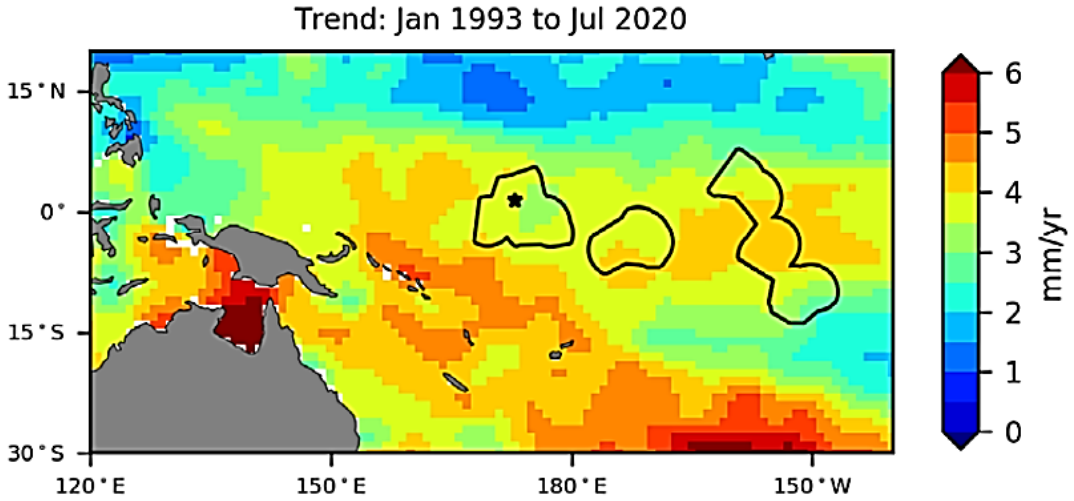
[10] Additional information on historical climate trends for Kiribati can be found in the Pacific Climate Change Data Portal available at http://www.bom.gov.au/climate/pccsp.

[11] McGree, S. et al., *Climate Change in the Pacific 2022*, 60.

[12] Brown, N. J., Lal, A., Thomas, B., McClusky, S., Dawson, J., Hu, G., and Jia, M. 2020. Vertical motion of Pacific Island tide gauges: combined analysis from GNSS and levelling. Record 2020/03. Geoscience Australia, Canberra. http://dx.doi.org/10.11636/Record.2020.003.

[13] *Ibid*.

Figure 1. Satellite altimetry annual trend for the Pacific from 1993 to 2020 with Kiribati EEZ highlighted in black.[14]



11. By the end of the century, sea level is likely to increase by 0.73 cm under intermediate climate change scenarios (SSP 2–4.5) in Kiribati (see Table 1)—a scenario where temperatures rise by 2.7°C in the 'shared socioeconomic pathway' (SSP). To understand the impacts of climate change better, there is an urgent need to invest in baseline data and strengthen monitoring efforts for informed decision-making on adaptation and mitigation as harm is already being observed in Kiribati.

Table 1. Decadal increments for projections of sea level rise in metres for Kiribati relative to the 1995–2014 mean sea level.[15]

Year	*Low* SSP1–2.6	*Intermediate* SSP2–4.5	*High* SSP3–7.0	*Very High* SSP5–8.5	*Very High – Low* SSP5–8.5 H+
1995–2014	0.00	0.00	0.00	0.00	0.00
2020	0.07 (0.05–0.10)	0.07 (0.05–0.09)	0.07 (0.05–0.09)	0.08 (0.06–0.10)	0.08 (0.06–0.11)
2030	0.13 (0.10–0.17)	0.13 (0.10–0.16)	0.13 (0.10–0.16)	0.14 (0.11–0.18)	0.14 (0.11–0.21)
2040	0.19 (0.14–0.24)	0.19 (0.15–0.25)	0.20 (0.15–0.26)	0.21 (0.16–0.27)	0.21 (0.16–0.34)
2050	0.26 (0.20–0.34)	0.28 (0.22–0.36)	0.29 (0.23–0.37)	0.30 (0.24–0.39)	0.31 (0.24–0.50)
2060	0.32 (0.25–0.42)	0.35 (0.28–0.46)	0.37 (0.29–0.48)	0.39 (0.32–0.51)	0.42 (0.31–0.71)
2070	0.40 (0.31–0.53)	0.44 (0.35–0.58)	0.47 (0.37–0.61)	0.51 (0.41–0.67)	0.55 (0.41–0.97)
2080	0.47 (0.36–0.64)	0.54 (0.42–0.71)	0.58 (0.46–0.77)	0.64 (0.50–0.84)	0.70 (0.50–1.27)
2090	0.54 (0.41–0.74)	0.63 (0.49–0.85)	0.71 (0.56–0.94)	0.79 (0.62–1.04)	0.88 (0.62–1.61)
2100	0.62 (0.43–0.86)	0.73 (0.56–1.00)	0.85 (0.64–1.14)	0.93 (0.69–1.28)	1.08 (0.69–1.96)
2110	0.71 (0.47–1.00)	0.83 (0.61–1.15)	0.95 (0.66–1.31)	1.05 (0.71–1.49)	1.28 (0.71–2.32)
2120	0.78 (0.51–1.11)	0.93 (0.67–1.30)	1.08 (0.75–1.50)	1.19 (0.82–1.71)	1.52 (0.82–2.65)
2130	0.85 (0.55–1.23)	1.02 (0.74–1.44)	1.21 (0.83–1.69)	1.33 (0.91–1.92)	1.78 (0.91–3.46)
2140	0.92 (0.58–1.33)	1.12 (0.80–1.58)	1.34 (0.92–1.87)	1.47 (1.00–2.12)	2.07 (1.00–4.58)
2150	0.98 (0.62–1.44)	1.21 (0.86–1.71)	1.46 (1.00–2.06)	1.59 (1.08–2.32)	2.39 (1.08–5.82)

[14] Figure from McGree, S. et al., *Climate Change in the Pacific 2022.* Chapter 5.8.2 'Trends' at 69. The star symbol indicates the location of the tide gauge at Tarawa.
[15] Graphic taken from PRIF: *Guidance for managing Sea Level Rise Infrastructure Risk in Pacific Island Countries*, Published: December 2021. Projections based on IPCC (2021) sourced from AR6 and interpolated to nearest decade and adjusted for the upper bound of the most likely vertical land movement defined by Fox-Kemper et al. (2021).

Shoreline change, coastal inundation (waves), and flooding

12. Studies have shown shoreline changes of reef islands in historical areas around the Tarawa atoll in Kiribati. Low-lying reef islands on atolls are threatened by the observed and anticipated effects of sea-level rise.[16] In the short term, the reef-island area and shoreline change over 30 years shows a substantial increase in size (driven largely by reclamations in urban South Tarawa), yet widespread erosion and high average accretion rates[17] are also observed that appear to be related to reclamations.

13. In rural North Tarawa, most reef islands show stability with localised changes in areas such as embayments,[18] sand spits, and beaches adjacent to, or facing, inter-island channels. Shoreline changes in North Tarawa are largely influenced by natural factors, whereas those in South Tarawa are predominantly caused by human factors and seasonal variability associated with El Niño–Southern Oscillation (ENSO). However, there are serious concerns for the future of South Tarawa reef islands as evidence shows widespread erosion along the ocean and lagoon shorelines and further encroachment onto active beach areas. This will disrupt the longshore sediment transport, intensify erosion, and increase the susceptibility of reef islands to the adverse impacts of sea-level rise.[19]

14. For Kiribati, the average sea state is dominated by swells from the south. The annual mean wave height is 0.78 m, the annual mean wave direction is 209° and the annual mean wave period is 12.17 seconds (s). In the Pacific, waves often come from multiple directions and for different periods.[20] In Betio, there are often more than seven different wave direction/period components with the majority coming from between south to southeast (see Figure 2). The significant wave height shows little change between the seasons at Betio. However, wave period is significantly higher from March to June with wave height peaks in winter, and wave period peaks in May. Typically, these changes are small but can be important during phenomena such as ENSO where extreme wave events[21] are likely to occur more frequently and can have significant negative impacts on coastal infrastructure and affect coastal hazard and adaptation planning, particularly in the face of sea-level rise.

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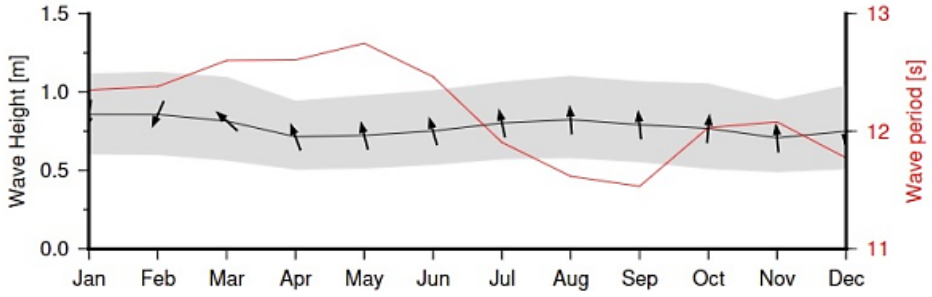
[16] Biribo, N. and Woodroffe, C.D., *Historical area and shoreline change of reef islands around Tarawa Atoll, Kiribati*, Sustainability Science 8 'Special Feature: Understanding and Managing Global Change in Small Islands, 345–362 (2013).
[17] Vertical accretion refers to the build-up of deposits or sediment in flood areas from periodic flooding of its banks and occurs in successive layers measured over time. The ability of land to sequester sediments and expand its volume is directly related to the pace of rising sea levels.
[18] This refers to a recess in a coastline forming bay-like formations often linked to irregular corrosion or modification of groundmass.
[19] See note 17 above.
[20] McGree, S. et al., *Climate Change in the Pacific 2022.* Chapter 5.9 'Waves', 70.
[21] Extreme waves are characterised as waves that are greater than twice the size of surrounding waves, are very unpredictable, and often come unexpectedly from directions other than prevailing wind and waves.

Figure 2. Monthly wave height (black line), wave period (red line) and wave direction (arrows).



