A Fragile First Step?
G7 and G20 Governance of Climate Change, the Environment, Health and Indigenous Peoples

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Land Acknowledgment

The following is excerpted from Indigenous University of Toronto (2020):

"Land acknowledgements do not exist in a past tense, or historical context: colonialism is a current ongoing process, and we need to build our mindfulness of our present participation. It is also worth noting that acknowledging the land is Indigenous protocol."

"We wish to acknowledge this land on which the University of Toronto operates. For thousands of years it has been the traditional land of the Huron-Wendat, the Seneca, and most recently, the Mississaugas of the Credit River. Today, this meeting place is still the home to many Indigenous people from across Turtle Island and we are grateful to have the opportunity to work on this land."

In recognition that land acknowledgements must come with action in order to be meaningful, the authors are making a donation to Anishnawbe Health Toronto, working to ensure that First Nations, Métis and Inuit people have access to the care and traditional healing services they need during the COVID-19 pandemic.

Abstract

In the material world, there is an intimate connection between the environment and human health, and between each of these and Indigenous peoples. Indigenous peoples are among the least responsible for environmental degradation, especially climate change, and its health consequences, but feel the impacts the most and have key knowledge to offer in response. Yet the global summit governance of the G7 and G20, whose members all have a large environmental and emissions footprint, make only small and recent links among the environment, health and Indigenous peoples. Indigenous peoples' perspectives are virtually invisible across all the key G7 and G20 summit governance dimensions of deliberation, direction-setting, decision making, delivery and the institutional development of global governance. At the ministerial level they appear only a little more. This invisibility is evidently due to the lack of Indigenous representation at the G7 and G20 at all levels, despite Indigenous peoples having a significant presence on the international stage.

Indigenous perspectives are better represented at the International Studies Association's (ISA) annual conventions. However, their invisibility reappears in the ISA's scholarship on the global governance of climate change, the environment, health and their links. This is seen in the annual convention's 216 papers with "Indigenous" in their titles, presented at ISA between 2014 and 2019. Over this period, only 18 of these papers were sponsored or co-sponsored by the Environmental Studies Section and one was co-sponsored by the Health Section. This suggests a siloing effect and/or that Indigenous scholars preferred to submit papers on other topics, as seen in the increase in the

integration of Indigenous papers on non-Indigenous themed panels. The Canada Section has not been a sponsor or co-sponsor of papers or panels with "Indigenous" in the title, despite several papers there on the Canadian colonial context.

Introduction

The global community, through the United Nations system, has increasingly governed climate change, the environment, health and Indigenous issues and has made some links among them since 2015. The 2015 Paris Agreement on Climate Change recognizes both the right to health and the rights of Indigenous peoples. It affirmed that adaptation to climate change "should be based on and guided by…as appropriate…knowledge of indigenous peoples and local knowledge systems, with a view to integrating adaptation into relevant socioeconomic and environmental policies and actions, where appropriate" (Paris Agreement 2015, 9). The UN 2030 Agenda Sustainable Development Goals (SDGs) include stand-alone climate, environmental and health goals, including SDG 13 on climate action, SDG 3 on health and well-being, SDG 6 on clean water, SDG 14 on life below water and SDG 15 on life on land. It also contains two targets on Indigenous peoples, one of which is relevant for climate change, the environment and health (target 2.3 on Indigenous small-scale farmers under SDG 2 on hunger). The preamble to the UN Declaration on the Rights of Indigenous Peoples (UNDRIP) recognizes that Indigenous knowledge, cultures and traditions contribute to equitable development and proper management of the environment. UNDRIP also contains seven references to health, such as the right to maintain traditional health practices related to the conservation of medicinal plants and minerals (UNDRIP 2007). Before UNDRIP was signed in 2007, Indigenous peoples had been actively engaged in international affairs on issues of self-determination and environmental rights through such Indigenous-led fora as the 1975 World Council on Indigenous Peoples (now dissolved), the 2000 UN Permanent Forum on Indigenous Issues and the recently established Local Communities and Indigenous Peoples Platform (LCIPP) created in accordance with the Paris Agreement decision recognizing the rights of Indigenous Peoples.

Indigenous peoples are therefore increasingly well-represented at the UN. However, they are almost invisible at other key international forums whose outcomes impact their security and well-being. These forums include the informal plurilateral summit institutions of the Group of Seven (G7) and the Group of 20 (G20). The G7 and G20 countries and regions are home to many Indigenous people. These groups account for up to 80% of global greenhouse gas (GHG) emissions and have a large environmental footprint. The major sources and causes of these emissions and environmental pollution are industrial, vehicular and chemical activities (UN Department of Economic and Social Affairs 2019). The resulting pollution causes three times as many deaths as AIDS, tuberculosis and malaria combined, and 15 times more than all wars and other types of violence (Lancet Commission on Pollution and Health 2018). It also causes disease and degraded quality of life, both physically and mentally, with particular cultural significance for Indigenous peoples.

Low- and middle-income countries are disproportionately affected by this pollution, accounting for 92% of the premature deaths it brings (Das and Horton 2018). Indigenous peoples' burden of such disease is often higher than national averages (UN Department of Economic and Social Affairs 2019). Indigenous peoples are at disproportionate risk of diseases related to a changing climate, such as heat-related illnesses, and forest and ice cover loss affecting traditional food supplies (UN Permanent Forum on Indigenous Issues 2018). These impacts are often exacerbated by poor access to healthcare services, especially culturally-appropriate ones, and due to racial discrimination within the healthcare system itself. Indigenous women are further impacted due to the exacerbation of already pervasive gender-based violence. Indigenous people must therefore contend with multiple burdens, including those that stem from historical and ongoing colonial practices in all countries regardless of the national level of development.

Indigenous peoples are the least responsible for the pollution affecting their communities and lands, and for the industrial emissions causing global heating. Moreover, land managed by Indigenous communities is more pristine and has more biodiversity (Schuster 2019; Drawdown Report 2020). Reducing this inequality requires international cooperation, as well as openness by settler governments and people to recognize their role in the continued perpetuation of colonization and to begin the hard work of decolonization at the individual and collective levels. At the international level, this should include cooperation and greater engagement between G7/20 and Indigenous leaders and their respective governance forums and mechanisms.

Argument

The G7 and G20 have made very few deliberations or decisions related to Indigenous peoples in their summit outcome documents and thus few and only loose links between Indigenous peoples and climate change and the environment. There are no direct links between Indigenous people and health across all six dimensions of summit performance. There have been some links between climate change, including natural disasters, the environment and health at the G7 and G20 leaders' and ministerial levels. The key cause of Indigenous peoples' invisibility is a lack of Indigenous representation at the G7 and G20. There is better representation of Indigenous peoples at the ISA annual conventions between 2014 and 2019, with the most relevant papers given on colonialism/settler-Indigenous relations (N=43) and human rights (N=31). On climate change, the environment and health there were 23 papers with an Indigenous focus. A path forward is to increase Indigenous representation through the G7/20 process by having more Indigenous' people participate in the G7/20 engagement groups, notably the Think 7 (T7) and Think 20 (T20) group of academics and think tanks.

Methodology and Approach

To produce this thesis, Part I focuses on G7 and G20 summit and ministerial governance of climate change, the environment, health and Indigenous Peoples, and the bilateral and trilateral links between and among them. It uses the methodology and datasets developed by the Global Governance Program at the University of Toronto. These are based on a systematic quantitative content analysis of the outcome documents of the G7 and G20 summits, and their environment and health ministerial meetings, to identify their performance across the dimensions of domestic political management, public deliberations, principled and normative direction setting, collective decisions, and the institutional development of global governance (Krasner 1982; Abbott et al. 2000). It adds a detailed assessment of the G7/20 members' subsequent delivery of their priority decisions through compliance with their commitments (Kirton and Larionova 2018). Part II focuses on scholarship, by systematically coding the title of papers and panels presented at the most recent annual conventions of ISA to identify those on Indigenous peoples, and their links to climate change, the environment and health. The intellectual subject areas and institutional sections in which these papers and panels appear are assessed. The paper concludes with a summary of the key findings and by offering several policy prescriptions for the G7 and G20 leaders and relevant ministers, and scholarly recommendations for further research.

A key limitation in this paper is that both authors are non-Indigenous. The authors recognize that academic research done on Indigenous peoples by non-Indigenous scholars has been and can be inadvertently harmful to Indigenous peoples and communities themselves (McGregor 2018). This can arise by imposing a purely Western or Euro-centric worldview of Indigenous peoples that misrepresents or even minimizes the collective colonial experience of Indigenous peoples, or by not properly crediting Indigenous ideas and work, among other ways (McGregor 2018). The authors also recognize that there are complementarities between Indigenous worldviews and Western worldviews (Bull 2010). As such, this paper focuses its analysis on the G7 and G20's performance using the

primarily quantitative framework described above. Future research can give a deeper qualitative analysis, based on Indigenous perspectives and scholarship.

Part I: Summitry

G7 Summits
The following section analyzes the G7's governance of climate change, the environment, health and Indigenous issues using the six dimensions of performance model developed by the lead author of this paper (Kirton 2013). It then analyzes the linkages between and among these four subjects.

The G7's Climate Change Performance
On climate change, the G7's governance rose to reach strong levels across the six dimensions of performance, before a recent decline (Kirton and Kokotsis 2015) (see Appendix A).

In domestic political management, measured as compliments given to specific G7 members in their public communiqués, the G7 gave two compliments. The first was at the 2001 Genoa Summit to Russia and the second at the 2013 Lough Erne Summit to France.

In public deliberations, measured by the number of words dedicated to climate change in the leaders' collective communiqués, the G7 produced 33,598 words between 1979 and 2019. The first phase, from 1975 to 1989, saw very low deliberation. The second phase between 1989 and 2004, saw a rise and more consistent performance to a few hundred words per summit, with a sudden drop to fewer than 100 words towards the end. The third phase, from 2005 until 2016, saw a spike to 2,667 words at the 2005 Gleneagles Summit and a peak of 5,559 words at the 2009 L'Aquila Summit. The number of words stayed above 1,000 per summit, with the exception of the three summits between 2012 and 2014. The fourth phase began at the 2017 Taormina Summit, which saw a dramatic drop to 201 words. At the 2018 Charlevoix Summit this rose to 1,696 words then dropped again at the 2019 Biarritz Summit to below 1,000 words.

In direction setting, measured by the number of links the G7 made between climate change and the G7's two foundational missions of open democracy and human rights, G7 summits made 19 links. Most linked climate change to open democracy (such as transparency in climate finance), with 16 links. The first links came at the 2009 Copenhagen Summit with five links. Another two appeared the following year at the 2010 Muskoka Summit, followed by one at the 2011 Deauville Summit and one at the 2013 Lough Erne Summit. They rose to three at the 2015 Elmau Summit, then fell to two each at the 2016 Ise-Shima and 2018 Charlevoix Summits.

