



BALSILLIE SCHOOL
OF INTERNATIONAL AFFAIRS

The Age of Unpredictability

2026 Global Trends Report

An Anthology of Briefing Notes by Graduate Fellows at the
Balsillie School of International Affairs





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The Foreign Policy Research and Foresight Division at Global Affairs Canada is proud to support and be associated with the Graduate Fellowship Program/Young Thinkers on Global Trends Initiative. The challenges facing Canada today are unprecedented and truly global. Tackling those challenges requires fresh ideas and engagement with new generations of thinkers, researchers, and activists to help create opportunities for a sustainable future. We would like to thank the students and professors of the Balsillie School of International Affairs for their time, effort and commitment throughout the year to make this initiative successful. The results of their work, which has been encapsulated in this anthology, will help inform the work of Global Affairs Canada as it relates to foreign policy, trade and international development.



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Introduction

Predictability. The rules-based international order (RBIO) of the post-World War II era is premised on the idea that law can bring a degree of predictability to world affairs. Public international law governs relations between states and international actors. International trade law is designed to set the rules of the game for the global economy so that everyone is singing from the same song sheet. International humanitarian law aims to distinguish between the permissible and impermissible in situations of conflict and hold perpetrators of crimes that shock the conscience to account. International human rights law sets the standards that define the relationship between states and their citizens. The point of the non-proliferation regime is to limit the number of states that possess nuclear weapons. The aim of international environmental law is to mitigate harms to the planet stemming from centuries of industrial activity. In short, the goal is to bring a little bit of order to the anarchy.

There has been a dearth of writing in recent years lamenting the demise of the era of law. Trust and cooperation — the bedrocks of relations — have given way to distrust and zero-sum game nationalism, including among states with deep historical ties and alliances. Legally dubious tariffs and economic warfare now dominate trade relations. Belligerents in the world's worst crises commit horrific atrocity crimes without fear of repercussion. In much of the world, liberalism is giving way to autocratic and illiberal rule. Not only are the great powers modernizing their nuclear weapons arsenals, but there is a palpable danger that an increasing number of countries will seek to acquire a nuclear bomb

as world affairs become more volatile. Meanwhile, the green transition has stalled (and even regressed) since the high-water mark in 2016 when the world came together to adopt the Paris Treaty and pledged to limit global rises in temperature to 1.5 degrees Celsius.

The RBIO has never been a panacea. The order — which entrenched power dynamics — has been deeply unfair to much of the world. Understandably, there is a fair degree of ambivalence about its future. And while many of the standards it championed have been noble, enforcement has always been aspirational and selective at best, hypocritical at worst. For those states and actors that feel unduly constrained by law, a little more turmoil in the global arena is something to be welcomed, especially if it advances national interests.

Where does all of this leave Canada? For 80 years, it has hitched its wagon to the RBIO. Indeed, from the onset of the post-World War II era, the central dictate of Canadian foreign policy has been that the country is more secure and more prosperous when there are strong rules. And for 80 years, that dictate has served Canadians well. But what if the rules no longer hold any currency? It is a sobering prospect, to be sure. There is a growing acknowledgement in many circles that Canada can no longer afford to rely on the international system for its well-being. Above all, it can no longer rely so heavily on the United States, which, under President Trump, seems determined to create an order in which US action on the world stage is as unconstrained and unincumbered as possible.

These are unprecedented times, and Canada needs a nimble and innovative foreign policy if it is to not only survive but thrive in this new reality.

The Age of Unpredictability is the tenth anthology in the Balsillie School of International Affairs' (BSIA's) Global Trends Report series. It consists of 15 student policy briefs divided into three thematic sections. Section 1: Emerging and Systemic Challenges contains six briefs that propose novel ways in which Canada can protect its national and economic security in a world increasingly shaped by great power rivalry. Section 2: Food Security, Climate and International Assistance consists of five briefs that point to opportunities for Canada to help the world's most vulnerable, even at a time of diminishing aid budgets. Finally, Section 3: Human Rights and the Indo-Pacific is made up of four briefs that propose various ways Canada can champion international criminal justice, debt relief, refugee protection and Indigenous rights.

On behalf of everyone at the BSIA, we thank Trevor Swerdfager, Don McCutchan, Peter Bates, Omar Bitar and Lillian Thomsen for serving as discussants for the March and June oral presentations.

We thank the more than two-dozen BSIA faculty, fellows and Ph.D. students who mentored the teams. The Graduate Fellowship Program has become a signature part of the BSIA experience, one that would not be possible without your unwavering commitment to training the next generation of policy makers.

Thank you to our copy editor, Carol Bonnett, and graphic designer, Melodie Wakefield, for their tremendous work in getting this anthology to press.