Ocean warming, acidification, and deoxygenation

15. The projected changes to the key features of the tropical Pacific Ocean surrounding Kiribati relative to the long-term averages are expected to result in increases in sea surface temperature (SST) and ocean acidification (see Table 2). Under climate change, the surface area of the Pacific Equatorial Divergence Province (PEQD)—the part of the Pacific where Kiribati lies—is projected to contract and the convergence zone with the Warm Pool is expected to move eastward.[22] Changes in the position of this convergence zone due to ENSO will have a major influence on the abundance of tuna in the EEZ of Kiribati, which will result in significant losses of GDP and threaten food security.[23]

Table 2. Projected changes to the ocean surrounding Kiribati.[24]

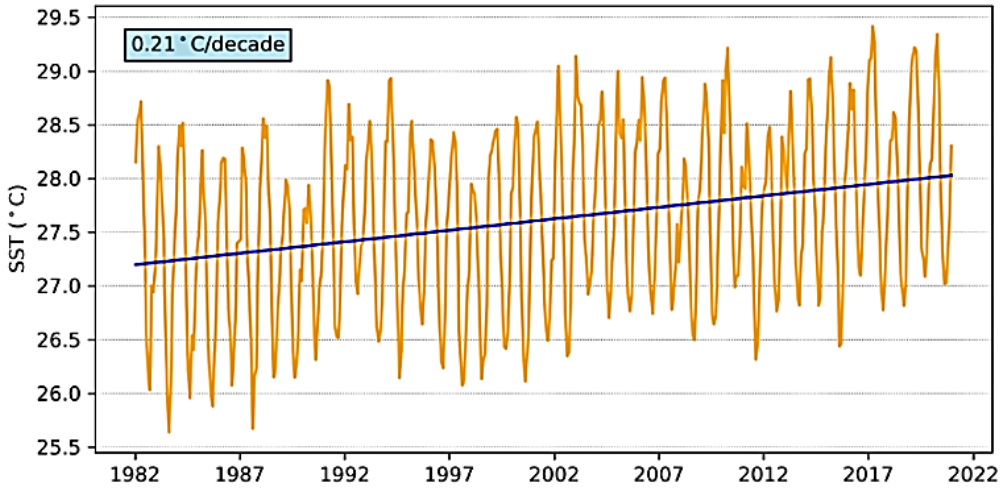
Ocean feature	1980–1999 average	Projected change			
		B1 2035	A2 2035	B1 2100*	A2 2100
Sea surface temperature (°C)	29.2[a]	+0.6 to +0.8	+0.7 to +0.8	+1.2 to +1.6	+2.2 to +2.7
Sea level (cm)	+6 since 1960				
IPCC **		+8	+8	+18 to +38	+23 to +51
Empirical models ***		+20 to +30	+20 to +30	+70 to +110	+90 to +140
Ocean pH (units)	8.08	-0.1	-0.1	-0.2	-0.3
Currents	Increase in South Pacific gyre	SEC decreases at equator; EUC becomes shallower; SECC decreases and retracts westward			
Nutrient supply	Decreased slightly	Decrease due to increased stratification and shallower mixed layer			< -20%

* Approximates A2 in 2050; ** projections from the IPCC-AR4; *** projections from recent empirical models {Chapter 3, Section 3.3.8}; a = average for EEZ derived from the HadISST dataset; SEC = South Equatorial Current; EUC = Equatorial Undercurrent; SECC = South Equatorial Counter Current.

[22] Bell J.D., Johnson J.E., Ganachaud A.S., Gehrke P.C., Hobday A.J., Hoegh-Guldberg O., Le Borgne R., Lehodey P., Lough J.M., Pickering T., Pratchett, M.S. and Waycott M. (2011), *Vulnerability of Tropical Pacific Fisheries and Aquaculture to Climate Change, Summary for Pacific Island Countries and Territories*. Secretariat of the Pacific Community, Noumea, New Caledonia.
[23] *Ibid.*, 92. Modelling for yellowfin tuna is now in progress and the trends for bigeye tuna are projected to decrease progressively under moderate emissions scenarios.
[24] Table from *Ibid*., 91.

16. Ocean temperature, as measured by the Tarawa tide-gauge, reaches on average a maximum of approximately 30°C from June to October, but individual months can get as high as above 32°C from September to November; minimum average temperature is 29°C in February.[25] Equatorial locations typically have little average variation but can drastically change in a given year depending on the ENSO cycle. The variability in temperatures between September and February is reflective of the peak months of ENSO.[26] The 1981–2021 sea surface temperature (SST) averaged over the EEZ regions is shown in Figure 3.

Figure 3. Sea surface temperature from satellite observations averaged across the Kiribati EEZ (orange line) overlaid by the linear regression trend (blue line).[27]



Coastal fisheries, pelagic fisheries and tuna stock

17. For an atoll island country like Kiribati, the significance of its fishery sector cannot be understated. Two sources of data were used to estimate the value of subsistence fishing in Kiribati: Ministry of Fisheries data and the 2006 Household Income and Expenditure Survey (HIES). Estimates of the economic value of subsistence fishing using these two sources differed significantly, probably because the scope, coverage and timing of the data sources are different. The gross value of subsistence fishing, estimated from multiple data sources, was between A$3.7 million and A$38.5 million per year. The lower estimate of A$3.7 million per year is unlikely to be a true reflection of actual subsistence value. Instead, the Ministry of Fisheries estimate of net value of A$9.6 million

[25] McGree, S. et al. *Climate Change in the Pacific 2022.* Chapter 5.7 'Sea surface temperature', 66.
[26] El Niño and La Niña have perhaps the strongest influence on year-to-year climate variability in the Pacific. These phenomena are a part of a natural cycle known as El Niño–Southern Oscillation (ENSO) and are associated with a sustained period (many months) of warming (El Niño) or cooling (La Niña) in the central and/or eastern tropical Pacific. The ENSO cycle operates over timescales from two to seven years. *Ibid*., 10.
[27] Figure from *Climate Change in the Pacific 2022,* 67. The data show a trend of 0.21°C per decade with a 95% confidence interval of ±0.06°C.

to A$19.2 million per year is used. Subsistence fishing costs are minimal, so the value added was similar to the gross value, approximately A$9.6 million to A$34.5 million per year.[28]

18. The analysis of commercial fishing was done for two categories: small-scale (household-level) commercial fishing and industrial fishing. The economic value of commercial fishing was estimated from various data sources. The gross value of small-scale commercial fishing ranged from A$7 million to A$25 million per year. This estimate included small-scale tuna fishing, with a gross value of about A$4 million per year. Small-scale inshore commercial fishers generally use outboard engines and therefore their operational costs are higher than those of subsistence fishers. In this analysis, fuel costs were assumed to be 60% of the gross output, leaving a value added of A$2.8 million to A$10 million.[29]

19. It is estimated that the production from coastal subsistence fisheries in Kiribati in 2021 was 11,000 tonnes, worth A$30 million to fishers. The HEIS 2019–2020 indicates that 44% of households in Kiribati participate in fisheries activities. In 2021 the tuna catch by the locally based longliners was 2,686 t, with an in-zone value of A$17.6 million (see Table 3).

Table 3. Locally based offshore catches in Kiribati waters.[30]

	2017	2018	2019	2020	2021
Volume (t)	1,393	998	3,429	4,768	2,686
Delivered value (US$)	7,411,113	6,844,765	21,406,374	32,539,382	16,965,033
In-zone value (US$)	5,558,335	5,133,574	16,054,781	24,404,537	12,723,775
In-zone value (A$)	7,170,252	7,289,675	23,118,884	32,213,988	17,558,809

Source: FFA (2022b), with modifications

20. Tuna is the largest source of revenue for Kiribati. The latest *Fishing License Revenues in Kiribati* gives the fishing license revenue for 2017 as A$169.0 million, for 2016 as A$143.3 million, and for 2015 as A$197.8 million.[31] The fishing license revenue is given in the 2023 Recurrent Budget, which shows that in 2021 it was A$161,445,289; so with the total government revenue of A$246,458,807, the fishing license revenue equates to 65.5% of total government revenue.[32]

[28] Gillett R. and Fong M. 2023. Fisheries in the economies of Pacific Island countries and territories (Benefish Study 4). Noumea, New Caledonia: Pacific Community, available at https://www.spc.int/DigitalLibrary/Doc/FAME/Manuals/Gillett_23_Benefish4.html.
[29] *Ibid*., 95.
[30] Table from *Ibid*., 98.
[31] MFMRD 2019. Fishing License Revenues in Kiribati, 2018 Report. Ministry of Fisheries and Marine Resource Development and Ministry of Finance and Economic Development, Tarawa.
[32] NEPO. 2022. Recurrent Budget: Building Back Better and Stronger. National Economic Planning Office, Ministry of Finance and Economic Development, Tarawa.

21. The improved fishing revenue was responsible for a significant turnaround in national finances. Before 2012, the budget was regularly in deficit, and there was an ongoing reliance on drawdowns on Kiribati's sovereign wealth fund, the Revenue Equalisation Revenue Fund, or RERF. However, from 2013, there were significant surpluses and contributions to the RERF. Examination of the government revenue estimates between 2012 and 2015 reveals a strong conservative bias in fishing license forecasts, with actual revenue exceeding estimates by $318.4 million over this period. By contrast, budget documents estimated that the net financing need was $91.8 million in deficits across the four years. As a result, there was a significant surplus of cash flowing onto the government balance sheet. Non-RERF cash balances increased from $11.3 million in January 2013 to an estimated $173.5 million by the end of 2018 (Ministry of Finance and Economic Development [MFED], 2018), and the RERF balance grew from $613.9 million to $994.4 million over that same period—just short of the government's $1 billion target. State-owned enterprise commercial debts with ANZ were also eliminated within this timeframe, and the government invested $10 million in a land purchase in Fiji.[33]

22. Of all the PICTs, tuna dominates the nearshore pelagic catch in Kiribati. These coastal fisheries take only a tiny fraction of the regional catch of skipjack and yellowfin tuna, the vast majority of which are targeted by offshore industrial fishing, and which do not contribute to the domestic fish supply of PICTs. Further, fish and invertebrates from reefs, mangroves, and other nearshore habitats dominate the catch targeted for subsistence fishing, the true value of which is likely underestimated for Kiribati. Further, Kiribati's location in the middle of the Pacific Ocean is a breeding and feeding ground for tuna, which contributes to the health of the oceans and global food security, not just that of Kiribati. This means there could be longer-term economic and environmental costs for Kiribati, the region and beyond as climate changes impacts worsen.