In decision making, the G7 made 369 collective, future oriented, politically binding commitments on climate change, starting in in 1985. Between 1985 and 2004 the G7 made fewer than 10 per summit. From 2005 to 2010, there was a sustained rise, with a peak of 55 at the 2008 Hokkaido-Toyako Summit. Then there was another drop to seven at the 2011 Deauville Summit and five at the 2012 Camp David Summit. The next four summits saw another rise, with a peak of 23 at the 2015 Elmau Summit. Then at the 2017 Taormina Summit there was a big drop to only one, followed by a rise to four at the 2018 Charlevoix Summit. No climate commitments were made at the 2019 Biarritz Summit.

In delivery, the G7 Research Group has assessed 89 (or 24%) of the G7's 369 climate change commitments. Average compliance with them is +0.50 or 75%. This is equal to the G7's average compliance across all subjects. There has been a small rise in climate compliance. However, given the urgency of the climate crisis, this rise should be assessed against the fact that the world is still on track to surpass the 1.5/2C goal of the Paris Agreement.

In the development of global governance, measured by the number of references to institutions outside the G7 as well as those created by the G7, there have been 201 and 22, respectively. On the 201 outside references, 101 separate intergovernmental organizations have been referenced, starting in 1988. Between 1988 and 2014 the G7 at each summit made three or fewer references to outside institutions in the context of climate change. This spiked between 2005 and 2009 to 10 to 22 references per summit. This dropped to between four and seven between 2010 and 2014, before rising to a sudden, all-time peak of 44 at Elmau in 2015. The next four summits saw much inconsistency, with one reference in 2016, none in 2017, eight in 2018 and 14 in 2019. References to inside institutions stayed between zero and three for all years where there was such a reference.

The G7's Environment/Biodiversity Performance
The G7 has governed biodiversity, including pollution prevention and nature conservation, since 1987 at a level of performance well below that on climate change (see Appendix B).

In its domestic political management, the G7 issued four compliments to its members on the environment/biodiversity (beyond climate change). The first and second were given to Japan at the 1987 Venice Summit and the 1988 Toronto Summit, each in regard to life sciences and bioethics. The third was awarded to the U.S. at the 1990 Houston Summit on debt-for-nature swaps. The fourth was again given to Japan at the 2010 Toronto Summit as the upcoming host of the UN Convention on Biological Diversity (UNCBD).

In its deliberation, the G7 dedicated 17,006 words to the environment/biodiversity, or about half those on climate change. Unlike climate change, there is no obvious trend or phase in the G7's biodiversity deliberation, with large peaks and valleys throughout. In its first two years of deliberation, at 1987 Venice and 1988 Toronto, the G7 gave fewer than 200 words each to biodiversity. At the 1989 Paris, 1990 Houston and 1991 London summits this rose to between 635 and 735 words each. Then came a drop from 1992 to 1999 to between 90 and 321 words per summit. This fluctuation continued, with a peak of 1,687 words at the 2009 L'Aquila Summit, and no words at the 2017 Taormina Summit. Then a new phase began at the 2018 Charlevoix Summit with 1,524 words, rising to 1,168 words at the 2019 Biarritz Summit. Accounting for this latest rise is the increased attention to marine pollution.

It its direction setting, the G7 made six links between biodiversity and its foundational missions of open democracy and human rights. Five came on democracy. The first two appeared at the 2003 Evian Summit, with one reference to transparency and one to the rule of law in the context of water quality. The next two appeared at the 2011 Deauville Summit, on transparency in the resource extractive sector (in the context of the Great Lakes in Africa as well as the protection of global forests) and on transparency on reducing emissions from deforestation and degradation (REDD+). The final link also came on transparency in the resource extractive sector, now in regard to "sustainable deep sea mining." The one link to human rights appeared at the 2003 Evian Summit in the context of water quality.

In its decision making, the G7 produced 168 biodiversity commitments, again about half those on climate change. On average, just four commitments were made per summit. The majority of the summits with them had fewer than nine each. There were four peaks, with wide intervals in between. The first peak, at the 1990 Houston Summit, had 18 commitments. The second, at the 2003 Evian Summit, had 28. The third, at the 2009 L'Aquila Summit, had 13. The fourth, at the 2018 Charlevoix Summit, had 17. At Biarritz, in 2019, there were four.

In delivery, compliance with the 11 commitments assessed averaged 68%, below the 75% average of climate change. The first assessed commitment was from the 1987 Venice Summit, on air and water pollution, and tropical forests, with 65%. The second was made at the 1990 Houston Summit, on working with Brazil to protect tropical forests, with 0%. The third was from the 1993 Tokyo

Summit, on the UN Conference on Environment and Development, with 57%. Two commitments assessed from the 2003 Evian Summit, on water quality, averaged 88%. The next was from the 2007 Heiligendamm Summit on REDD+ with 78%, followed by one from the 2008 Hokkaido-Toyako Summit at 72%. Two commitments were assessed from the 2009 L'Aquila Summit on REDD+ and meeting the 2010 Biodiversity Target, averaging 89%. The final two assessed commitments were made at the 2015 Elmau Summit, on sustainable deep sea mining and forest governance, with an average 91%. No biodiversity commitments have been assessed between 2016 and 2019.

In the development of global governance, the G7 has made 185 references to intergovernmental institutions outside the G7 and 14 references to those inside. The first reference to outside institutions came at the 1988 Toronto Summit with two. Since then, no more than 14 references have been made per summit, with an average of six. The first references to inside institutions came at the 2000 Okinawa Summit, with two. Then only the 2004, 2007, 2009, 2011 and 2019 summits made references to inside institutions, with between one and six references.

The G7's Health Performance
Human health first appeared in G7 leaders' outcome documents at their summit in 1979 (see Appendix C) (Kirton and Guebert 2009).

In its domestic political management, the G7 has issued 12 compliments to its individual members on health. It gave its first two compliments to Japan in 1987 and 1988 on the life sciences.[1] The next two came in 2006, both to Russia, on influenza and HIV. The next was in 2011 to Japan on the Millennium Development Goals (MDGs), several of which are health-related ones. The next was in 2014 to Germany on the Global Alliance for Vaccines and Immunisation (GAVI), followed by another to Germany in 2015 on Ebola.[2] Finally, five compliments came at the 2016 Ise-Shima Summit. Two each went to the EU and Japan on antimicrobial resistance (AMR). Another was for Japan on active ageing.

In its deliberation, the G7 has dedicated 49,816 words to health, or about 16,000 more than to climate change. It started slowly with just 15 words in 1979. Although this rose to 116 words the following year, a steady decline of 59 to zero followed at the next two summits. Attention stayed below 100 words at the next four summits, before suddenly spiking to 719 words at the 1987 summit, to start a second phase. Between 1988 and 1991 the number of words stayed between about 150 to 300 per summit. This phase was then followed by a lull, with 34 words in 1992, 62 words in 1993, then no words at all in 1994 and 1995. Then came another rise to 825 in 1996 and a new peak of 1,400 in 1997. This dropped to under 600 at the next two summits, but then stayed consistently above the old 1,400 word peak at every summit between 2000 and 2010. Within this period the low came at the beginning of this third phase, in 2000 with 1,996 words, and the high came in 2006 with 7,072 words. Then between 2011 and 2014, the word count again went below 1,000 per summit, rising to between 2,000 and about 6,000 at the 2015 and 2016 summits, dropping to about 700 in 2018 and rising to 1,145 at Biarritz in 2019.

In its direction setting, the G7 has made seven links between health and democracy, and 51 links between health and human rights. On the latter, all summits where such a link was made had fewer than six such links, with the exception of the 2016 Ise-Shima Summit where there was a surge to 25. The rise was due to increased references to "universal" healthcare.

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[1] These two references overlap with the biodiversity references on domestic political management. They are on the life sciences and therefore have been counted as a health issue and a human genome issue, which falls under the purview of the UN Convention on Biological Diversity.
[2] This compliment was also for Ghana and Norway, which, along with Germany, proposed an initiative on effective crisis management in the area of health, in response to the Ebola crisis.

In its decision making, the G7 has made 415 commitments, or more than its 369 on climate change. The first was in 1984. The next three came in 1996, followed by four each in 1997 and 1998, then back down to three in 1999. They jumped to 14 at Okinawa in 2000, followed by another three again in 2001. A new high of 18 came in 2002, but this dropped to 15 in 2003, then nine in 2004, and up to 11 in 2005. The 2006 St. Petersburg Summit soared to 60 commitments. This was sustained at the 2007 Heiligendamm Summit, at 42. After this St. Petersburg-Heiligendamm peak and then dropped to 19 in 2008. Between 2009 and 2014, health commitments sagged again to a low of one to a high of 12 per summit. At the 2015 Elmau Summit, hosted by Angela Merkel for a second time, the G7 made a new high of 61 commitments. This rose to an all-time high of 86 at Japan's 2016 Ise-Shima Summit. Then came just seven commitments in 2017, nine in 2018 and four in 2019.

In delivery, compliance with the 70 assessed health commitments averaged 75%, at the same level as the climate change ones. 1984 had a strong start at 100%. Compliance plunged to 68% and further to 50% at the 1998 and 1999 summits, respectively. For the next two summits, compliance was above 90%, then dropped to 72%, before going back up to 90% at the 2003 Evian Summit. This dropped again to stay within the 70% range for the next three summits, then rose again to 86% at Germany's 2007 Heiligendamm Summit. Between 2008 and 2010, compliance plunged to the 50% to 60% range, followed by an all-time low of 45% in 2011. Then came an all-time high of 100% in 2012. High compliance was sustained with 95% in 2013, 92% in 2014 and 86% in 2015. Finally, another swing came, with 75% in 2016, down to 25% in 2017 and back up to 75% again in 2018. No commitments have yet been assessed from the 2019 Biarritz Summit.

On development of global governance, the G7 made 209 references across 187 bodies to outside institutions and 12 references to inside institutions.

Indigenous Peoples Performance
There has been very little G7 summit governance on Indigenous peoples across all six dimensions of performance (see Appendix D).

In domestic political management, no compliments came.

In its deliberation, the G7 has issued only 415 words. The first reference to "Indigenous communities" came at the 2000 Okinawa Summit with 136 words across two paragraphs. One was in the leaders' communiqué under the "environment" sub-section. It first endorsed the Foreign Ministers conclusions on sustainable forest management, but then added that the leaders gave "particular importance to projects that help indigenous and local communities practice sustainable forest management." The second reference at Okinawa came in the Okinawa Charter on Global Information Society under the sub-section "Promoting Global Participation." Here "indigenous entrepreneurship" was mentioned."[3]

After a long, eight-year gap, the 2009 L'Aquila Summit produced 51 words and one paragraph/reference. This reference again came in the context of forests, specifically, promoting national strategies "in collaboration with relevant players, including…indigenous peoples…" At L'Aquila, the Concluding Report of the Heiligendamm Process, promised "to respect the rights of indigenous groups" in regard to the contribution of traditional Indigenous knowledge to innovation

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[3] It is not completely clear if "indigenous" in this context is referring to "Indigenous Peoples" or local communities. However, given that Indigenous communities were already referenced in the leaders' communiqué at this summit, and given the existing literature on Ainu entrepreneurship in Japan (see for example…add), the authors decided to include this reference.

in the agricultural and pharmaceutical sectors.[4] This report to the leaders contained the first direct link to health.