Food security

23. Kiribati has the highest per capita consumption of fish of any country in the world.[34] Kiribati's dependence on its fisheries resources, in particular tuna, has serious implications for its economic development and food security. For example, tuna access fees contribute to approximately 50% of government revenue and 25% of its GDP (see Table 4 in conjunction with above analyses). A significant medium- to long-term challenge in Kiribati is ensuring future food security without compromising lagoon fishery sustainability. Unsustainable fishing practices exacerbate climate-driven economic, environmental, and social impacts on the country, and climate change affects habitat availability and quality. Additionally, coastal and lagoon fisheries play a significant role in

[33] Benefish Study 4, *supra* note 28, 106.
[34] Food and Agriculture Organization (FAO), *The Republic of Kiribati*, Country Brief (2018).

generating local employment and livelihoods, further affecting food security for Kiribati in the face of global climate change.[35]

Table 4. Fishing contributions to gross domestic product (GDP) in A$ thousands.[36]

	2017	2018 r	2019 r	2020 r	2021 p
Informal sector fishing for cash sales	5,678	6,183	5,924	6,403	5,959
Seaweed growers	75	75	75	75	75
Informal sector fishing for subsistence	9,464	10,305	9,874	10,672	9,932
Formal sector fishing	4,973	10,229	9,306	6,223	8,226
Total fishing contribution	22,207	26,792	25,179	23,373	24,192
Kiribati GDP at market prices	245,532	262,640	252,344	258,139	302,793
Fishing as a % of GDP	9.0%	10.2%	10.0%	9.1%	8.0%

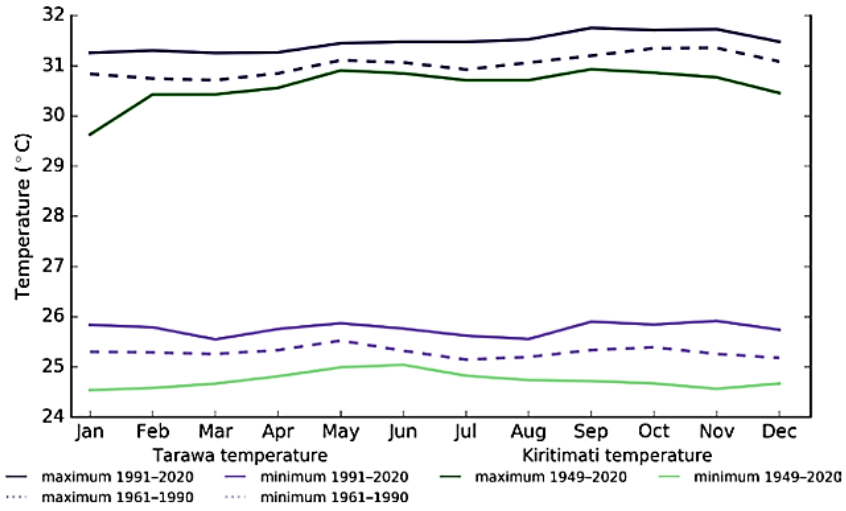
Source: NSO (unpublished data); r = revised; p = provisional

Temperature rise

24. Kiribati has a hot, humid tropical climate, with air temperatures very closely related to the temperature of the oceans surrounding the small islands and atolls. There has been a clear shift towards warmer average monthly temperatures during 1961–1990 and 1991–2020, with warmer average air temperatures occurring in all months throughout the year for Tarawa (see Figure 4).[37] Average annual and seasonal temperatures have increased significantly in Tarawa such that a relatively small size of year-to-year fluctuations in temperature can be attributed to its equatorial location.

[35] WorldFish, *Fish for the Future: Fisheries development and food security for Kiribati in an era of global climate change*, CGIAR Consortium (2014).
[36] Table from *Ibid*., 103. Only limited information is available on the method used by the National Statistics Office (NSO) to estimate the fishing contribution to GDP, and the NSO website was not functional during late 2022 and early 2023. HIES data is used to determine the value added to the informal fishing sector. The yearly exchange rates to the United States dollar between 2014–2022 are as follows: 1.22, 1.37, 1.37, 1.29, 1.42, 1.44, 1.32, 1.38, and 1.53, respectively.
[37] McGree, S. et al. *Climate Change in the Pacific 2022.* Chapter 5.5 'Air Temperature', 64.

Figure 4. Maximum and minimum air temperature seasonal cycle for Tarawa (purple) and Kiritimati (green) and for the period of 1961–1990 (dotted lines) and 1991–2020 (solid lines).[38]



Drought and water security

25. Kiribati is experiencing acute water shortages resulting from a prolonged La Niña weather pattern and low rainfall. Prolonged episodes of this result in drought and can lead to significant water security issues. Already in 2022, Kiribati experienced a state of emergency due to severe drought. As drought in Kiribati worsens, so do the challenges and threats to water via contamination, brackishness, inaccessibility, and freshwater availability to large portions of the population. For example, water assessments covering 1875 households in Betio, the largest township of Kiribati's capital city of South Tarawa, show that the water for 73% of tested households showed levels of contaminants, indicating that contamination of drinking water in Betio is widespread.[39] Reports from the majority of island councils on the outer islands point to the fact that accessing freshwater is becoming increasingly difficult and that the prolonged drought has already taken a toll on livelihoods and food security of communities in these islands.[40] This situation of high water stress due to low rainfall and dry conditions is expected to persist, especially in La Niña seasons.

Agriculture

26. Access to sufficient clean water resources, coastal defences, and adequate food crop development is limited on atolls like Kiribati. To address these development issues, the Government of Kiribati is engaged in numerous programmes and projects to enhance its resilience, especially with regard agriculture and climate change impacts. Among these is the Kiribati Livestock Production Concept

[38] SPC notes that there is a high amount of missing temperature data for Kiritimati. The average 1949–2020 temperature cycle is available.
[39] *See* Pacific Drought Report – May 2022, available at https://reliefweb.int/disaster/dr-2002-000244-kir.
[40] *Ibid*.

to support Climate Change Adaptation and Food Security. Under the concept, the Kiribati Government seeks to address food security by increasing national capacity in the pig and chicken production sectors.[41]

27. In 2011, the Government of Kiribati requested new regional climate change programmes to support communities on outer islands in their efforts to adapt to the adverse impacts of climatic changes and variability, and to strengthen the island's response capacities to man-made and natural hazards with a holistic and integrated approach. Instead of focusing on only selected villages or sectors, this Whole-of-Island Approach targets the whole island ecosystem, communities and government structures while also considering its relationships with the national government, partners, communities and their land.[42]

Coral reefs and biodiversity

28. Ocean acidification has been increasing in Kiribati's waters and will continue to increase, which threatens coral reef ecosystems. Biodiversity and the natural environment in Kiribati face extreme pressures due to climate change, and loss of some species of coral, fish, bird, and terrestrial species is likely without proper and effective conservation measures.

29. Additionally, ocean acidification can play a large role in coral reef health. For example, calcium carbonate is used for the creation of external skeletons for multiple marine organisms such as plankton, coral reefs, and shellfish. Increases in atmospheric carbon dioxide (anthropogenic) are understood to lead to reduced levels of calcium carbonate saturation on the ocean's surface via an increase in ocean acidification thereby decreasing carbonate ion concentrations. As a result, there are serious concerns that if carbonate minerals, such as aragonite, become undersaturated, it could undermine that already fragile state of current ocean ecosystems.[43]

30. Kiribati has a large area of coral reefs as well as small areas of mangroves, deepwater, and intertidal seagrasses as well as intertidal flats that support many important fisheries species. Climate change is expected to add to the existing local threats that these areas already face, resulting in declines in the quality and area of all habitats (see Table 5).[44]

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[41] This concept is supported by SPC's Land Resources Division and the SPC, USAID and GIZ climate change programmes, which began in 2013.
[42] Learn more about this initiative at https://ccprojects.gsd.spc.int/kiribati-video.
[43] World Bank Group, *Climate Risk Country Profile Kiribati* (2021), available at https://climateknowledgeportal.worldbank.org/sites/default/files/country-profiles/15816-WB_Kiribati%20Country%20Profile-WEB.pdf
[44] McGree, S. et al. *Climate Change in the Pacific 2022.* Chapter 9 'Kiribati', 93.

Table 5. Projected changes to coastal habitats in Kiribati.[45]

Habitat feature[a]	Projected change (%)		
	B1/A2 2035	B1 2100*	A2 2100
Coral cover[b]	-25 to -65	-50 to -75	> -90
Mangrove area[c]	10	50	60
Seagrass area[c]	< -5	-5 to -10	-10 to -20

* Approximates A2 in 2050; a = no estimates in reduction of intertidal flats available; b = assumes there is strong management of coral reefs; c = indicative estimates from Fiji and French Polynesia {Chapter 6}.

CONCLUSION

31. Climate change is causing significant harm to Pacific Island countries and territories, with atoll nations like Kiribati being injured and/or specially affected due to reef islands' extra vulnerability to the adverse effects of climate change. This harm materialises in the form of increasing sea level rise, ocean temperatures and ocean acidification, coastal erosion, extreme wave events, prolonged drought, and other impacts.[46] Projections indicate that these impacts are bound to intensify with climate change, threatening to render some or all land territory of these countries uninhabitable. The extent to which this existential threat materializes will heavily depend on actions taken to curb anthropogenic greenhouse gas emissions—the vast majority of which is generated outside of its borders—as well as measures to adapt to climate change and respond to the loss and damage it causes.

[45] Table from *Ibid*.
[46] *See generally*, McGree, S. et al., *Climate Change in the Pacific 2022.* Chapter 9 'Kiribati'; and Bell et al., *Vulnerability of Tropical Pacific Fisheries and Aquaculture*.

Obligations of States in Respect to Climate Change
(Request for Advisory Opinion)

01 – Statement of Mr. Kaon Tiamere, Director of Oceanic Fisheries Division, Ministry of Fisheries & Marine Resources Development

20th February 2024

BACKGROUND

1. My name is Kaon Tiamere, and I am a national of the Republic of Kiribati. I was born on Tarawa and my current address is Betio.

2. The declarations of fact made in this Statement are based on my direct knowledge of the facts.

3. I joined the Ministry of Fisheries and Marine Resources Development in 2004 after I graduated with a BA in Marine Affairs & Geography from the University of the South Pacific in 2003. I worked for coastal fisheries but joined Oceanic Fisheries Division (OFD) in 2005 for 9 years as a Fisheries Officer and Senior Licensing Officer. My main role was to look after licensing and fishing revenue. In 2015, I received a Master in Fisheries Policy (honored) from the University of Wollongong. Upon return, I continued work for OFD as Principal Fisheries Officer, again in the licensing department until 2022 when I became Director of the division.