The next mention of Indigenous peoples came at Canada's 2018 Charlevoix Summit with 186 words in two paragraphs. Both came in the context of working with Indigenous communities on climate change and oceans. At the 2019 Biarritz Summit, the G7 dedicated 42 words and one paragraph/reference in the Chair's Summary on Climate, Biodiversity and Oceans. Here the French host "commended the active mobilization of youth and the need for solution-oriented action, embodied by concrete multi-stakeholder coalitions and projects involving," among other actors at the national and subnational level, Indigenous communities. This was the first time G7 leaders had referred to Indigenous people at two summits in a row.

In direction setting, there was one link to the G7's foundational mission of human rights. It came at the 2007 Heiligendamm Summit in the Concluding Report of the Heiligendamm Process to the leaders. It came from the G8 countries plus the G5 countries of Brazil, China, India, Mexico and South Africa. The G8 plus G5 stated: "Genetic resources and associated traditional knowledge can also contribute to innovation, especially in the agricultural and pharmaceutical sectors. It is in our mutual interest to respect the rights of indigenous groups and members of local communities, as determined by relevant national laws…." No links were made to the G7's foundational mission of democracy.

In its decision making, the G7 has made only three commitments related to Indigenous communities. The first was at the 2009 L'Aquila Summit. The other two were made at the 2018 Charlevoix Summit. Both committed to promote collaborative partnerships with Indigenous communities, with one in the context of climate change and one in the context of clean oceans.

In delivery, none of these three commitments have been assessed for compliance.

In its development of global governance, the G7 made two references. One came at the 2009 L'Aquila Summit, to the outside institution of the UN Framework Convention on Climate Change (UNFCCC). The other, at the 2000 Okinawa Summit, was an internal reference to the G7 foreign ministers. Both arose on forests.

G7 Linkages
This section analyzes the linkages between and among the four pillars of climate change, the environment, health and Indigenous peoples. It finds that there are no explicit links among all of these four subjects together. There are a few bilateral links between climate change and health, several links between environment and health, but no clear or explicit links between Indigenous peoples and the environment and climate change. There are two links between Indigenous peoples and forests. Healthy forests can be considered an environmental determinant of health and well-being, as over one quarter of the global population, including many Indigenous peoples, rely on forests for food (UN FAO 2015). They also do so for shelter, resilience against disasters, recreation and cultural/spiritual practices that are important for mental and physical health (Reischl 2012).

The Climate Change and Environment-Health Link
In all, the G7 has dedicated 9,317 words and 145 paragraphs or references to the environment-health link, with the environment here including climate change (Appendix F).

The most frequent reference is to water quality and pollution, with 83, or 55% of the links made overall. Second is air pollution, with 18 references for 12% of the total. Third is biotechnology and

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[4] This document does not count for coding. The Heiligendamm Process included the G8 members plus the five members of Brazil, China, India, Mexico and South Africa.

health, included due to the relevance of biotechnology within the protocols to the UNCBD, with 16 references for 11% of the total. Fourth is climate change and natural disasters and their impacts on health with 14 references for 9% of the total. Fifth is chemicals' impact on health with eight references and 5%. Sixth is energy and health with six references for 4%. Marine litter and general references to environmental degradation's impact on health had three references each and took 2% of the total.

There is no clear trend in the G7's environment-health governance. The strongest performances came at the 2003 Evian Summit and the 2006 St. Petersburg Summit, which had the highest and second highest number of references to environment-health. At Evian, the then G8 leaders gave a significant amount of attention to water pollution (with 50 references), issuing a stand-alone G8 Action Plan on Water Quality in Africa. However, this attention to water pollution was not sustained. At St. Petersburg, there was a jump in references to climate change and natural disasters, from just one reference made at the three summits prior to St. Petersburg, where such a link was made, to eight at St. Petersburg itself. Here natural disasters and health received a stand-alone section in the leaders' communiqué. But again this attention was not sustained.

There is thus a precedent and potential in the G7 for climate change and environmental-health governance, even if attention has been largely determined by the host.

The Indigenous Link with Climate Change, the Environment and Health
On the environment/biodiversity-Indigenous peoples link, the G7 has made two references. The first came at the 2000 Okinawa Summit on forests. G7 leaders endorsed their foreign ministers conclusions on sustainable forest management, adding that they "attach particular importance to projects that help indigenous and local communities practice sustainable forest management." The second reference came at the 2009 L'Aquila Summit, also on forests. It was a commitment to promote national forest protection strategies developed in collaboration with Indigenous peoples, along with other groups and stakeholders. This latter reference appeared in a paragraph that also referenced climate change and the UNFCCC.

On climate change there were three additional references. Two came in the leaders' communiqué at the 2018 Charlevoix Summit. One was in the preamble and one was under the section titled Working Together on Climate Change, Oceans and Clean Energy. Both references stated that the G7 would "work with all relevant partners, in particular…Indigenous…communities…to identify and assess policy gaps, needs and best practices." As the United States under President Donald Trump had already withdrawn from the Paris Agreement, it opted out of all of the G7's climate change commitments at Charlevoix, including these two references to Indigenous peoples. The third reference came in the Biarritz Chair's Summary on Climate, Biodiversity and Oceans. Here the French host "commended the active mobilization of youth and the need for solution-oriented action, embodied by concrete multi-stakeholder coalitions and projects involving…indigenous communities."

G7 Ministerial Meetings

G7 Environment Ministers

Environment-Indigenous Peoples Links
At the ministerial level, the most likely institution to make references to Indigenous peoples is the G7 environmental ministers' meetings (G7 EMM) that began in 1992. There were no outcome documents in 1992, no meeting in 1993 and no meetings from 2010 to 2015. In all other years there were meetings, with all but one issuing a collective document. They included 14 references to Indigenous Peoples. The first two came at Trieste, Italy in 2001, the next at Siracusa, Italy, in 2009,

and then two at Bologna, Italy in 2017. Another four arose in Halifax, Canada in 2018 and five at Metz, France in 2019. This shows a steady rise from 2017 to 2019. Standing out in adding Indigenous People to the communiqué conclusions are Italian hosted G7 EMMs. Italy introduced Indigenous Peoples to G7 ministerial governance in 2001, continued when it next hosted in 2009 and did so for the third time in a row in 2017. Canada in 2018, then France in 2019 reinforced the pattern, putting Indigenous peoples in for the three most recent environment ministerial meetings in a row. However, none of these references recognized the rights of Indigenous peoples, including those in the UN Declaration on the Rights of Indigenous Peoples.

Among the possible causes of Italy's pioneering role, the number and percent of Indigenous peoples in the country is not among them. It could account for Canada's contribution in 2018 and France's with its overseas territories in 2019. However, this does not explain why Indigenous peoples references did not appear at the previous summits that Canada and France hosted. A plausible possibility is the presence of the UN Food and Agriculture Organization (UN FAO) headquarters in Italy's capital city of Rome. The UN FAO is responsible for food security and fish, including forests, where the role of Indigenous peoples looms large. Yet there is no reference to the UN FAO in the Indigenous context in the environment ministers' communiqué. The actual explanation points to the role of key UN meetings and summits on climate change, biodiversity and the sustainable development goals at the time the G7 environment ministers' meeting was held. These high-level meetings were explicitly referenced in the paragraphs on Indigenous peoples.

G7 Health Ministers

Health-Indigenous Link
A second possible place where attention to Indigenous peoples could arise is in the more recent and far fewer meetings of G7 health ministers. These took place in 2006, and from 2015 to 2019. Yet they made no reference to Indigenous peoples at all, not even when Italy hosted in 2017. This could be due to their focus on infectious diseases, such as antimicrobial resistance and AIDS, tuberculosis and malaria, although in some countries, including Canada, rates of tuberculosis in Indigenous communities are significantly higher than the national average (Government of Canada 2017).

The health ministers did, however, strongly link the environment and health, even if this has varied from meeting to meeting. Italy again stands out for its detailed 15 paragraph stand-alone section on environment and health at its health ministers' meeting in 2017 in Milan.

G20 Summitry

The G20's Climate Change Performance
On climate change, the G20 summit performed moderately well (see Appendix G).

In its domestic political management, the G20 gave seven compliments to its members. All of came before 2014. The first was at the 2009 Pittsburgh Summit to the UK. The second was at the 2010 Toronto Summit to Mexico, for hosting the sixth Conference of the Parties (COP 16). The next two were made at the 2010 Seoul Summit, both to Mexico. Also at Seoul, a third compliment was given, but this was to non-G20 member Ethiopia for its report on climate change financing. The fifth and sixth compliments were given at the 2011 Cannes Summit, both to South Africa as the incoming chair of the Durban climate change conference. The last compliment was made at the 2013 St. Petersburg Summit, again to South Africa. Thus, G20's compliments have largely gone to countries of the Global South, with the only non-G20 member receiving a compliment from the MENA (Middle East and North Africa) region.

In its deliberation, the G20 has dedicated 18,946 words to climate change. The G20 had a slow but steadily rising start. It made 64 words at its 2008 Washington and 2009 London summits, rising to

911 at 2009 Pittsburgh, 838 at 2010 Toronto and spiking to 2,108 at 2010 Seoul. The rising trend then reversed but not to the low levels before Seoul. From 2011 to 2013 the number of words stayed between 1,167 and 1,697. A sudden drop came at Brisbane 2014 with 323 words. Yet the next two summits dedicated over 1,000 words each. A huge rise to 5,255 words came at the 2017 Hamburg summit. This was followed by a fall to 532 at the 2018 Buenos Aires Summit, before rising again to 2,034 at the 2019 Osaka Summit.

In its direction setting, the G20 affirmed both of its two foundational missions to ensure financial stability and to make globalization work for all. On financial stability, the G20 has made one link to climate change, at the 2019 Osaka Summit. On making globalization work for all, the G20 has made two links. The first was at the 2016 Hangzhou Summit and the second at the 2019 Osaka Summit.

In its decision making, the G20 has made 92 commitments on climate change. At the 2009 London, 2009 Pittsburgh and 2010 Toronto Summits, G20 leaders made three commitments each. At 2010 Seoul and 2011 Cannes, eight commitments each came. At the 2012 Los Cabos Summit it made six commitments and another 11 at the 2013 St. Petersburg Summit. This high dropped to seven at the 2014 Brisbane Summit, three at the 2015 Antalya Summit and two at the 2016 Hangzhou Summit. Hamburg in 2017 produce 22. But this fell to three in 2018 at Buenos Aires. At the 2019 Osaka Summit, 13 climate commitments were made.

In its delivery, compliance with the 31 commitments assessed averaged 69%, below the G20's all summit average of 71%. Compliance was 45% with the one commitments assessed from the 2009 London Summit, rising to 93% at the 2009 Pittsburgh Summit. Compliance dropped to 53% at the 2010 Seoul Summit, before rising to 69% at the 2011 Cannes Summit and again to 80% at the 2012 Los Cabos Summit. Another drop to 42% came at the 2013 St. Petersburg Summit At the next five summits compliance rose to between 79% and 85%.

In its development of global governance on climate change, the G20 has made 42 references to inside institutions and 183 references to outside institutions.

The G20's Environmental Performance

Overall, the G20 has paid little attention to other environmental issues, including biodiversity. It first did so at the 2017 Hamburg Summit and ever since (see Appendix H).