4. My position as Director of Fisheries is challenging. This is primarily due to Kiribati being a member to a number of regional, subregional and international fisheries organizations which oblige Kiribati to comply with agreed measures adopted at these conventions. Continued change in fisheries dynamics, administration, technology and climate change mean more commitments and obligations for the division moving forward. The Director's mandate is to ensure maximizing economic benefits from oceanic fisheries, tuna in particular, and at the same time managing these resources sustainably for current and future generations. The power of the Director is provided in the Fisheries Act 2010.

5. The major objectives of the department of fisheries are contained in the Ministry Strategic Plan. These include the following main objectives:

- Advancing Sustainable Ocean/Fisheries Investment, Blue Finance and Economic Prosperity
- Sustainable Management & Building Resilience of Ocean Resources
- Institutional Strengthening, Partnerships and Inclusive Human Capital Development

6. Of the many factors affecting fishing operations and fishing revenue, climate change is one of them. The continual changing nature of climate shift, and limitations to determine the movement of fish stock due to climate change, is a major challenge in achieving or meeting economic target set by the Government.

7. Speaking about sustainability of the tuna fisheries and the economic yield that would be derived in the long term from the fishery, the biggest concern is climate change and the potential impact on our economy and the livelihood of the people dependent on them. Beside fishing revenue as the main economic earner to the Government, tuna also provides small-scale social-economic activity and sustenance to local communities.

COMMERCIAL FISHERIES

8. Commercial fishing is the main economic arm of the Government from licensing of fishing vessels. Major distant water fishing nations have been fishing in our Exclusive Economic Zone (EEZ) since Kiribati declared its 200 nautical mile EEZ and continue to play that significant role to generating income for the Government. **Fishing revenue contributes, on average, about 72% to Government total budget annually**[1]. Main fishing companies are from Korea, Taiwan, China, the EU and the US. There are also fishing companies from neighboring Pacific Islands currently licensed under some regional arrangements. The main role of fisheries (oceanic) to Kiribati falls under livelihood, employment and economic growth.

9. **As far as commercial tuna fishery is concerned, new scientific projections (in 50 years' time)[2] on movement of tuna stocks in the future claims that tuna will move to the east due to change in oceanographic conditions (climate change). Based on these findings, there are two scenarios that likely to occur. First is the horizontal shift of tuna from the west to the east. Normally tuna congregate in the western Pacific (off the eastern coast of PNG, FSM and Solomon Islands waters) and if these claims are likely to be true, then it would mean a loss to Pacific Islands lie in the western Pacific who rely on tuna resources for economic development and food security.** For Kiribati, the west to

[1] Fishing licence revenue 2018 - report jointly produced by MFED and MFMRD available at https://www.mfed.gov.ki/publications/fishing-license-revenue-2018-report
[2] "Pathways to sustaining tuna-dependent Pacific Island economic during climate change accessible at https://doi.org/10.1038/s41893-021-00745-z

east migration of tuna in future could mean a gain in some respect given the position of Kiribati's three (3) EEZs (Gilbert to the west, Phoenix at the center and Line to the east) and the similarity of the shift to El Nino conditions – the event associated with increased productivity in our EEZs, increase in sale of fishing days and escalation of fishing revenue. However, **the question to ask is what the range of the shift is and whether the 3 EEZs remain within the shift.**

Another important finding from the study is the likely vertical migration of tuna stocks to temperate zones as temperature of the ocean increases. This is a concern to Kiribati if fish move poleward away from the equatorial region (that's where our islands lie) and if fish also move deeper to greater depth to avoid increase in sea surface temperature.

10. **Change in climate conditions over the long run affects the distribution pattern of tuna fisheries over large ocean areas. This would have a direct impact on fishing operations, profitability and viability of the fisheries industry.** For instance, the tendency of skipjack tuna moving east in future would mean fishing companies targeting this species need to change fishing strategy, tactics, operation bases, home port, etc. Most fishing companies and landing ports are located in Asia so the change in fish distribution would involve costly operations fishing further to the east, however it could mean development in the eastern part of the Pacific. In Kiribati context, this would be good for the Line Islands, Xmas in particular.

COASTAL FISHERIES

11. For coastal fisheries, climate change in particular the warming of the Earth due to the increase in carbon dioxide (CO_2) in the atmosphere would lead to ocean acidification and the dead of coral ecosystems and the fisheries therein.

12. For Kiribati fisheries, offshore fisheries normally refer to fisheries fished or harvested outside the jurisdiction of coastal fisheries, that is outside 3 nautical miles.

NATURAL RESOURCE MANAGEMENT

13. Fisheries or tuna for instance is a natural resource but fisheries management is totally different from natural resources such as minerals or oil for a number of reasons. In the case of tuna, these are highly migratory and transboundary species therefore their management require collective effort from all players (fishers, managers, Government, etc.) participating in tuna fisheries. More localized resources e.g., reef fish are easier to manage than those of migratory in nature.

14. The management of commercial fishing faces multiple challenges due to climate change impacts since climate change can affect stocks in many ways such as shift in stock distribution, biological behavior, health and abundance, habitat loss (for coastal fisheries).

15. The marine environment is a complex ecosystem and a lot of interactions and connectivity between species one way or another but in a balance environment. Climate change impacts on a particular species (directly or indirectly) would have an impact on other species dependent on it.

PREPARING FOR THE FUTURE

16. The economic impact of climate change on fishing revenue needs to be looked at especially how much fish will move away (biomass) and the economic value of the loss it would entail to tuna-dependent countries like Kiribati.

17. Despite the projections, there are also uncertainties in the models however, **what is important is not the question about "IF" but "When" these events will occur and "How" we respond to them.**

Obligations of States in Respect to Climate Change
(Request for Advisory Opinion)

02 – Statement of Mr. Brian Ritang, Betio Community, South Tarawa

22nd February 2024

BACKGROUND

1. My name is Brian Ritang, and I am a national of the Republic of Kiribati. I am 53 years, and my current address is Betio[1].

2. The declarations of fact made in this Statement are based on my direct knowledge of the facts stated.

3. I have just moved to this place in the last two years. So right now, this is my home. Before, I used to live in Bikenibeu. I am a grandfather of four children, I have five sons and one daughter. My grandfather is from Tamana and Onotoa. My grandfather is the one who composed the national anthem. From my mother's side is from South Tarawa and Maiana. I speak Kiribati language and my second language is English.

4. I was born in 1970's at the central hospital which is now the Ministry of Health in those days.

5. I'm a retired policeman since 2015 and I live here in Betio since then because I had to move from my governmental house. I came here because this is our home from my mother's side. It is right on the beach at the very end of Betio. I used to live here when I first married, and I came here with my wife.

6. It's very difficult to describe this land. Most of the lands are owned by the government and before, right at the end where they used to have the peak size, there's a bit of land, that's where they own. There was only a little bit of land, but then after some years it expanded in the 90s. And so, these areas where we reside now, came about maybe 1996.

[1] See photo 1, Mr Brian Ritang in front of his house

7. In the past, my mother used to plant breadfruit trees, but they can't live long. They only last two years and then they died. I guess the soil is not well fertilized anymore. The only trees which are still alive are the coconut trees. They can grow near the sea.

8. For the animals, we have pigs only and they are important, so we save them for big feast or celebrations.

COMMUNITY

9. The community is made of women and men. The work within the community is determined by the decisions made by the elders. Work is not determined by gender, we help each other unless if the work requires strength, then men will usually do such kind of heavy work.

10. Elders are considered important knowledge keepers in our community. They know how to build canoes, fishing, cutting toddy. They also know how to build local houses, small and big.

11. Conflicts arise mainly about fishing. People either go fishing with engine boats or canoes. In the southern, you cannot go on the boat with the engine, the houseboat engine is restricted. So, it creates conflict between the community and the local government. The elders are enforcing these decisions and make punishment. Although it is not fair, we respect the decision.

WATER

12. For water, we have two types of water: the one for cooking coming from the pipe and the one for drinking from the tank. The Government supplies water two or three days a week. For us here, it's on Tuesdays and Thursdays. Recently, the rain continued to fall so all the tanks are full and have reserved them for our needs. Once the tank is empty, we must buy the water from the private company and the price is 10AUD a tank. So, if you have a 10-ton tank, it is 100 AUD plus the truck which brings the water which costs 30 AUD. Three weeks ago, our water tank was dry, so we just filed it up with the supplier.

TRADITIONAL KNOWLEDGE

13. When my grandfather was alive, he only passed down his traditional knowledge to his favorite grandchild. My grandfather didn't favor me, so there was no chance that he was going to pass the knowledge to me. I guess there is no time for the family to get together in the evening and do it. There's no time for that. Each family is different, but for me this is how traditional knowledge is passed.

14. As I talked before, my grandfather was a man of the office. He was an educated man and so, he didn't know much about the traditional knowledge or maybe did know but he didn't want to dig into it.

COASTAL EROSION

15. Before 1996, the land I'm talking about was in the middle of the sea there. This place where the ports are and here, we are sitting in the middle of the sea in the 19th. Later, the sand came where we are; only two years ago, the little boys used to play soccer 15 meters from that point up to the sea because there was a land there. This land has disappeared. That side is disappearing, but that side is coming[2].

16. My house is situated where the land is disappearing, and I try to make it change to prevent erosion and sea-level to reach my house. I don't want to be victimized by the change, so I keep staying on this. Last year in October-November, my wife and I were having lunch, and the tide roughly came to the shore in a few minutes. That was very surprising. After, there was a strong wind from the west. There was an extension in front of my house and the waves broke it. Two hours later, the tide was very high like if it was the full moon or the first moon. My house was flooded with the sea water and all my belongings were wet. So, we moved in our reserve home which is for the community[3].

17. After this event, we have tried to make protection against the sea with traditional soft measures or traditional wood tied with coconut leaves with the support of the climate change division[4]. It didn't last more than two months. The Office of Te Beretitenti (President) then gave big sandbags[5] for us to fill in but I prefer the traditional way.

18. When we built the sandbags, there was an argument between my neighbor and I because I had to move some things onto his boundary. This is how it is when you're trying to find space and you might go over someone else's boundary, conflicts arise. Some conflicts are easily settled between the neighbors whereas if some are not resolved they result as Court Cases.

FOOD

[2] See cadastral data provided by the lands' division 1970s vs 2020
[3] The community hall is situated inside the village, behind Brian's house. It is an open elevated place.
[4] Ministry of Environment, Land, Agriculture and Development
[5] See photo 2

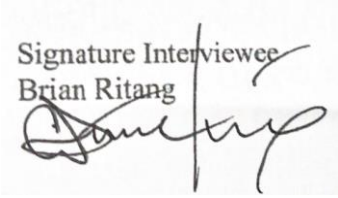
19. Our community eat fresh fish from the lagoon, rice and bread. Sometimes if we have some cash, we go to buy some vegetables. If I could, I would prefer to make a plantation rather to buy the big price of the other locals.

20. Here, if we have money, we spend it in a few minutes. The unemployment funding from the Government gives 50AUD every month for those who are unemployed from 18 and above so we buy rations of rice for the next one or two weeks.

21. Before, when I visited my mother here, there were breadfruit trees, but they have all gone because of the sea water which brings salt to the soil. Even coconut trees are dying. There is no way to make a plantation here due to the sand is not fertilized so the impact on us is our health with a lot of diabetes, hypertension, and blindness. I do have diabetes.

CLOSING

22. To finish, I want to say Please help us, any help. Thank you.



Signature Witness: Benateta Atanteora
Kiribati State Attorney

Photo 1: Mr Brian Ritang in front of his house

Photo 2: the sandbags provided by the Government

Cadastral plan of Betio 1970s vs 2020 showing the place where the coastal erosion

Obligations of States in Respect to Climate Change
(Request for Advisory Opinion)

03 – Statement of Mr. Timereta Eria, Tebikenikoora Community (Eita), South Tarawa

23rd February 2024

1. My name is Timereta Eria[1], and I am a national of the Republic of Kiribati. I am 52 this year.

2. The declarations of fact made in this Statement are based on my direct knowledge of the facts stated.

3. I was born here on the island of Tarawa and have always lived in Tebikeinano - we call it Tebikenikoora which means golden beach - since the church has been established.

4. My dad was the first leader of this church, he helped everyone and understood English. Both of my parents passed away. I have 4 brothers and one sister.
   I am married since 1997 and I have 5 children, only two now. 3 passed away when they were very young.
   My grandfather from my dad was a farmer and helped with traditional medicine. From my mother side, my grandfather started the church.

5. For my work, I am currently the Principal of the Bible School at the Assembly of God Church since 2004.

PLACE

6. Tebikenikoora, this piece on land on the beach, has become a land for the Church. It currently includes more than 50 homes with a pre-school, school and a community hall[2] where meetings are held regularly.

[1] See photo 1
[2] See photo 2

At first, the men looked at it as a good place because it was not used and had a good view on the ocean. Before, the land was connected to the main road only by a walk pathway, we built the road in 1996.
Behind us, between this land and the main land, there is mangrove.
This land is flat, less than a meter higher than the sea level.

7. The only plant growing here is the coconut tree but it cannot grow to close from the sea. We try to plant cabbage but the soil is not good, we make compost to fertilize it because the soil is very poor and have to elevate the ground.

SEA LEVEL RISE

8. When Kings tide happen, twice a month, full moon and new moon, the sea is coming in most of the places and goes around 40 cm.
   Before, this was not a problem, the sea was not coming so high.
   The problem started around 2000 when the tide was so high so the sea from the lagoon forced its way to enter in the land. Since that time, we have been facing this problem, and it seems to be rising more than before.
   Places we didn't consider to be a problem before, now we need to put more sands and find solutions. More than half of the community is facing the same issue.

9. Most people now are aware of that problem, but it is hard to get prepared because sometimes it happens late in the afternoon or early in the morning. When in the morning, the children are sleeping on mats and can get washed by the sea.
   Now, people are trying to build houses which are elevated[3] but it needs a lot a wood, so it is very expensive.
   In our community, less than 20 people are working in the private companies and the government. Those who are not working, they go fishing for their food.

FOOD

10. Especially in South Tarawa, we eat imported food such as rice, tin meats and fresh fish. It is hard to include greens.

11. In our community, we can only afford cheap food like rice.

[3] See photo 2

12. This incurs health problems such as high blood pressure, diabetes. More than 10 people have diabetes in this community and even some children have been tested with diabetes recently.

13. Now we try to seek assistance from experts in planting to grow food in elevated soils or in containers like what I have done near my house[4].

14. We always ask assistance from our government to make sea walls but sea walls might also be washed away so need to find another design which will be stronger.

CLOSING

15. Sometimes we are thinking to move but it seems impossible because all the lands are occupied. To stay here, we need these homes with high floor and ensure we can grow plants.

16. For the future, I think we will come up with better living with all our attempts.

Signature Interviewee
Timereta Eria

Signature Witness: Benateta Atanteora
Kiribati State Attorney

[4] See photo 1 of the garden of Mr Eria behind his house

Mr Eria

Community Hall of Tebikeinano

Elevated houses in Tebikeinano

Obligations of States in Respect to Climate Change
(Request for Advisory Opinion)

04 – Statement of Mrs. Kinaai Kairo, Director of Agriculture and Livestock Division, Ministry of Environment, Lands and Agriculture Development

23rd February 2024

1. My name is Kinaai Kairo. I'm the Director of Agriculture and Livestock Division. My background is in agriculture. I got my general agricultural Diploma from the University of the South Pacific, School of Agriculture in Samoa, and then my Bachelor's in agricultural economics from the University of Hawaii. I got my master's degree from the University of Queensland in Australia, and I did pursue my PhD degree with Penton University of Science and Technology in Taiwan in 2015, wanting to do a dissertation on developing a crop insurance with much focus on coconut production. But that dream was not materialized due to my family issues. So, I came back in 2016 to resume my position as Director of Agriculture.

2. My mandate is to work towards achieving the key priority areas, defined, and stipulated in both the governmental and development plan, known as the KDB and the KV 20. Taking those priorities and working along with my administrative team from my ministry, we developed a ministry operational plan, the MSP. From the MSP, myself, and my team here, all senior and heads of agriculture, from our different sections within the agriculture and life division, we develop our annual work plan. Most of the time the budget that we are given from government is not according to the costing of activities in our work plan. I see that one of my mandates as well to seek funding for all the activities that we have developed in the annual work plan and the MSP so that we can achieve those priorities outputs.

3. We receive a lot of interest now in agriculture, which is a very good thing that we can have funds for all the activities that we need to undertake. And I think all of those is because of climate change. **What we developed in all those annual work plans is nothing but food security. Everything that we do in that work plan is for promoting food production for food security**, whether it's a policy or it's a biosecurity bill or a procurement or a training. **We must build our capacity and our capability in producing more for the people.**

4. Knowing that agriculture is challenged with the forest soil and climate, we also ensure that importation of food and now fresh, though fresh agriculture producers do not harm the pest diseases that they can come along with those imports. Anything that is to be

imported into the country, this division also has the mandate to ensure that kiters is safeguarded from those PEs and diseases of plants and animals.

5. **The soils of Kiribati are classified as the poorest type of soils in the world.** Our soil is very poor, but even though we can farm those soil with technology, yes, I do believe that we have potential in improving the soil. We have some research in place with Australia and they assist us in developing compost. Compost is not a new thing to our people because they've been practicing it, but they don't have the very scientific background of why they use this and that in that amount of, so with research nowadays, it's really assisted the farmers to know why they're using this, why they must mix the organic materials with menu or some.

WATER

6. The other thing that I want to add which affects much of our ability to achieve our objective is the water. **In the past, drought was not very common. Nowadays, drought is a must to come every year and they don't come more frequently, but they are more tense. That's really affecting the production of not only the plants but the animals as well.** The water we use for agriculture is the same as for domestic usage. In that way, we are competing on the use of that water domestic use and agriculture. Most of the time, when it comes to shortage of water because of the drought or so, agriculture is given up. When we plan projects, we always forget about the water and I guess because it's an accessible and public asset, but that is really affecting our production.

FOOD PRODUCTION AND SEEDS

7. The seeds are also our biggest concern. Vegetables seeds we always received come as hybrid types and the farmers are not able to get their own seed from them. They must come all the time for these seeds repeatedly. Recently, we've been asking our donors to bring us the open pollinated varieties so our farmers can get their planting materials from these types of seeds. We are very careful with our seeds because we cannot produce them but instead, we import them.
   With seeds, our other concern is also about their storage. We need a proper laboratory to store them properly.

COMMERCIAL AND SUBSISTENCE AGRICULTURE

8. The commercial agriculture is not really important in Kiribati. We only have Copra. Our role in there is to select the best coconut seeds and provide it to the farmers. So, farmers can come to us for their seeds, or they can do their own. We are mandated to ensure that coconut planting is a must in our program. Our target for each island is 2000 new plants on a yearly basis. This figure is not the maximum, farmers can go beyond. From our side, we prepare the planting materials upon the request of the farmers.

9. Regarding subsistence agriculture, we have quite a lot of vegetable varieties that we are promoting. Research was conducted years earlier trying to find the type of vegetables that can grow here. We came up with quite a few vegetables including tomatoes, cabbages, cucumbers, watermelon, eggplant, pepper.

10. **With our soils, we are promoting the growing vegetables in containers, not directly in the ground because of the water sea problem. Along the coast, the salt intrusion is very common and that really affects our agriculture.**

TRADITIONAL PLANTS

11. The disappearance of our traditional plants like breadfruit or bwabwai is a combination of many factors, changing diet and lifetime. Most of the people don't want to eat this traditional food because it is time consuming to prepare them in opposition to import food which is readily available to consume.

12. We have a processing project for 2028 which aims to try to process traditional food crops in baby food, chips, and flour.

Obligations of States in Respect to Climate Change
(Request for Advisory Opinion)

05 – Statement of Ms. Kautunata Kobia, Tebunginako village, Abaiang

24th February 2024

BACKGROUND

1. My name is Kautunata Kobia[1], I am a national of the Republic of Kiribati and I am 42 years.

2. The declarations of fact made in this Statement are based on my direct knowledge of the facts stated.

3. I currently live in Tebunginako on the island of Abaiang. I was born in Bikenibeu south Tarawa and I grew up in Abaiang, left to go High School in Tarawa and came back in 2000. I am a single mother of one daughter of 10 years.

4. My father is from Abaiang, he owns a lot of lands in Abaiang. My mother is from Tabiteuea in the southern island. I have two sisters and three brothers.

5. I speak Kiribati and English.

6. I am a nurse aid, chosen and paid by the Council of Tebunginako.

PLACE

7. Tebunginako is a village which consists of 400 people and around 100 households. Before, the young girls used to play soccer at the soccer field and represented the island in Kiribati national game called '*Te Runga'*.
   In 2019, this village represented the island and won the national games.
   Last year, they couldn't train because the sea has inundated the soccer field, up to the knee so they lost their title to the ladies of Betio Town Council[2].

[1] See photos 1 and 2 of Mrs Kautinata Kobia
[2] See photo 4 of the soccer field which is inundated by the sea at high tide

Now, they can practice only at low tide and use the other soccer filed next to the primary school.