In its domestic political management, the G20 has given one compliment. It came at the 2010 Seoul Summit to Mexico for hosting the UN climate conference that year. It is therefore the same compliment counted under the climate change above. It is counted again here due to the G20's explicit recognition of the inclusion of forest preservation at the climate meeting.

In its deliberation, the G20 has dedicated 3,826 words to biodiversity far less than its 18,946 to climate change. It started at the 2010 Seoul Summit with 459 words. Between the 2011 Cannes Summit and the 2013 St. Petersburg Summits it gave 115 to 136 words each. There was a gap between 2014 Brisbane and 2015 Antalya. The 2016 Hangzhou Summit had 87 words. This then jumped to 2,333 words at the 2017 Hamburg Summit. The jump was due to a stand-alone document on protecting the marine environment and marine litter. However, the 2018 Buenos Aires Summit dedicated just 171 words to biodiversity, and the 2019 Osaka Summit only 395.

In its direction setting, the G20 made four links to its foundational mission of ensuring globalization works for all and none with its second mission of ensuring global financial stability. The first three came at the 2017 Hamburg Summit. One was a reference to reducing ecological risks and ensuring "inclusive" growth, and two were on "equitable" access to land, including in regards to sustainable fisheries and forests management. The fourth was a reference to "accelerating…and leading transformations to a[n]…inclusive…future," made within a paragraph that also referenced biodiversity at the 2019 Osaka Summit.

In its decision making, the G7 has made 69 commitments on the environment, fewer than its 92 on climate change. The 2010 Seoul Summit to the 2013 St. Petersburg Summit each made between one and three. Between 2013 and 2016 no environment or biodiversity commitments were made. Suddenly, at the 2017 Hamburg Summit, G20 leaders made 57 such commitments — all on clean oceans. Another seven commitments came at the 2019 Osaka Summit, most on clean oceans.

In its delivery, compliance with the three assessed environment commitments averaged 60%, well below the 69% for the climate change ones. All three were from the 2017 Hamburg Summit on clean oceans and marine litter. The one on private sector engagement to reduce marine litter averaged 50%. The one on cooperation between countries and international organizations to support research on environmentally sound methods of marine waste averaged 40%. The one on public education for waste reduction had the highest compliance, at 90%.

In its development of global governance the G20 has made 19 references to outside institutions and two references to inside institutions. On the latter, both references came at the 2010 Seoul Summit, to a past G20 summit and to the G20 finance ministers. On the former, eight references to outside institutions came at the 2010 Seoul Summit, two came at the 2011 Cannes Summit, seven came at the 2017 Hamburg Summit and two came at the 2019 Osaka Summit. The majority of outside references were to the UN, including the UNFCCC and UNEP. Additional references included the International Maritime Organization, the OECD and the Organisation of Petroleum Exporting Countries (in reference to protecting the marine environment from oil spills).

The G20's Health Performance
The G20 governed human health since its start in 2008 (Vana 2019) (see Appendix I).

In its domestic political management it gave no compliments.

In its deliberation, the G7 dedicated 6,744 words to health, or one-third of those to climate change. It started at its first summit in Washington in 2008 with 118 words, and dropped to 59 words six months later at the 2009 London Summit. For the next five summits, a low of 139 words came at the 2010 Toronto Summit and a high of 643 words at the 2010 Seoul Summit. This followed an all-time high of 1,340 words at the St. Petersburg Summit, with most dedicated to the subjects of malnutrition and the health-related Millennium Development Goals (MDGs). The next year at the 2014 Brisbane Summit there were 769 words, most on Ebola. At the 2015 Antalya Summit there were 481 words. Big swings came throughout the next four years. This started with 234 words at the 2016 Hamburg Summit, rising to 707 at the 2017 Hamburg Summit, dropping to 316 words at the 2018 Buenos Aires Summit and rising to 934 words at the 2019 Osaka Summit.

In its direction setting the G20 has made 20 links between health and its second foundational mission of ensuring globalization works for all. It has not made any links to its first mission of ensuring global financial stability.

In its decision making, the G20 has made 75 health commitments. The first came at the 2014 Brisbane Summit with 33, mostly on Ebola. At the 2015 Antalya Summit and the 2016 Hangzhou Summit there were two and three commitments, respectively. At the 2017 Hamburg Summit produced 19. This fell to four at the 2018 Buenos Aires Summit, then rose to 14 at the 2019 Osaka Summit.

In its delivery of these decisions, compliance with the five assessed commitments averaged 73%. Compliance averaged 72% with the four on Ebola from the 2014 Brisbane Summit. It averaged 60% with the two commitments from the 2015 Antalya Summit. At the 2016 Hangzhou Summit compliance averaged only 30% with the one assessed. At the 2017 Hamburg Summit compliance averaged 98% with the one assessed. And at the 2018 Buenos Aires Summit compliance averaged 93% with the one assessed.

In its institutional development of global governance the G20 made 42 references to outside institutions and 36 to inside institutions. References to outside institutions went to the UN, the WHO, the International Monetary Fund, the African Union, the World Bank, the FAO, the OIE, the OECD, the African Development Bank and the Global Fund to Fight Aids, Tuberculosis and Malaria.

Indigenous Peoples
The G20 has made only one reference to Indigenous peoples in its communiqués. This was at the 2019 Osaka Summit in the 35th paragraph on climate change. It stated:

"To this end, we strive to foster inclusive finance for sustainable development, including public and private financing mobilization and alignment between them, as well as innovation in a wide range of areas for low emissions and resilient development. Climate actions at all levels with broad participation, including by non- state actors, will be the key to realizing such a paradigm shift. In further enhancing this effort, as appropriate to each country's circumstances, we will look into a wide range of clean technologies and approaches, including smart cities, ecosystem and community based approaches, nature based solutions and traditional and indigenous knowledge."

In this passage G20 leaders made their first commitment on Indigenous peoples.

G20 Linkages

The Climate Change and Environment-Health Link
The G20 made one explicit link between biodiversity and climate change at its 2010 Seoul Summit, stating "both climate change and loss of biodiversity are inextricably linked." The G20 also made two explicit links between clean oceans and health, both at the 2017 Hamburg Summit. These two oceans-health links were expressed as politically-binding commitments. Other linked environment-health related commitments appeared on the subjects of clean water, with six, and indoor air pollution, with three. The three commitments on the ozone layer can also be considered health-related, as this environmental problem came with increased risks of skin cancer. Lastly, the G20's commitments on AMR could be considered environment-health ones too, as the primary source of AMR is from animal agriculture.

The Indigenous Link with Climate Change, the Environment and Health
The G20 has made just one reference at the leaders' level to Indigenous peoples. It was made at the 2019 Osaka Summit in the context of climate change. It stated:

"Climate actions at all levels with broad participation, including by non- state actors, will be the key to realizing such a paradigm shift. In further enhancing this effort, as appropriate to each country's circumstances, we will look into a wide range of clean technologies and approaches, including smart cities, ecosystem and community based approaches, nature based solutions and traditional and indigenous knowledge" (G20 Osaka 2019).

G20 Ministers

G20 Environment and Energy Joint Ministers' Meeting
The G20 has never held a stand-alone environment ministers' meeting. It held a joint environment-energy ministers' meeting for the first time at its 2019 Osaka Summit. In its joint communiqué, these ministers made one reference to Indigenous Peoples. It was in the context of adaptation and resilient infrastructure, including ecosystem-based approaches. It stated:…

"We underscore the importance of adaptation planning based on the latest scientific knowledge, best practices and activities as well as enhancing enabling environments and adaptive capacities. We,

therefore, will continue to promote international cooperation to share relevant information, best practices and experiences, including indigenous and local knowledge, among various stakeholders…"

It also made five references to climate change, including in its opening preamble. This preamble also contained references to several environmental issues including biodiversity loss; resource efficiency; sustainable consumption and production; air, land, freshwater and marine pollution, urban environmental quality; and energy access. This 13 paragraph declaration also referenced health once, stating that marine litter requires urgent action given its potential harm to human health.

G20 Health Ministers

The G20 health ministers started meeting in 2017 under the German presidency. Here they did not make any references to Indigenous peoples, to climate change or to the environment. There was one reference to antimicrobial resistance in the environment. At the 2018 meeting in Mar del Plata, the ministers made one reference to Indigenous peoples, three references to the environment but no references to climate change. No link was made between the three subjects. At the 2019 meeting in Osaka, there was a joint health and finance ministers' meeting. No reference to Indigenous peoples, climate change or the environment were made here.

Part II: ISA Scholarship

This section considers how well G7 and G20 governance matches the science — in this case social science — on the link of climate, environment/biodiversity and health to Indigenous peoples. It does so by using as its scientific reference, the scholarship on Indigenous peoples at the International Studies Association (ISA) annual conferences from 2014 to 2019. A key word search of "Indigenous" was done on each of the five conference programs to identify papers and panels whose title included this word. Due to time constraints, other key words, such as specific Indigenous nationalities, were not searched. The numbers presented here are therefore intended to paint an initial picture and are an approximation. This review and analysis gives an initial indication of the representation of Indigenous papers at ISA. Further analysis could compare Indigenous papers' representation to that of papers on other groups/subjects to determine relative representation.

Between 2015 and 2019, there were approximately 216 papers on Indigenous peoples across many different subjects (see Appendix J). The number of papers per year has been somewhat uneven. The two conferences held in Canada that bookend the five year analysis, Toronto 2014 and Toronto 2019, had the most papers on this subject, with 49 and 48, respectively. The 2017 conference in Baltimore had 40 such papers, the 2018 San Francisco conference had 32 and the 2015 New Orleans conference had only 27. Across all years, there were 28 panels with "Indigenous" in the title. Most papers were from these panels, 134 in total, leaving 82 papers integrated throughout ISA panels on varying subjects.

On the integration of Indigenous papers throughout the ISA conference there is a steadily rising trend. At the 2014 Toronto conference there were five papers with "Indigenous" in the title that were part of a panel on another topic, for example on health, the marine environment and governance. At the 2015 New Orleans conference this rose to eight. At the 2016 Atlanta and 2017 Baltimore conferences this rose again to 14 each. At the 2018 San Francisco conference it was 18. And, finally, at the 2019 Toronto conference it climbed to 25 such papers.

Among the 216 papers, 23 had an environmental, biodiversity or health term in its title. This started with six papers at the 2014 ISA, with one each on biodiversity, nature, the marine environment and health, and two on forests. The 2015 New Orleans, 2016 Atlanta and 2017 Baltimore conferences had two each on environmental governance. In 2017 there were an additional two on climate change, for a total of four at Baltimore. At the 2018 San Francisco conference there were two such papers, one on climate change and one on forests. Lastly, at the 2019 Toronto conference this rose to seven

papers, with three on water, two on environmental justice, and one each on nature and climate change.

None of the 216 papers were on the G7 or G20. International institutional links were made to the UN with seven and to the International Labour Organization (ILO) with two.

Institutional Sponsorship

Of these 216 Indigenous papers, 18 were sponsored by the Environmental Studies Section. Seven of these were co-sponsored by the Global Development Section (with one including a third co-sponsor, the International Political Sociology Section). One was co-sponsored by the Science, Technology and Art in International Relations Section. One was co-sponsored by the International Political Sociology Section along with the Diplomatic Studies Section. One was co-sponsored by the Global International Relations and Regional World Section. Finally, there was one panel co-sponsored by the Global Health Section and the Global Development Section. None of the papers were sponsored by the Canada section.