8. The village has a committee chosen by several households; it is composed only by men. They meet once in a month and decides about the management of the village and matters that need to be resolved.
   They also blow the cone shell when there is a special occasion.

9. Our village is well known for its coastal erosion.

10. The coconut trees are important in Abaiang because they represent an important source of income with the copra. Prices have doubled recently.
    The other plants we have around here are breadfruit and bwaibwai (taro).

11. There are also pigs in the village. They are important for special occasions. Myself, I have two pigs.

RELOCATION

12. I came back for primary school in 1995 and my family has moved from one place to another which is around 1-2 km far. They moved because the soil was becoming very salty and the sea was coming too close to the houses. The old village has now been entirely destroyed by the sea[3]. We lived in the new place for several years until the sea came again in our garden in 1998.
    At that time, I was feeling bored and sad because before we used to have community programs in the older village where we would all gather. Now that we have moved, gathering has become difficult because houses are far apart.
    Before, if you need help, you don't have to ask for it, if the community members see that you need help they would just come and lend a hand. Now, it is different. Since we have been relocated, the families live on their own. Sometime, they share the food, especially breadfruit, but that is all.
    Fortunately, there hasn't been any conflict on the land because it belonged to our families.

CULTURE

13. The land we are living in was owned by our grandfather. I am grateful that the land where I am living now was owned by my grand-auntie (sister of my grandfather) and so she gave it to my father who gave it to us his children.

[3] See photo 3 of the old village

14. Now, we only do traditional dances for religious functions to compete with other villages. Before, we would do traditional dances for the youth; an old man from Tarawa was coming to teach us the dances. The last time he came was in 2008 and didn't come back since then. Before, each dancer had his/her specific trainer; now, the dance has been standardized and the instructor is the son of the old man. When the village requests, the instructor comes and the village would pay for his food and accommodation.

15. Women use to wave pandanus leaves to create mats, dancing costumes, preserving and cooking traditional food.
    My grandmother taught me all of these and I am waiting for my girl to come back from school to teach it to her myself.

16. If there is a conflict, we can call the special constable, police of the village, but there are no much conflicts in the community.

17. I would like to share a story from my village. Before, there was an old tale about Nareau which was believed that he was the creator in Kiribati. He was chased from an islet situated nearby and hid in Tebunginako in a hole surrounded by bwaibwai (Taro) leaves. People were looking for him so he went to another village close to here, he threw his teeth in the sea and that's why we have sharp rocks in the sea in front of us.

FOOD AND WATER

18. Here people usually eat fresh fish and sea shell with rice. When it is the season for breadfruit, we eat breadfruit. When I was a kid, we used to eat fish, seashell, bwaibwai and breadfruit but rice is easier to cook.
    We also moved to rice because elders are not around to remind us to cook traditional food. People are not going too much to the gardens now, one of the reasons is that it is getting hotter. I can say that I feel that is hotter now than I was a child.

19. There are two seasons in Kiribati: the wet season from October to February and the dry season from March to September. When the last drought happened, it lasted around one year. I can't remember the exact year. Water tanks were empty, so we relied on well water we boiled. Some wells (ground water) got salty and mine was one of them, so I had to use the one of my neighbors who was kind enough to let me use it.

FUTURE

20. We have to encourage and promote sports to the youth.

21. The developed countries which are doing greenhouse gases emission have to limit their activities because I don't want to move to another land.

Signature Interviewee
Kautunnata Kobia

Signature Witness: Kiribati State Attorney
Benateta Atanteora

Photo 1: Kautunnata Kobia

Photo 2: Kautunnata Standing on the sea wall of the old village

Photo 3: Old village of Tebunginako

Photo 4: Old soccer field inundated at high tide

Obligations of States in Respect to Climate Change
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06 – Statement of Buburenga Ieu, Tebunginako village, Abaiang

24th February 2024

1. My name is Bubunrenga Ieu[1], and I am a national of the Republic of Kiribati. I was born on the 15th December 2000 and I am 23 years.

2. The declarations of fact made in this Statement are based on my direct knowledge of the facts stated.

3. I am from Tebunginako and I have lived here since I was born. I only went to North Tarawa for 3 years to go to primary school, then to South Tarawa to attend secondary school. I came back in 2021.

4. I am living with my parents; we are a family of 6 girls. From the 6, one sister has been adopted by my uncle. My two parents are from Abaiang as well as my grandparents.

5. I speak Kiribati and a little English.

6. I am unemployed. To earn money, I am collecting fresh coconuts and sell them which brings me 1 AUD for 3 coconuts. I am also the treasurer of the group of youth within the community. Our main activity is to get soils for the construction of the new church of the village. On weekends, we also organize programs and social events.

7. My parents used to live in the old village of Tebunginako but I don't know much about it because they didn't share stories with me. I only have heard that there were a lot of coconut trees in the old village but most of them have died.

8. Regarding traditional knowledge, my mother knows how to weave local mats and sow thatch for the roof. I only know how to sew the thatch but not yet how to weave. My sisters have been taught how to weave but I am the youngest, I haven't had the chance to learn it. I want to learn how to weave mats for when I will settle with my own family, I can weave our own mats to sleep on.

[1] See photo 1 of Mrs Bubunenga Ieu

I also know the traditional dances.
Elders are very important for the community and I respect them a lot.

9. In my daily routine, I eat rice, fish, breadfruit and seashells. Sometimes, I also eat traditional food like pandanus fruits, and I drink toddy, a drink we get from the flowers of the coconut trees.

10. Since I was a child, I have seen changes in the coastline with the soil being eroded. I have noticed that it is getting hotter, the air temperature has increased from when I was a child.

11. **I live a very happy life. I wish to stay in my village and not have to relocate because I am happy here.** I wish my place won't be affected by the erosion so I can stay where I live.

Signature Interviewee: Bubunrenga Ieu

Signature Witness: Kiribati State Attorney
Benateta Atanteora

Photo of Bubunrenga Ieu

Obligations of States in Respect to Climate Change
(Request for Advisory Opinion)

07 – Statement of Katimero Nawere, Temaiku Village, South Tarawa

25th February 2024

BACKGROUND

1. My name is Katimero Nawere[1], and I am a national of the Republic of Kiribati. I was born on the 14th February 1953 and I am 70 years.

2. The declarations of fact made in this Statement are based on my direct knowledge of the facts stated.

3. I am living on the island of Tarawa since 2003, I lived in Bikenibeu for 2 years and in Temaiku since 2005.
   I am from Nonouti island. I left this island with my mother and my sisters around 1958 because my father was mentally unstable. I grew up in Abemama, another outer island, and only attended primary school before I dropped out.
   I came in Tarawa in 2003 to attend the wedding of my nephew and my niece found me a job as security so I decided to stay because my children were studying here in Tarawa.
   In Abemama, I was a foreman in agriculture.
   My wife had two children before we got together and we had another two children together.
   The land where I am now is a family land belonging to my wife's great grandfather.

   Nuea
   ↓
   Kibaria
   ↓
   Toantebure
   ↓
   Raubiti (wife)

4. Although I don't know much about Nonouti Island because I left when I was very young, I feel like I belong to it because it is my father's land.

[1] See photo 1 of Mr Katimero Nawere

5. I speak Kiribati and a little English.

6. I am the elder of my family and I used to be the chairman of the family community.

PLACE

7. In Abemama where I used to live before, it is nice, a cool place, not hot like here, there is plenty of food there, not like here.
   In Temwaiku, until recently, I lived on a land in what we call the fishponds, and it was really uncomfortable, especially during heavy rainfalls or high tides. During full moon, the sea was coming from the ocean side overflowing the ponds and entering in to the lagoon side, it could reach the hips and when the wind was blowing, it was even worse. The land was very narrow.

8. Five years ago, there was land here but very narrow with only fishponds. Because the land was owned by my wife's family, we decided to fill in the ponds surrounding the land. Every payday, I filled the land with truck full of sand that my family was paying for.
   Later, a sea wall has been built on the ocean side which avoids the waves to come in but I am still afraid that it might break.

HEAVY RAINFALL

9. Now, when the heavy rain is coming, the water is everywhere. I am lucky that my house is elevated so the water doesn't come in but most of the houses are submerged during these times and this makes me angry.
   When I filled in the land, I was really determined because I thought that our life was going to be better. But now, life is not easy again so when it is raining, we sit and watch as the water rises and waited for what is going to happen next.

CULTURE

10. Land is everything for the people of Kiribati. Before, people would fight for land and sometimes used black magic.
    The sea gives life, it provides food from the fish.
    When I was much younger before I got married, there was this one time that I got chased

    I also know about traditional medicine and massages, but I haven't pass them on to my children because they are not interested.
    For traditional medicine, I mainly use pandanus plants which can be found easily. I only use them within the family.

FOOD and HEALTH

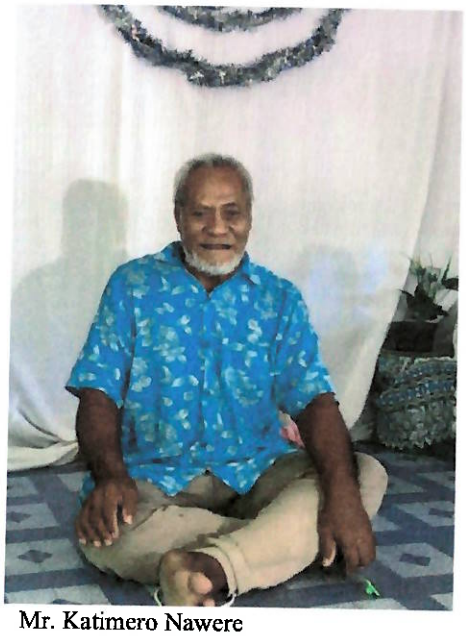
11. When I was young, we ate traditional food like pandanus fruits, coconuts, breadfruits, fish, taro, tebero.
    Now, I am eating rice, fish. If there is no fish, we use traditional syrup 'kamwaimwa' to give test to the rice.

12. I just have been tested with diabetes level 18 and hypertension.

FUTURE

13. For the future, I wish our community will be protected from overflow and the sea level rise.

14. If we can't do anything, I hope there is a chance to move to another land.



Mr. Katimero Nawere

Signature Interviewee: Katimero Nawere

Katimero Nawere

Signature Witness: Kiribati State Attorney
Benateta Atanteora

Obligations of States in Respect to Climate Change
(Request for Advisory Opinion)

08 – Statement of Joseph Charles, Temaiku village, South Tarawa

25th February 2024

1. My name is Joseph Charles[1], and I am a national of the Republic of Kiribati. I was born on the 27th February 1993 and I am 30 years.

2. The declarations of fact made in this Statement are based on my direct knowledge of the facts stated.

3. I was born in Betio, South Tarawa, grew up here in Temaiku, went back to Betio for a few years and I moved here again permanently in 2015 to live with my grandmother because I love her. She has passed away now but I decided to stay here.
   I grew up with my grandmother from my mother's side because my parents were both in New Zealand. I am very attached to her.
   My grandma taught me the traditional values; an example is about visitors, to make sure visitors are welcomed when they come in our house and also know how to behave when you are a visitor in someone else's house.

4. I am working through the Pacific Labor Scheme. I first went in New Zealand last year for 9 months, I came back in November and I am now ready to go again. I am leaving tomorrow.

RELOCATION AND EXTREME WEATHER EVENT

5. In 2003-4, we used to live on Temaiku ocean side when we have been hit by a high tide and the community has to relocate. Now, this place is a beach. I was 10 years at that time but I remember very well that we couldn't find a place to sleep, the small houses were washed away and everything was flooding. I was scared and worried.
   In the area, you had a road and a sea wall which have both been broken by the water, you can still see the ruins of the old houses.

[1] See photo 1 of Joseph Charles

6. We settled in a place near the primary school but one or two years later, we had to move again on the request of the government, and we came to this place. We felt safe when we moved.

7. I was in secondary school when the land has been filled with sand. The change is really good because there is more space for the houses.

8. When it was flooding, around 2016-17 and again in 2019, we were worried of being shocked by some electric wires and the pigs were all swimming to try to find a place for shelter.
   In 2021, we had a State of disaster for drought. Due to the heat our cabbages shriveled and stopped growing. Water tanks would be empty, and we would buy water from the Public Utilities Board and they would deliver it, filling the tanks.

TRADITIONAL KNOWLEDGE

9. I believe that both my traditional knowledge and the church knowledge are important. My grandma taught me mainly about hospitality.

10. I don't know stories, dances or other traditions although I would like to know about it, especially on the construction of local houses as I have studied carpentry.

FUTURE

1. When I think about the future, I hope everything will be settled and we won't face more danger.

2. **We are ready to face the danger because we have experienced it in the past. We are prepared.**

Signature Interviewee: Joseph Charles

Signature Witness: Kiribati State Attorney
Benateta Atanteora

Joseph Charles

Obligations of States in Respect to Climate Change
(Request for Advisory Opinion)

09 – Statement of Dr Alfred Tonganibeia, Office in Charge (OIC) of Public Health

23rd February 2024

1. My name is Dr. Alfred Tonganibeia and I'm currently the officer in charge for public health. I've been involved in public health field for the last 10 years, mainly in communicable disease, but also touching on non-communicable diseases and others. I've also been involved in hospital services as deputy director, which is my current role at the moment jointly with being the OIC for public health.

2. My mandate is around elevating the health for all and achieving good health for everyone in Kiribati. We want to make sure that everyone is living a healthy life through the multiple strategies in place.

3. Our biggest concern at the moment is the unhealthy lifestyle and the impact of climate change to the people of Kiribati. A lot of people are being devastated with unhealthy activities, lots of risk factors involved, including climate change impact.

NON-COMMUNICABLE DISEASES

4. **NCDs are huge burden to the country. It contributes to 70% of the total mortality based on the recent reports[1]. There are factors associated with that, especially consuming unhealthy foods, and high reliance on imported foods that contains unhealthy poor nutrition contents**, high in salt and sugar and high in fats. We also have other risk factors that contributed to this: people are high smoking rates, lack of physical activities.

5. There is an increasing number of NCDs related diseases and even death over the last 10 years. **We are one of the few remaining countries in the Pacific, about three remaining countries in the Pacific that hasn't met the millennial development goals**.

[1] See Kiribati annual health bulletin

6. **The diabetes prevalence is around more than 20%,** that's really high. A quarter of the population has diabetes, so that's a significant portion. If you look at the data for diabetes, it's more prevalent among females than men and when you look at the mortality data, also more females die from diabetes compared to men.

7. Considering our situation, our geographical challenges, climate change with high salinity, waves, heat and stress contribute to the increase of NCDs. That's only an observation coming from my experience.

8. **We are not able to grow or cultivate fresh vegetables. Instead of that, people are relying on imported foods**. Climate change is there, really, it's just exacerbating the effect of sugar consumptions with high obesity rate for instance.

   How can we grow vegetables or fruits? If the water is high, there's sea water intrusion everywhere so nothing can't really grow much. This pushes people to access unhealthy diets.

   We are engaging in several strategies to fight against NCDs in our programs. It's a challenging activity with multiple levels addressed: prevention, screening in communities, treatment all over Kiribati.

9. We have beautiful policies in place but one of the issues is the lack of enforcement. The challenges are our limited resources and geographical distribution of the islands. From one group of islands to the other extreme group, you have more than a week by boat, almost two weeks, and four hours on direct flights.

CHILDREN'S HEALTH

10. **One of the major concerns for children's health is malnutrition. Kiribati has one of the highest rates of malnutrition in the region, and again, it all comes down to poor nutrition. Children are being fed suboptimal diets**. We can't grow many vegetables; we can't do much. Instead, access to a unhealthy food is very easy.

11. Under five mortality rate is one of the highest in the Pacific, I think we are 10 times higher than New Zealand and Australia. Malnutrition contributes a lot to this mortality rate.

12. We have a program going on at the moment to improve the health of children. We are targeting specifically the nutrition aspect by providing nutritional packages to prevent malnutrition.

WATER

13. **The quality of water in Kiribati is very poor because of this narrow strip of land where we are situated. In time of droughts, we see an increasing number of diarrhea and skin infections. The same is happening with heavy rainfall.** We are trying to mitigate this by reiterating the importance of boiling the water but this is not enough.
    For Tarawa, the construction of the desalinization equipment will allow us to be safe for the next 30 years but what about the outer islands?

MENTAL HEALTH

14. Based on my observation, I have seen an increased number of severe mental health disorders in recent years. Some people have lost their homes, they have lost their land, they had to move out somewhere, and it creates that psychological effect on these individuals. Relocations and recent king tides, recent extreme weather patterns over the years have also caused a lot of significant impact to these families, especially those living on the shore.

CLOSING

15. **We need to carry out more research to understand and find the best way to adapt ourselves.** Thank you.

Obligations of States in Respect to Climate Change
(Request for Advisory Opinion)

10 – Statement of Mr. Ueneta Toorua, Director for Kiribati Meteorological Service (MET)

23rd February 2024

1. I joined this Ministry in 2007 and became Director in 2014. Prior to my directorship I led observation and forecasting.

2. MET was established with support from New Zealand's Meteorological Service to collect data and provide for analysis, initially for the aviation sector. Around 1989, MET localized and for the first time started weather-related services and data generation for Kiribati itself.

3. In terms of climate change, the information we collect daily is important for forming the basis of evidence on whether and how the climate is changing. Indeed, the data collected has been very useful for planning protections based on actual weather.

4. No one can deny the fact that the weather and climate is changing. Over the course of my career at MET, there have been a lot of events, including extreme events, that were once rare to observe now affecting our people more frequently. The most recent extreme event involved extreme waves and swells that affected one of the more isolated islands Tabuaeran. Basically, the main source of the waves originated much farther south. The system lingered and generated waves from the Cook Islands all the way to us. This wave inundation damaged family properties and became a serious event that was difficult to have predicted considering the waves reached so far.

5. The main issue for atoll islands like Kiribati is the waves and king tides. MET is meant to provide warnings for waves that are likely to cause disasters like the one mentioned. But is seems the impact of sea-level rise for low lying islands causes what would otherwise be considered a normal tide to be one capable of disaster; and this scenario is becoming more frequent.

6. What is normal, can no longer be termed 'normal'. Now, we are starting to categorize what was once considered 'normal' as an extreme. People on island are not used to this. When you ask people what the most fun day on the island is, they would respond: high tide. Now, we must prepare for it. Since my work here, we have had to start developing a special warning product to identify the threshold of what is determined 'extreme' and the wave height expected from there. It's a challenge and must face this on more or less a daily basis.

7. As a scientist, I think it is also very important in climate impact discussions, for people to have an understanding of the climate system before the impact. Climate and weather are not standard. It is dynamic. There are a lot of interrelations between the ocean, atmosphere,

and land. During the awareness program, people do not differentiate interannual change or long-term impact. This becomes important when we see extreme events. Observations are fact within lifetimes.

8. Kiribati has specific challenges when it comes to climate change: sea-level rise, extreme waves, drought, disasters, SST, and how all of these things interact with ENSO. These are in line with the IPCC projections for Kiribati. It is a growing reality for all small island development states.

9. Another aspect that non-SIDS often do not understand is that communication with outer islands is extremely challenging. There is no mobile network, no electricity, etc. It is not like in other countries with early warning systems. Our equipment is limited, and we have to go with what we are provided meaning the accuracy and reliability of the data won't cover all of the islands. Instead, we have to rely on satellite data and the forecast is a guess. Global models do not translate for local, very small islands.

10. The MET service is not a business. We provide it for free. Since people look to us for safety from weather and climate, we need sufficient funding and innovative investment. People in more developed countries have comprehensive reporting and forecasting with advanced tools, radars, and large amounts of data (and they can still get it wrong!), but that is not the case for Kiribati. The tools and facilities are not as advanced and it seems like for SIDS, many of us struggle to maintain minimum budgets and improve the facilities and tech we already have let alone operate.

11. Climate change is a national issue and MET is the monitor. We don't want to get it wrong.

Obligations of States in Respect to Climate Change
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11 – Statement of Ruita Teiabauri, Officer in Charge for Kiribati Lands Division, Ministry of the Environment, Lands, and Agricultural Development (MELAD)

23rd February 2024

1. This Division is one of Kiribati's oldest, established in 1979 when Kiribati became independent. I have held this role since 2016. I joined the Ministry in 2010 as the Senior Land Management Officer, then Chief Land Management Officer, and now this role.

2. Our mandate is to look after all the government leases on South Tarawa, the outer islands, and any state land. We also deal with land disputes where landowners settle in court and once we receive the official judgment from the courts, this Division enforces it. There is a long wait for cases like this.

3. Lands reports are via the GIS unit that looks after all the data, land size, and tracks changes over time. Another department is the Lands Information System that stores all the names of landowners in Kiribati.