Conclusion

On climate change, the G7 has outperformed the G20 across all dimensions of performance. However, on compliance their performance is fairly close although slightly higher for the G7 at 75% and 69% for the G20. This is even though the G7 has made significantly more commitments than the G20, at 369 and 92, respectively. Additionally, on the dimension of direction setting, each institution's performance is more or less on par on references to human rights. But on democracy, the G7 far surpasses the G20.

On biodiversity, the G7 again well outperforms the G20 across all dimensions, but with just an 8% difference on compliance (68% and 60%, respectively).

On health, the same pattern arises. G7 performance is significantly higher than the G20 on all dimensions of performance, apart from compliance with a 2% difference. And compared to the G7's own performance, the G7 has dedicated much more attention to health than to climate change, biodiversity or Indigenous peoples. Yet, its compliance on health is on par with its compliance on climate change, and only 7% higher than its compliance on biodiversity. This suggests that the number of commitments made is only weakly correlated with compliance, if at all. Rather than suggesting that the G7 should make very few commitments on any subject, it suggests that a deeper analysis of the substance of the commitments may be needed.

Other causes of compliance include whether there was a pre-summit ministerial meeting or whether there was surrounding institutional support for the G7/20's work on these core subjects (Kirton and Larionova 2018; Rapson forthcoming).

On Indigenous peoples, neither the G7 or G20 has performed well, dedicating just 415 and 100 words to Indigenous peoples, respectively. The G7 has made just three commitments to Indigenous peoples, while the G20 has made just one. At both summits, Japan put Indigenous peoples on the agenda. At the G7 this was at the 2000 Okinawa Summit and at the G20 this was at the 2019 Osaka Summit. Italy is the second leader, with Indigenous peoples staying on the agenda at the G7 environment ministers' level in 2001 in Trieste, Italy and then reappearing on the G7 leaders agenda, after a gap between 2001 and 2008, at the 2009 L'Aquila Summit. There was then another gap between 2001 and 2016, before Italy put Indigenous peoples on the agenda again at its 2017 Taormina Summit. Accounting for Japan's leadership could be the large Indigenous population there, including the Ainu, as well as the large Indigenous populations in the Asian region more broadly. Italy's leadership is likely due to surrounding UN summit support, with high-level UN meetings referenced in the same paragraph as Indigenous peoples (such as the 2009 Copenhagen and 2015 Paris climate summits).

On subject linkages, at both the G7 and G20, all references to Indigenous peoples were linked to either climate change or the broader environment. Although environmental health and human health are interrelated, there has been no explicit link recognizing the disproportionate burden of disease Indigenous peoples' bear. At the G7 there have been five references to Indigenous peoples, two linked to the environment (both on forests) and three on climate change and oceans made at the 2018 Charlevoix Summit. One of the forest ones (2009 L'Aquila) also linked forests with climate change. At the G7's environment ministerial level there have been many more references to Indigenous peoples, with 14 in all. Thus again, the G7 has outperformed the G20, which at both the leaders' level and at the environment-energy joint ministerial level made just one reference each to Indigenous peoples, with both on climate change. A key finding here is that neither the G7 or G20 health ministers' have included Indigenous peoples in their deliberations or decisions.

Indigenous peoples are therefore largely invisible in G7 and G20 governance. Moreover, Indigenous peoples, although linked with the G7 and G20's environmental and climate change governance, are referred to as either "partners" or "stakeholders" rather than as sovereign nations. with neither the G7 or G20 endorsing UNDRIP. These oversights are a product of historical and ongoing colonial worldviews, which continue to be prevalent. This is due to a lack of Indigenous voice and representation at the G7 and G20. Three key pathways for greater recognition of Indigenous peoples at the G7 and especially the G20 leaders' level are through civil society engagement groups, ministerial level meetings and the guest leader program. On engagement groups, the Think 7 (T7) and Think 20 (T20) groups of academics and scholars a fitting starting point. A review of the T20's recommendations to the G20 shows that no recommendations promoting Indigenous rights have been put forward between 2016 and 2019, suggesting a lack of Indigenous participants here, and as such, an opportunity for engagement with Indigenous academics and Indigenous-led think tanks. On ministerial meetings, first the G20 should institute an environment and climate change ministerial meeting, as it is the environment and climate change that are linked with Indigenous peoples at the leaders' level at both the G7 and G20 and at the environment ministers' level at the G7. Both the G7 and G20 should include Indigenous peoples at their health ministerial meetings, especially the knowledge that Indigenous peoples can bring to meeting and linking global environment, climate and health goals. Lastly, as distinct, sovereign nations, the G7 and G20 should invite Indigenous leaders as guests or permanent observers to their summits, as they do for other nations, such as Spain. A starting point here could be through institutions with prominent Indigenous leadership, such as the Arctic Council.

References

Bull, Julie R. 2010. "Research With Aboriginal Peoples: Authentic Relationships As A Precursor To Ethical Research". *Journal Of Empirical Research On Human Research Ethics* 5 (4): 13-22. doi:10.1525/jer.2010.5.4.13.

Canada, Public. 2017. "Tuberculosis In Canada, 2017 - Canada.Ca". *Canada.Ca*. https://www.canada.ca/en/public-health/services/reports-publications/canada-communicable-disease-report-ccdr/monthly-issue/2019-45/issue-2-february-7-2019/article-4-tuberculosis-in-canada.html.

"Climate Change | United Nations For Indigenous Peoples". 2020. *Un.Org*. https://www.un.org/development/desa/indigenouspeoples/climate-change.html.

Coates, Ken, and Terry Mitchell. 2012. "The Rise Of The Fourth World". *Centre For International Governance Innovation*. https://www.cigionline.org/articles/rise-fourth-world.

Das, Pamela, and Richard Horton. 2018. "Pollution, Health, And The Planet: Time For Decisive Action". *The Lancet* 391 (10119): 407-408. doi:10.1016/s0140-6736(17)32588-6.

"Forests And Poverty Reduction". 2015. *Fao.Org*. http://www.fao.org/forestry/livelihoods/en/.

"Indigenous Peoples Disproportionately Impacted By Climate Change, Systematically Targeted For Defending Freedoms, Speakers Tell Permanent Forum | Meetings Coverage And Press Releases". 2018. *Un.Org*. https://www.un.org/press/en/2018/hr5389.doc.htm.

Kirton, John J, and Marina Larionova. 2018. *Accountability For Effectiveness In Global Governance*. London: Routledge.

Kirton, John J. 2013. *G20 Governance For A Globalized World*. London: Ashgate.

Kirton, John, and Jenilee Guebert. 2009. "Canada's G8 Global Health Diplomacy: Lessons For 2010". *Canadian Foreign Policy Journal* 15 (3): 85-105. doi:10.1080/11926422.2009.9673493.

Krasner, Stephen. 1982. "Structural Causes And Regime Consequences: Regimes As Intervening Variables". *International Organization* 36 (2): 185-205.

"Land Acknowledgement | Indigenous University Of Toronto". 2020. *Indigenous University Of Toronto*. https://indigenous.utoronto.ca/about/land-acknowledgement/.

Landrigan, Philip, Richard Fuller, and Nereus Acosta. 2018. *Lancet Commission On Pollution And Health* 391 (10119): 462-512.

McGregor, Deborah. 2018. "From 'Decolonized' To Reconciliation Research In Canada: Drawing From Indigenous Research Paradigms". *ACME: An International Journal For Critical Geographies* 17 (3): 810-831.

Pattberg, Philipp, Sander Chan, Lisa Sanderink, and Oscar Widerberg. 2018. "Linkages: Understanding Their Role In Polycentric Governance". In *Governing Climate Change: Polycentricity In Action?*. Cambridge University Press.

"Project Drawdown". 2020. *Project Drawdown*. https://drawdown.org/.

Reischl, Gunilla. 2012. "Designing Institutions For Governing Planetary Boundaries — Lessons From Global Forest Governance". *Ecological Economics* 81: 33-40. doi:10.1016/j.ecolecon.2012.03.001.

Schuster, Richard. 2019. "Biodiversity Highest On Indigenous-Managed Lands". *UBC News*. https://news.ubc.ca/2019/07/31/biodiversity-highest-on-indigenous-managed-lands/?fbclid=IwAR2CwkQ6zpdj3DiWxpdRs3XdHBihH_gqBNC5KEZmVdQ9SJC5pLeecHSgUfc.

UN Declaration on the Rights of Indigenous Peoples. 2007. "UN Declaration On The Rights Of Indigenous Peoples."

UN Department of Economic and Social Affairs. 2019. "The State Of The World's Indigenous Peoples: Implementing The United Nations Declaration On The Rights Of Indigenous Peoples". https://social.un.org/unpfii/sowip-vol4-web.pdf.

UN Framework Convention on Climate Change. 2015. "Paris Agreement". UNFCCC.

Vana, Daniella (2019). "G20 Global Health Governance, 2008-2019." *G20 Information Centre,* October 7. Available at: http://www.g20.utoronto.ca/biblio/Vana-G20-health-governance.html.

Appendix A: G7 Performance on Climate Change

Summit	Domestic political management		Deliberation			Direction setting			Decision making			Delivery		Development of global governance		
			Words												Outside	
	# compliments	% compliments	#	%	Documents	Priority placement	Democracy	Human rights	# made	# assessed	% assessed	Score	%	Inside	# references	# bodies
1975	0	0	0	0	0	0	0	0	0	-	-	-	-	0	0	0
1976	0	0	0	0	0	0	0	0	0	-	-	-	-	0	0	0
1977	0	0	0	0	0	0	0	0	0	-	-	-	-	0	0	0
1978	0	0	0	0	0	0	0	0	0	-	-	-	-	0	0	0
1979	0	0	28	1.3	1	0	0	0	0	-	-	-	-	0	0	0
1980	0	0	0	0	0	0	0	0	0	-	-	-	-	0	0	0
1981	0	0	0	0	0	0	0	0	0	-	-	-	-	0	0	0
1982	0	0	0	0	0	0	0	0	0	-	-	-	-	0	0	0
1983	0	0	0	0	0	0	0	0	0	-	-	-	-	0	0	0
1984	0	0	0	0	0	0	0	0	0	-	-	-	-	0	0	0
1985	0	0	88	2.9	1	0	0	0	1	1	100	+0.50	76%	0	0	0
1986	0	0	0	0	0	0	0	0	0	-	-	-	-	0	0	0
1987	0	0	85	1.5	0	0	0	0	1	1	100	+0.29	65%	0	0	0
1988	0	0	140	2.7	1	0	0	0	0	-	-	-	-	0	3	2
1989	0	0	422	6	1	0	0	0	4	4	100	−0.07	47%	0	3	2
1990	0	0	491	5.9	1	0	0	0	7	4	57	−0.11	45%	0	2	2
1991	0	0	236	2.4	1	0	0	0	5	2	40	+0.38	69%	0	1	1
1992	0	0	137	1.8	1	0	0	0	7	3	43	+0.71	86%	2	2	1
1993	0	0	154	3.1	1	0	0	0	4	2	50	+0.57	79%	0	2	2
1994	0	0	107	2.6	1	0	0	0	4	2	50	+0.71	86%	1	0	0
1995	0	0	87	0.7	1	0	0	0	7	1	14	+0.29	65%	1	0	0
1996	0	0	167	0.8	1	0	0	0	3	1	33	+0.57	79%	1	2	2
1997	0	0	305	1.6	1	0	0	0	9	4	44	+0.31	66%	1	0	0
1998	0	0	323	5.3	1	0	0	0	10	3	30	+1.00	100%	1	0	0
1999	0	0	198	1.3	1	0	0	0	4	1	25	−0.22	39%	1	1	1
2000	0	0	213	1.6	1	0	0	0	4	1	25	+0.44	72%	1	1	1
2001	1	11	324	5.2	1	0	0	0	4	4	100	0	50%	2	2	2
2002	0	0	53	0.2	1	3	0	0	1	1	100	+0.89	95%	1	0	0
2003	0	0	62	0.3	1	5	0	0	4	2	50	+0.88	94%	1	0	0
2004	0	0	98	0.3	1	0	0	0	3	2	67	+0.89	95%	0	0	0
2005	0	0	2,667	9.3	3	10	0	0	29	5	17	+0.80	90%	3	20	6
2006	0	0	1,533	3.1	3	2	0	0	20	9	45	+0.35	68%	1	10	5
2007	4	44	4,154	12	5	10	0	0	44	4	9	+0.56	78%	1	16	7

Summit	Domestic political management		Deliberation			Direction setting			Decision making			Delivery		Development of global governance		
			Words												Outside	
	# compliments	% compliments	#	%	Documents	Priority placement	Democracy	Human rights	# made	# assessed	% assessed	Score	%	Inside	# references	# bodies
2008	0	0	2,568	17.5	3	8	0	0	54	5	9	+0.53	77%	2	22	11
2009	0	0	5,559	33.3	7	17	5	1	42	5	12	+0.64	82%	1	19	10
2010	1	11	1,282	12	1	1	2	0	10	3	30	+0.26	63%	0	5	3
2011	0	0	1,086	5.9	1	1	1	0	7	1	14	+0.67	84%	0	7	6
2012	0	0	789	7.1	2	0	0	0	5	1	20	+0.11	56%	0	4	3
2013	1	11	525	3.9	1	0	1	0	12	2	17	+0.22	61%	0	5	4
2014	0	0	747	14.6	1	0	0	0	16	2	13	+0.63	82%	0	7	6
2015	0	0	2379	18.8	2		3	0	23	5	22	+0.60	80%	0	44	3
2016	0	0	3802	16.5	2		2	2	12	3	25	+0.46	73%	0	1	1
2017	0	0	201	2.3	1		0	0	1	1	-	-	-	0	0	0
2018	0	0	1,696	15.1	3	1	2	0	12	4	33	+0.64	82%	0	8	8
2019	0	0	892	12.4	1	0	0	0	0	0	0	-	-	1	14	12
Total	7	-	33,598	-	55	58	16	3	369	89	-	-	-	22	201	101
Average	0.20	1.70	746.6	5.1	1.2	1.4	0.4	0.1	8.2	2.7	40.4	**+0.50**	**75%**	0.5	4.5	2.2

Notes: All data derived from documents issued in the G7/8 leaders' names at each summit. N/A=not available. Domestic political management includes all communiqué compliments related to climate change, i.e., references by name to the G7/8 member(s) that specifically express gratitude in the context of climate change. % indicates how many G7/8 members received compliments in the official documents, depending on the number of full members participating. Deliberation refers to the number of references to climate change. The unit of analysis is the paragraph. % refers to the percentage of the words in each document that relate to climate change. Direction setting: priority placement refers to the number of references to climate change in the chapeau or chair's summary; the unit of analysis is the sentence. Democracy refers to the number of references to democracy in relation to climate change. Human rights refers to the number of references to human rights in relation to climate change. Decisions made refers to the number of climate change commitments made. Decisions assessed refers to the number and percentage of climate change commitments assessed of the total made. Delivery refers to the overall compliance score for climate change commitments measured for that year. % assessed refers to percentage of commitments measured. Development of global governance: inside refers to the number of references to G7/8 environment ministers. Outside refers to the number of multilateral organizations related to climate change. The unit of analysis is the sentence.

Appendix B: G7 Performance on Biodiversity

Summit	Domestic political management		Deliberation			Direction setting			Decision making			Delivery		Development of global governance		
			Words												Outside	
	# compliments	% compliments	#	%	Documents	Priority placement	Democracy	Human rights	# made	# assessed	% assessed	Score	%	Inside	# references	# bodies
1975	0	0	0	0	0	0	0	0	0	n/a	n/a	n/a	n/a	0	0	0
1976	0	0	0	0	0	0	0	0	0	n/a	n/a	n/a	n/a	0	0	0
1977	0	0	0	0	0	0	0	0	0	n/a	n/a	n/a	n/a	0	0	0
1978	0	0	0	0	0	0	0	0	0	n/a	n/a	n/a	n/a	0	0	0
1979	0	0	0	0	0	0	0	0	0	n/a	n/a	n/a	n/a	0	0	0
1980	0	0	0	0	0	0	0	0	0	n/a	n/a	n/a	n/a	0	0	0
1981	0	0	0	0	0	0	0	0	0	n/a	n/a	n/a	n/a	0	0	0
1982	0	0	0	0	0	0	0	0	0	n/a	n/a	n/a	n/a	0	0	0
1983	0	0	0	0	0	0	0	0	0	n/a	n/a	n/a	n/a	0	0	0
1984	1	100%	0	0	0	0	0	0	0	n/a	n/a	n/a	n/a	0	0	0
1985	0	0	0	0	0	0	0	0	0	n/a	n/a	n/a	n/a	0	0	0
1986	0	0	0	0	0	0	0	0	0	n/a	n/a	n/a	n/a	0	0	0
1987	1	50%	145		1	0	0	0	2	1	50%	+0.29	65%	0	0	0
1988	1	33%	190		1	0	0	0	0	n/a	n/a	n/a	n/a	0	2	2
1989	0	0	638		1	0	0	0	4	0	0			0	5	5
1990	1	25%	735	9.7	1	0	0	0	18	1	6%	−1	0	0	7	6
1991	0	0	635	7.9	1	0	0	0	7	0	0			0	11	5
1992	0	0	321	4.3	1	0	0	0	4	0	0			0	6	4
1993	0	0	211	6.5	1	0	0	0	3	1	33%	+0.14	57%	0	8	8
1994	0	0	162	3.9	1	0	0	0	3	0	0			0	7	6
1995	0	0	226	3.2	1	0	0	0	4	0	0			0	6	4
1996	0	0	255	1.2	1	0	0	0	5	0	0			0	5	5
1997	0	0	308	2.4	1	0	0	0	7	0	0			0	5	3
1998	0	0	90	1.0	1	0	0	0	1	0	0			0	1	1
1999	0	0	140	1.4	1	0	0	0	0	n/a	n/a	n/a	n/a	0	2	1
2000	0	0	759	5.6	1	0	0	0	8	0	0			2	10	6
2001	0	0	247	3.9	1	0	0	0	1	0	0			0	3	3
2002	0	0	168	1.4	1	0	0	0	1	0	0			0	0	0
2003	0	0	1212	8.4	2	0	2	1	28	2	7%	+0.75	88%	0	12	8
2004	0	0	189	0.7	2	0	0	0	0	n/a	n/a	n/a	n/a	1	1	1
2005	0	0	247	1.2	2	0	0	0	0	n/a	n/a	n/a	n/a	0	0	0
2006	0	0	357	1.2	2	0	0	0	4	0	0			0	7	6
2007	0	0	486	1.2	1	0	0	0	5	1	20%	+0.56	78%	1	5	3
2008	0	0	849	5.2	3	0	0	0	9	1	11%	+0.44	72%	0	12	8

Summit	Domestic political management		Deliberation			Direction setting			Decision making			Delivery		Development of global governance		
			Words												Outside	
	# compliments	% compliments	#	%	Documents	Priority placement	Democracy	Human rights	# made	# assessed	% assessed	Score	%	Inside	# references	# bodies
2009	0	0	1687	5.4	3	0	0	0	13	2	15%	+0.78	89%	2	11	10
2010	1	11%	362	4.1	1	0	0	0	1	0	0			0	7	6
2011	0	0	749	4.0	2	0	2	0	3	0	0			6	13	8
2012	0	0	322	3.0	1	0	0	0	0	n/a	n/a	n/a	n/a	0	5	5
2013	0	0	270	2.0	1	0	0	0	1	0	0			0	5	5
2014	0	0	137	2.7	1	0	0	0	1	0	0			0	1	1
2015	0	0	975	7.7	2	0	1	0	8	2	25%	+0.82	91%	0	5	4
2016	0	0	528	2.4	1	0	0	0	4	0	0			0	1	2
2017	0	0	0	0	0	0	0	0	0	n/a	n/a	n/a	n/a	0	0	0
2018	0	0	1524	13.6	2	0	0	0	17	0	0			0	14	12
2019	0	0	1,168	16.2	1	0	0	0	4	n/a	n/a	n/a	n/a	2	8	5
Total	(4)	n/a	17,006	134	43	0	5	1	168	11	2		5	14	185	143
Average	0	0	378	3	1	0	0	0	4	0	0	+0.35	68%	0	6	4

Notes: All data derived from documents issued in the G7/8 leaders' names at each summit. N/A=not available. Domestic political management includes all communiqué compliments related to climate change, i.e., references by name to the G7/8 member(s) that specifically express gratitude in the context of climate change. % indicates how many g7/8 members received compliments in the official documents, depending on the number of full members participating. Deliberation refers to the number of references to climate change. The unit of analysis is the paragraph. % refers to the percentage of the words in each document that relate to climate change. Direction setting: priority placement refers to the number of references to climate change in the chapeau or chair's summary; the unit of analysis is the sentence. Democracy refers to the number of references to democracy in relation to climate change. Human rights refers to the number of references to human rights in relation to climate change. Decisions made refers to the number of climate change commitments made. Decisions assessed refers to the number and percentage of climate change commitments assessed of the total made. Delivery refers to the overall compliance score for climate change commitments measured for that year. % assessed refers to percentage of commitments measured. Development of global governance: inside refers to the number of references to G7/8 environment ministers. Outside refers to the number of multilateral organizations related to climate change. The unit of analysis is the sentence.