4. Land ownership in Kiribati is governed via the transfer of land titles handled by the courts. This includes all the purchasing of land and its proper ownership. The judgments are kept in a database that we share with the court; the minutes form the High Court are especially important in the settlement of land disputes.

5. As regards climate change, our division updates the general land use plan and looks into effects of climate change, especially near the shores. We work with the Ministry of Internal Affairs and update this plan according to the changes our surveyors find. When coastal erosion happens and people lose part of their lands, it is a difficult process for them, particularly if they encroach on other's lands or on government lands. In Kiribati, land is precious as it is limited.

6. For government-leased land, Kiribati makes over AUD$8 million, not including land use in the outer islands. This income stream is significant for the government as it also provides subleases via MELAD.

7. The most pressing concern for my Division when it comes to climate change is that coastal erosion exacerbates the scarcity of land on atolls. The government has provided incentives to landowners via a 100% rate increase from 2021 to 2024. That is a massive increase so that landowners will want to give their land over to the government as land is so limited. We need to find space for investment and commercial buildings.

Obligations of States in Respect to Climate Change
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12 – Statement of Mr. Kiaitonga Burera, Tebunginako Community, Abaiang

24 February 2024

BACKGROUND

1. My name is Kiaitonga Burera and I am 73 years old, born here in Abaiang in 1951. I speak only Kiribati language.

2. My village—where I was born and raised—is now underwater. It no longer exists as I remember it. My family has always lived in this area, my parents, their parents, as far as we can remember.

3. I have seven total children, four who were born and raised before the village moved, and three that came after the move. My eldest son was nine when we had to relocate and he does not remember the original village, and that saddens me.

4. My work is with coconuts to provide food and materials for the village.

SENSE OF PLACE

5. In the past, before the first move in 1991, the village was big. All that is now underwater. Even the buildings. In the past, the wind and the waves went onto the land and destroyed the land and made the water salty. Once the water is salty, plants no longer grow. The women needed to come in further and further to fetch freshwater that was not salted. But we did this because everyone wanted to prevent relocation. We wanted to stay.

6. In the past, there was strong system for the village, with one leader for the village, and our church to also manage the village. Now, it's the same, but disjointed. When speaking of family, ***'Te kainga'*** refers to the family. There a different system within the family, imagine that it is like the one decision maker for the family, on food sourcing, etc. As an elder, that is my job now.

7. My people are known for (laughingly) people good at eating. That was before, now this island is well known as an island effected by climate change. We did not want that identity.

8. Regarding how my village survived previously to now is quite different. When they were staying there their original place, it was rich, lots of plants, water is fresh, and people could easily get food from the land and sea. Now, it is quite difficult. Salt in water, there is even a place where we live now where the sea still comes into the land.

9. Coconut is the most important plant to my village, especially after the moves. We used to be able to grow *bwabwai* (dalo***)*** papaya, breadfruit, etc. but when the water became salty those fruits and vegetables died and we could not get them to grow back.

10. Let me describe the previous land—there was a large land with a lot of plantations, a maneaba, church, houses, clean water, a paradise. There were more than 40 households. When the big storm came on the land, the first thing that was affected was the water. All the plants died. We also had the bwabwai plantation and it was affected by the big waves. When the storm came it stayed for more than three days, but we realized we needed to move afterwards. Because of the salty water and the currents found a way to go through the land. Most of the community members relied on the copra from the coconut tree and after the storm they could not.

CULTURE & TRADITIONAL KNOWLEDGE

11. People of Abaiang, including my village are connected to the sea and to the land. Imagine that in the past, in the old place, it was a big community with big land. Now since we relocated, we are scattered. Broken. In the past, all this was in the vast place. There was a bond between us because they live closely, now it is not the same. Now we all live far apart.

12. There is a well-known story about the pretty lady from the highlands that represents *Nuotaea* and *Tearintarawa*. All the boys from the islands come over. Imagine the beauty. That story originated because this island is so desirable. My original village was beautiful like this.

13. In the past, imagine that all the people tell the stories and pass the skills to children and grandchildren. It is passed as oral tradition. Also, there is a subject in the schools that gets taught, but it is not the same as learning from your grandparents. In the past, traditional skills were encouraged, now there is a change with new generations.

14. For our village, the main resource is the coconut tree. It is symbolic of true—what you all say— 'sustainability'. Imagine that most families in the village protect the tree and try to cultivate it in order for it to produce more. And that every part of it is used. Not one part goes to waste.

FOOD

15. There is a big difference in customs around food from before to now. In the past, getting the food from the lagoon was easy. Now, the village boys are quite far from the sea compared to how it was when I was their age, and they have to walk a longer way to get the food (because of the tides and mangroves). There's a group of boys that fish (local fish) called *Mautauri.* That group used to go out and sell it out but if there are remaining fish not sold, it is given to the community. Because of the tides and the mangroves, we must go around instead of being right on the sea.

CHANGING ENVIRONMENT

16. In the past, when we first moved, it was so hard. Me and my family missed our previous life. Our land. The first move was about 1991. Now, much of the community forgets. The life for my grandchildren is different from my life at their age.

17. In the past, there was no term of climate change. It is only called *Ang Maea*o meaning ‘a wind from the east’. It is hard to describe. Comparing the life with the children prior, it was an easier life and now it is full of struggle.

CLOSING

18. I wish to end with an inquiry if we can get better support from the international people in this climate case. All of the people of Abaiang, they need it.

Signature Interviewee: Kiaitonga Burera

Signature Witness: Aretaake Ientaake- Director of Human Rights (Ministry of Justice)

Kiaitonga Burera overlooking debris at site of his old village that is now underwater due to sea-level rise and coastal erosion.

Obligations of States in Respect to Climate Change
(Request for Advisory Opinion)

13- Statement of Mr. Choi Yeeting, Director-Climate Change & Disaster Risk Management, Office of Te Beretitenti (OB)

2nd March 2024

1. My name is Choi Yeeting, I have a background in environmental science and have been involved in the work on adaptation, mitigation, resilience and disaster risk reduction for over 10 years now.

2. I currently sit as the Director for Climate Change and Disaster Risk Management within the Office of Te Beretitenti. Our mandate is to coordinate nationally and sub-nationally the implementation of climate change and disaster management projects and programmes in Kiribati. The other mandate is to provide technical advice which would inform policy development which are interlinked with climate adaptation, mitigation and resilience.

3. The major objectives we have as the OB-CCDRM Unit is to see that the implementation of CCA, Mitigation and Resilience efforts are coordinated through the existing policy instruments and in line with the CCDRM Act. We serve as the KNEG Secretariat which provides technical guidance, policy advice, monitoring and evaluation in line with our multi-stakeholder mechanism in place to support climate change actions across Government and with NGOs and CSOs in Kiribati.

4. Each sector and Ministry have their own strategic plans and policy goals. Ours involves the coordination across using a multi-stakeholder, multi-sectoral approach the progressive and strategic implementation of climate change adaptation, mitigation, resilience, and disaster risk management.

5. Financing, technical capacities, institutional capacities and the absorption capacity within our national systems to be able to progressively implement projects and programmes.

6. It is a matter of urgency now to ensure swift and strategic implementation of the current objectives in place. Our actions are now timebound in terms of trying to ensure the security and safety of our communities and their livelihoods.

7. That is our core priority, however we are mindful that this requires a whole of government, whole of country approach in ensuring that “all hands-on deck” is applicable to the adaptation needs and resilience development of our country and people.

8. The NDRMP 2012 was developed to ensure that the coordination of disaster related actions had an operational plan in place, roles and responsibilities of sectors involved in disaster management were clarified.

9. It all comes down to resourcing (financial) and ensuring that each respective stakeholder understands their roles within the disaster plan. With limited human resources (Staff) this also poses a challenge in ensuring that preparedness, response and recovery are evenly applicable. The other dimension to this challenge is the awareness of our communities and islands council stakeholders in operationalising or putting into action the disaster plan during cases of states of emergencies. Currently the response time when certain actions are required is still very slow.

10. TC PAM 2015 – Tamana and Arorae were the most highly affected islands as a result of the energy projected from TC Pam which was passing within the Pacific region at the time.

11. Drought – State of Emergency June 2022 – December 2023 – Prolonged Drought like conditions saw the declaration of the state of emergency with water shortage noticeable across Kiribati.

12. We work closely with the Island Council and the established Island Disaster Committees to ensure that the current plan of action is applied and coordinated. The OB's roles is to coordinate nationally disaster response either through mobilising funds to the affected islands through the existing formal streams or through the coordination of humanitarian support based on the Situation reports assessed. In terms of relocation, we have only had cases of relocation further in-land critically affected communities and people. This is temporary and can return to their land and houses once the emergency is deemed to have ended. The OB then deploys assistance and support to the affected households. One of the existing mandates we have under the CCDRM Act is that when emergency events requiring relocation are earmarked, the local Maneaba's (traditional meeting house) are used as temporary relocation centers. The challenges to support the population who are relocated are effective deployment of humanitarian and technical assistance post events.

13. The KV20 sets a medium to long term for sustainable development in line with Governments manifesto in support of people's needs and that of the country. Each action is now timebound and requires shorter plans which require shorter implementation outcomes/outputs. Urgency in addressing climate change impacts requires us to look at the vision in more timebound manner and with shorter timeframes to deliver on concrete resilient development actions.

14. Achieving economic prosperity is a difficult task to do, however noting the timebound nature of delivering resilient development outcomes and ensuring a resilient population for times to come, the economic dimension of sustainable development become more fragile and vulnerable. The Government looks at partnerships to support these efforts to bridge

gaps where the Government is not able to support in terms of ensuring economic resilience in the face of climate change impacts.

15. With the constant threat and vulnerability of communities and people, resources are becoming more stretched in terms of the support that is provided, either by Government or through projects and programmes.

16. There are two dimensions to this: the case of South Tarawa and that of the outer-islands. South Tarawa will face additional health risks and climate change impacts will be more noticeable as result of contributing factors such as over population, poor land use and land planning, waste management, lack of land space, over harvesting and over-use of natural resources (e.g water, sediments, coastal fisheries). On the other hand, the outer-islands do not face these problems but the issue is remoteness, lack of basic services. Climate Change will exacerbate the existing impacts for South Tarawa and the outer-island but each at a different pace. In terms of leading a health environment, the priority should be focused on South Tarawa which has access to Government resources and officers, but which requires urgent attention to alleviate the existing pressures being noticed which will only become worse as climate impacts (SLR and Temperature increase) will be more frequent and severe in the coming years.