Appendix C: G7 Performance on Health

Summit	Domestic political management		Deliberation			Direction setting			Decision making			Delivery		Development of global governance		
			Words												Outside	
	# compliments	% compliments	#	%	Documents	Priority placement	Democracy	Human rights	# made	# assessed	% assessed	Score	%	Inside	# references	# bodies
1975	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-
1976	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-
1977	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-
1978	0	0	0	0	0	0	0	0	0	0	0	-	-	-	-	-
1979	0	0	15	0.7	1	0	0	0	0	0	0	-	-	0	0	0
1980	0	0	116	2.9	1	0	0	0	0	0	0	-	-	0	0	0
1981	0	0	59	1.8	1	0	0	0	0	0	0	-	-	0	0	0
1982	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0
1983	0	0	21	.97	1	0	0	0	[0]	1	?	+1.00	100%	0	0	0
1984	0	0	12	.36	1	0	0	0	0	0	0	-	-	0	0	0
1985	0	0	59	1.8	2	0	1	0	0	0	0	-	-	0	0	0
1986	0	0	74	2	1	0	1	0	0	0	0	-	-	0	0	0
1987	1	50%	719	14	3	0	0	0	0	0	0	-	-	0	2	1
1988	1	33%	195	4	2	0	0	0	0	0	0	-	-	0	0	0
1989	0	0	272	3.8	1	0	0	0	0	0	0	-	-	0	5	4
1990	0	0	146	1.9	1	0	0	0	0	0	0	-	-	0	1	1
1991	0	0	300	3.7	1	0	0	0	0	0	0	-	-	0	3	3
1992	0	0	34	.45	1	0	0	0	0	0	0	-	-	0	0	0
1993	0	0	62	1.8	1	0	0	0	0	0	0	-	-	1	0	0
1994	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0
1995	0	0	0	0	0	0	0	0	0	0	0	-	-	0	0	0
1996	0	0	825	5.3	2	0	0	0	3	0	n/a	n/a	n/a	0	9	7
1997	0	0	1400	10.7	2	0	1	1	4	0	n/a	n/a	n/a	1	6	4
1998	0	0	404	6.6	1	0	0	0	4	3	75%	+0.36	68%	0	5	5
1999	0	0	589	5.8	2	0	0	0	3	1	33%	0	50%	0	6	5
2000	0	0	1996	14.6	2	0	0	0	14	5	36%	+0.82	91%	1	25	7
2001	0	0	1520	24.4	2	0	0	0	3	2	66%	+0.88	94%	2	21	7
2002	0	0	1482	12.3	2	0	0	0	18	8	44%	+0.43	72%	0	2	1
2003	0	0	3753	22.2	3	0	0	0	15	6	40%	+0.80	90%	2	29	16
2004	0	0	1507	3.9	3	0	0	0	9	2	22%	+0.50	75%	0	7	7
2005	0	0	2197	9.8	4	0	0	0	11	6	55%	+0.44	72%	0	7	6
2006	2	40%	7072	23	7	0	0	1	60	5	8%	+0.37	69%	0	63	16
2007	0	0	4263	16.4	4	0	0	6	42	6	14%	+0.71	86%	0	50	17
2008	0	0	2008	11.9	3	0	0	0	19	4	21%	+0.17	59%	0	8	5

Summit	Domestic political management		Deliberation			Direction setting			Decision making			Delivery		Development of global governance		
			Words												Outside	
	# compliments	% compliments	#	%	Documents	Priority placement	Democracy	Human rights	# made	# assessed	% assessed	Score	%	Inside	# references	# bodies
2009	0	0	2338	14	6	0	1	4	9	3	33%	+0.37	69%	0	21	11
2010	0	0	2772	26.1	1	0	0	2	12	4	33%	+0.14	57%	0	22	13
2011	1	10%	756	4.1	2	0	0	0	7	1	14%	−0.11	45%	0	10	6
2012	0	0	450	12.3	1	0	2	5	1	1	100%	+1	100%	0	1	1
2013	0	0	934	6.92	2	0	0	0	2	1	50%	+0.89	95%	0	5	5
2014	1	20%	446	8.7	1	0	0	2	12	3	25%	+0.83	92%	0	3	2
2015	1	14%	2190	17.3	2	0	0	1	61	3	5%	+0.71	86%	0	23	12
2016	5	23%	6087	26.4	2	0	0	25	86	3	3%	+0.50	75%	3	65	15
2017	0	0	885	10.2	2	0	0	2	7	1	14%	-0.50	25%	1	3	3
2018	0	0	713	6.3	2	0	0	1	9	1	11%	+0.50	75%	0	3	3
2019	0	0	1145	15.9	0	0	1	1	4	n/a	n/a	n/a	n/a	1	4	4
Total	12		49,816	355.3	76	0	7	51	415	70				12	409	187
Average	0.3	0.0	1107	7.9	1.7	0	0.2	1.1	9.4	1.6	0.2%	+0.50	75%	0.3	10.0	4.6

Notes: All data derived from documents issued in the G7/8 leaders' names at each summit. N/A=not available. Domestic political management includes all communiqué compliments related to climate change, i.e., references by name to the G7/8 member(s) that specifically express gratitude in the context of climate change. % indicates how many g7/8 members received compliments in the official documents, depending on the number of full members participating. Deliberation refers to the number of references to climate change. The unit of analysis is the paragraph. % refers to the percentage of the words in each document that relate to climate change. Direction setting: priority placement refers to the number of references to climate change in the chapeau or chair's summary; the unit of analysis is the sentence. Democracy refers to the number of references to democracy in relation to climate change. Human rights refers to the number of references to human rights in relation to climate change. Decisions made refers to the number of climate change commitments made. Decisions assessed refers to the number and percentage of climate change commitments assessed of the total made. Delivery refers to the overall compliance score for climate change commitments measured for that year. % assessed refers to percentage of commitments measured. Development of global governance: inside refers to the number of references to G7/8 environment ministers. Outside refers to the number of multilateral organizations related to climate change. The unit of analysis is the sentence.

Appendix D: G7 Performance on Indigenous Peoples

Summit	Domestic political management Compliments #	%	Deliberation Words #	%	Documents	Direction setting Priority placement	Democracy	Human rights	Decision making # made	# assessed	% assessed	Delivery Score	%	Development of global governance Inside	Outside # references	# bodies
2000	0	0	136	1%	2	0	0	0	0	0	0	0	0	1	0	0
2001	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2002	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2003	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2004	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2005	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2006	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2007	0	0	0	0	0	0	0	1*	0	0	0	0	0	0	0	0
2008	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2009	0	0	51	0.2%	1	0	0	0	1	0	-	-	-	0	1	1
2010	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2011	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2012	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2013	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2016	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2017	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2018	0	0	186	1.7%	2	0	0	0	2	0	0	0	0	0	0	0
2019	0	0	42	0.6%	1	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	415	-	6	0	0	1	3	0	0	0	0	1	1	1
Average	0	0	104	0.01%	2	0	0	-	-	0	0	0	0	-	-	-

Notes: The G7 did not start performing on Indigenous peoples until the 2000 Okinawa Summit. *2007 Heiligendamm reference to human rights was made in a document that does not count for coding. All data derived from documents issued in the G7/8 leaders' names at each summit. N/A=not available. Domestic political management includes all communiqué compliments related to climate change, i.e., references by name to the G7/8 member(s) that specifically express gratitude in the context of climate change. % indicates how many G7/8 members received compliments in the official documents, depending on the number of full members participating. Deliberation refers to the number of references to climate change. The unit of analysis is the paragraph. % refers to the percentage of the words in each document that relate to climate change. Direction setting: priority placement refers to the number of references to climate change in the chapeau or chair's summary; the unit of analysis is the sentence. Democracy refers to the number of references to democracy in relation to climate change. Human rights refers to the number of references to human rights in relation to climate change. Decisions made refers to the number of climate change commitments made. Decisions assessed refers to the number and percentage of climate change commitments assessed of the total made. Delivery refers to the overall compliance score for climate change commitments measured for that year. % assessed refers to percentage of commitments measured. Development of global governance: inside refers to the number of references to G7/8 environment ministers. Outside refers to the number of multilateral organizations related to climate change. The unit of analysis is the sentence.

Appendix F: G7 Climate-Environment-Health Links

Summit	Total # words (%)	Total # paragraphs (%)	Air pollution	Water pollution	Oceans/ plastics	Chemicals/hazardous substances	Biotechnology	Energy (incl. nuclear)	General (environmental degradation)	Climate change
1975 Rambouillet	0	0								
1976 San Juan	0	0								
1977 London	0	0								
1978 Bonn	0	0								
1979 Tokyo	0	0								
1980 Venice	0	0								
1981 Ottawa	0	0								
1982 Versailles	0	0								
1983 Williamsburg	0	0								
1984 London	0	0								
1985 Bonn	89	1	1	1		1				
1986 Tokyo	0	0								
1987 Venice	89	1	1	1		1				
1988 Toronto	141	1	1	1		1				
1989 Paris	117	2	1	1		1				
1990 Houston	126	2					1	1		
1991 London	0	0								
1996 Lyon	253	4	1	2					1	
1997 Denver	324	4	1	3		1			1	1
1998 Birmingham	0	0								
1999 Köln	534	5					5			
2000 Okinawa	381	3	1				2			
2001 Genoa	250	2				1	2			
2002 Kananaskis	287	8		6		1	1			
2003 Evian	1454	55	1	50		1	3			1
2004 Sea Island	62	1								1
2005 Gleneagles	434	7	3	3				2		
2006 St. Petersburg	1177	17	3	4				2		8
2007 Heiligendamm	350	4	1	1			1			
2008 Hokkaido	799	6								
2009 L'Aquila	654	5		4					1	1
2010 Muskoka	0	0								
2011 Deauville	264	3		2						1
2012 Camp David	183	2	2							2*
2013 Lough Erne	255	2		1				1		
2014 Brussels	0	0								
2015 Elmau	255	4		1	1		1			1

Summit	Total # words (%)	Total # paragraphs (%)	Air pollution	Water pollution	Oceans/ plastics	Chemicals/hazardous substances	Biotechnology	Energy (incl. nuclear)	General (environmental degradation)	Climate change
2016 Ise-Shima	400	2							2**	
2017 Taormina	0	0								
2018 Charlevoix	386	3	1	1	2					
2019 Biarritz	53	1		1						
Total	9317	145	18	83	3	8	16	6	3	14
Average	227	4	1	5	2	1	2	2	1	2

Notes:

Method: Reviewed G7 core health, climate change and biodiversity conclusions

Inclusions: Air pollution, water pollution (excludes water scarcity/availability), chemicals. Plus environmental determinants or links to health made explicit. For example, infectious diseases are generally excluded unless there is an explicit link/recognition made between infectious disease and the environment or climate change. Includes: biotechnology, nuclear/energy, food/agriculture, climate change

Subjects: the unit of analysis is the paragraph. For example, if "air pollution" is referenced twice in one paragraph it counts as one reference to air pollution. Additionally, if more than one subject is referenced in the same paragraph each subject is counted.

*the same two paragraphs reference SLCP contribution to climate change and to health

**includes one reference to non-communicable disease and one to AMR

Appendix G: G20 Performance on Climate Change

Summit	Domestic political management Compliments		Deliberation Words		Direction setting					Decision making	Delivery Commitments		Development of global governance Inside		Outside	
	#	%	#	%	Financial stability	Globalization for all	Priority placement	Democracy	Human rights	# commitments	Score	% assessed	Ministerial	Official level	# references	# bodies
2008 Washington	0	0%	64	1.7	0	0	0	0	1	0	-	-	0	0	0	0
2009 London	0	0%	64	1.0	0	0	1	0	0	3	−0.10 (45%)	33% (1)	0	0	1	1
2009 Pittsburgh	1	5%	911	9.7	0	0	4	0	0	3	+0.86 (93%)	33% (1)	4	0	10	5
2010 Toronto	1	5%	838	7.4	0	0	0	1	0	3	+0.42 (71%)	100% (3)	0	0	3	3
2010 Seoul	2	10%	2,018	12.7	0	0	2	1	0	8	+0.05 (53%)	50% (4)	5	3	20	11
2011 Cannes	2	10%	1167	8.2	0	0	0	1	0	8	+0.38 (69%)	37% (3)	2	0	11	7
2012 Los Cabos	0	0%	1,160	9.1	0	0	0	1	0	6	+0.59 (80%)	50% (3)	1	5	6	5
2013 St. Petersburg	1	5%	1,697	5.9	0	0	1	0	0	11	-0.17 (42%)	27% (3)	0	3	10	7
2014 Brisbane	0	0%	323	3.5	0	0	0	0	0	7	+0.51 (76%)	71% (5)	0	0	4	2
2015 Antalya	0	0	1,129	8	0	0	0	0	0	3	+0.70 (85%)	85% (1)	1	1	5	3
2016 Hangzhou*	0	0	1,754	11	0	1	0	1	0	2	+0.58 (79%)	100% (2)	1	3	5	4
2017 Hamburg	0	0	5,255	15	0	0	1	1	1	22	+0.62 (81%)	14% (3)	0	11	26	9
2018 Buenos Aires	0	0	532	6	0	0	0	0	0	3	+0.57 (79%)	79% (2)	0	0	3	3
2019 Osaka	0	0	2034	31	1	1	0	0	0	13	NA	NA	1	1	10	9
Total	7	n/a	18,946	n/a	1	2	9	5	2	92	n/a	31	15	27	114	69
Average	0.78	4%	1,353	9.3	0.1	0.1	0.88	0.4	0.1	6.6	+0.38	69%	1.1	1.9	8.1	4.9

Notes: Domestic Political Management includes all explicit references by name to the full members of the Summit that specifically express the gratitude within the context of climate change of the institution to that member. The % of members complimented indicates how many of the 20 full members received compliments within the official documents, depending on how many full members there were that year.

Deliberation to number of times climate change is referenced in the G20 leaders' documents for the year in question. The unit is the paragraph. % refers to the percentage of the overall number of words in each document that relate to the climate change.

Direction Setting, as Priority Placement refers to the number of times climate change is referenced in the chapeau or chair's summary for the year in question. The unit of analysis is the sentence. The number in parenthesis refers to environment references. Democracy refers to the number of times there was a reference to democracy in relation to climate change. Human rights refers to the number of times there was a reference to human rights in relation to climate change. The unit of analysis is the paragraph.

Decision Making refers to the number of climate change commitments. Delivery refers the overall compliance score for climate change commitments measured for that year. % Assessed represents percentage of commitments measured. The numbers in parenthesis refer to energy commitments.

Development of Global Governance. Inside refers to the number of references to institutions inside the G20 made in relation to climate change. Ministerial refers to ministerial groups. Official Level refers to official level groups. Outside refers to the number of external multilateral organizations related to climate change. The unit of analysis is the sentence.

*2016 Hanzghou Communiqué reference to climate change-GGA: "We are determined to foster an innovative, invigorated, interconnected and **inclusive** world economy to usher in a new era of global growth and sustainable development, taking into account the 2030 Agenda for Sustainable Development, the Addis Ababa Action Agenda and the **Paris Agreement**.

Appendix H: G20 Performance on the Environment/Biodiversity

Summit	Domestic political management Compliments #	%	Deliberation Words #	%	Direction setting Financial stability	Globalization for all	Decision making # commitments	# assessed	Delivery Commitments Score	Percent	Development of global governance Inside	Outside
2008 Washington	0	0%	0	0%	0	0	0	NA	NA	NA	0	0
2009 London	0	0%	0	0%	0	0	0	NA	NA	NA	0	0
2009 Pittsburgh	0	0%	0	0%	0	0	0	NA	NA	NA	0	0
2010 Toronto	0	0%	0	0%	0	0	0	NA	NA	NA	0	0
2010 Seoul	1	5%	459	3%	0	0	1	0			2	8
2011 Cannes	0	0%	136	1%	0	0	3	0			0	2
2012 Los Cabos	0	0%	130	1%	0	0	0	NA	NA	NA	0	0
2013 St. Petersburg	0	0%	115	0.4%	0	0	1	0			0	0
2014 Brisbane	0	0%	0	0%	0	0	0	NA	NA	NA	0	0
2015 Antalya	0	0%	0	0%	0	0	0	NA	NA	NA	0	0
2016 Hangzhou	0	0%	87	0.5%	0	0	0	NA	NA	NA	0	0
2017 Hamburg	0	0%	2,333	7%	0	3	57	3	+0.20	60%	0	7
2018 Buenos Aires	0	0%	171	2%	0	0	0	NA	NA	NA	0	2
2019 Osaka	0	0%	395	6%	0	1	7	0			0	0
Total	1	NA	3,826	NA	0	4	69	3	NA		2	19
Average	0.07	0.4%	273	1.5%	0	0.4	5.0	0.2	+0.20	60%	0.1	1.4

NA=not applicable

Blank cell = no data available

Appendix I: G20 Performance on Health

Year	Domestic political management		Deliberations			Direction setting		Decision making		Delivery		Development of global governance	
	Attendance	Communiqué compliments	Words		Documents	Financial stability	Quality	Commitments		Compliance	#	Inside	Outside
			#	%				#	Overall				
2008 Washington	100%	0	118	3.2	1	0	0	0	0	-	-	0	1
2009 London	100%	0	59	0.9	1	0	0	0	0	-	1	0	0
2009 Pittsburgh	100%	0	284	3	1	0	0	0	0	-	1	0	0
2010 Toronto	90%	0	139	1.2	1	0	1	0	0	-	-	0	1
2010 Seoul	95%	0	643	4.1	4	0	1	0	0	-	1	3	2
2011 Cannes	95%	0	470	2.9	3	0	1	0	0	-	-	1	0
2012 Los Cabos	95%	0	250	1.9	2	0	0	0	0	-	-	0	1
2013 St. Petersburg	90%	0	1340	11.2	5	0	2	0	0	-	-	6	4
2014 Brisbane	90%	0	769	8.4	3	0	1	33	16	+0.43 (72%)	4	4	9
2015 Antalya	90%	0	481	3.5	3	0	1	2	1.7	+0.20 (60%)	2	5	3
2016 Hangzhou	100%	0	234	1.4	4	0	0	3	1.4	−0.40 (30%)	1	4	5
2017 Hamburg	100%	0	707	2	3	0	3	19		+0.95 (98%)	1		
2018 Buenos Aires	100%	0	316	4	2	0	4	4		+0.85 (93%)	1		
2019 Osaka	100%	0	934	14	1	0	6	14		-			
Total	N/A	0	6744	N/A	34	0	20	75	N/A	-	5	23	26
Average	95%	0	482	4	2	0	1.4		1.7	+0.45 (73%)	1.3	2.1	2.4

Appendix J: Papers on Indigenous Peoples at the International Studies Association Conventions

	2014 Toronto	2015 New Orleans	2016 Atlanta	2017 Baltimore	2018 San Francisco	2019 Toronto	Total
Papers from non-Indigenous Peoples panels	5	8	14	14	16	25	82
Panels	11	3	5	1	5	3	28
Research Grant	1						1
Roundtable		2		1		4	6
Flash Talk Session						1	1
Virtual Engagement					1		1
Poster Session		1					1
Sub-total							
Subjects							
Climate change/justice				2	1	1	4
Biodiversity	1						1
Forests	2				1		3
Nature	1					1	2
Marine environment	1						1
Health	1						1
Water						3	3
Environment violence/rights						2	2
Environmental governance		2	2	2			6
Sub-total	6	2	2	4	2	7	23
United Nations	1		1		4	1	7
G7/G20/BRICS							0
International Labour Organization			1			1	2
Other topics							
Agriculture	1					1	2
Canadian colonialism/context	11	1	2	3	1	2	20
Nordic colonialism						1	1
Colonialism/settler relations	12	7	6	5	3	10	42
Governance	1	1	8	1	8	1	20
Human rights/conflict	5	8	8	2	4	4	31
Resource extraction/development	5	2	4		1	2	13
TEK	2		3		1	1	7
Solidarity actions	1						1
International relations	4	8		1	1	6	18
Gender		1	1	3	1	7	13
Pop culture/art			1		2	1	4
Financial inclusion						1	1
Social media			2			2	4

	2014 Toronto	2015 New Orleans	2016 Atlanta	2017 Baltimore	2018 San Francisco	2019 Toronto	Total
Japan				1	1		2
Trade					1		1
Education		1			2		3
Tourism			1				1
Sub-total							193
Total papers	49	31	40	20	32	48	216
Institutional Section Sponsor							
Canada							0
Environmental Studies	6	2	1	2	3	4	18
Health	1						1
International organization							0
Global development	34	5	16	2	19	17	93
Gender	10	0	1	4	2	4	21
Other	25	35	58	22	17	24	181

Notes:

Papers: the number of papers on a panel that was not exclusively on Indigenous peoples or settler-colonial relations

Panels: the number of panels on Indigenous peoples or settler-colonial relations

Sections: the number of sections exclusively on Indigenous peoples or settler-colonial relations

Subjects: Indigenous papers that are on the core subjects of this paper related to the environment, climate change and health

Other topics: Indigenous papers that are on subjects other than the core subjects of this paper

Colonialism/imperialism: includes references to "settlers"

TEK = Traditional Ecological/Indigenous Knowledge

Papers on forests and nature are from the panel on TEK "Alternative or Complementary Spaces? Indigenous Rights and Traditional Knowledge in International Politics" (SA42).

Total: totals are the total number of Indigenous papers, including the core and other subjects

IP: Indigenous Peoples

Inclusions terms: Indigenous, colonial-settler,

2014: The papers on a non-IP panel are human rights (1), governance (1), health (1), agriculture (1), solidarity actions (1) and the marine environment (1).

Appendix K: G7-G20 Performance Comparison Across All Dimensions and Climate, Environment, Health and Indigenous

	Climate change			Biodiversity			Health			Indigenous		
	G7	G20	G7/G20	G7	G20		G7	G20		G7	G20	
Domestic political management	7	7		4	1		12	0		0	0	
Deliberation	33,598	18,946	56%	17,006	1,786	11%	49,816	6,744	14%	415	100	96%
Direction setting: Democracy	16	5		5			51			0		
Direction setting: Human resources	3	2		1			7			0		
Direction setting: Financial stability		1			1			0			0	
Direction setting: Globalization for all		2			4			20			1	
Decision making[a]	369 (89)	92 (31)	25%	168 (11)	69 (3)	41%	415 (70)	75 (5)	18%	3 (0)	1	33%
Delivery	+0.50 (75%)	+0.38 (69%)	92%	+0.35 (68%)	60%	88%	+0.50 (75%)	+0.45 (73%)	97%	n/a	n/a	
Development of global governance: Inside	22	15		14	2		12	23		1	0	
Development of global governance: Outside	201	114		185	19		409	26		1	0	

Note: [a] = number of commitments made on that subject, with the number of assessed commitments in parentheses.