Congratulations to our students. These are not easy assignments. We are deeply appreciative that the policy briefs in this anthology are the product of nine months of hard work that is on top of your degree obligations. We hope they will play a small role in your future successes.

Finally, huge thanks to Global Affairs Canada. 2025 marks the tenth anniversary of the collaboration between the department and the BSIA. Back in the summer of 2015, officials with the Foresight Unit first asked whether we were interested in researching new and emerging trends for which Canada should be preparing. The result was the Graduate Fellowship Program, which has become the school's signature professional development program. In the last decade, BSIA students have produced nearly 150 policy briefs for the department. Collectively, they represent not only our contribution to foreign policy making but innovative thinking about what Canada can and should be doing to make the world a little less chaotic.

Ann Fitz-Gerald
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Emerging and Systemic Challenges

Commercial Sovereignty: Enhancing Canada's Economic Security amid Global Tensions

Fabrice Blais-Savoie, Daniela Mendoza Ramirez and Jacob Tuckey

Issue

Canada's current approach to trade is too narrow: the country has too few partners and, despite being reliant on exports, it fails to coordinate its trade and economic policy.

Background

Canada's territory and natural resources have historically been a major strength. However, as trade tensions rise, the fungible nature of natural resources (Canada-United States-Mexico Agreement [CUSMA] 2019) have limited the country's ability to negotiate. It must diversify its exports away from natural resources to strengthen its negotiation position in trade agreements. Canada's most important exports are supply chain inputs. In fact, over 60 percent of Canada's net exports are unprocessed goods (Growth Lab at Harvard University 2023). This means that Canada captures very little of the profit generated throughout the ever-lengthening global supply chains (Kim and Park 2024; Wang et al. 2017).

While a complete redesign of the domestic industry is inadvisable, and clearly outside the scope of the Global Affairs Canada (GAC) mandate, the reorientation of trade toward new partners may create incentives for Canadian industries to invest in refining or transformation. Canada's current main partners, the United States, China and the United Kingdom, are some of the world's principal importers of primary resources (UN Comtrade n.d.). Reorienting trade incentives, such as trade agreements,

toward countries that import mostly transformed goods could have a knock-on effect and encourage production of these transformed, higher margins, goods (Kohl 2014; Orefice and Rocha 2014). This hypothesis is further supported by the high level of interest in transformed goods and intellectual property intensive industries in trade negotiations such as the Comprehensive and Progressive Trans-Pacific Partnership (CPTPP) implying they see a high potential benefit from these agreements (Rodrik 2018).

Investment agreements would also be conducive to this shift. While they may not directly encourage domestic industry to move toward transformation, by encouraging Canadian investors to invest in other countries and encouraging foreign direct investment into Canada, they will enable greater integration of Canada into global value chains. By selecting partners and shaping these agreements to encourage specific types of investments (for example, limiting investments into natural resources) they can be made even more effective (Egger, Pirotte and Titi 2023; Gopalan, Park and Rajan 2023). Thus, Canada needs to take the lead and identify key partners with compatible economies to sign partnership agreements with and raise the country's standing in the global value chain.

Canada's Investment Struggles

Beyond its external exposure, Canada faces several structural problems hindering its long-term economic security, specifically in terms of its declining business investment in non-residential sectors (Caranci and Marple

2024; Bafale and Robson 2024). This decline in capital intensity has been linked to lower productivity among Canadian firms, placing the national economy at risk amid the erosion of key trade ties (ibid. 2024). Should this continue, Canada's private sector will experience greater difficulty in global markets, ultimately constituting a threat to employment. In a world marked by the aggressive postures taken by the Trump administration and rivals such as China, Canada must align its growth ambitions at home and abroad to weather these threats.

A core issue is the lack of effective capital deployment into new ventures and projects. Although it remains a high-income country, Canada ranks next-to-last for capital stock per worker among Organisation for Economic Co-operation and Development states, outpacing only New Zealand in 2022 (C.D. Howe Institute 2022). Under such conditions, Canadian firms increasingly struggle to secure non-residential private investment, looking disproportionately to financial institutions in the United States (McIntyre 2025). Considering recent shifts in rhetoric between Ottawa and Washington, a strategy must aim to address the shortfalls in Canadian investment and open opportunities elsewhere. An effective asset of Canada is its institutional investor presence, namely, its public sector pension funds, which perform at a world-class level. While politicizing said fund's decisions would be ill-advised, building knowledge networks with financial professionals in these firms could enable holistic action (O'Leary 2025). Further, the complexity and multi-layered nature of the Canadian taxation environment has long posed a challenge for international investment in the country (RBC The Growth Project 2024). Efforts to simplify, streamline and build leaner requirements for firms, particularly in emerging markets such as the tech sector, will be critical to securing their long-term investment potential. Ontario's Special Economic Zones, while controversial, provide an interesting initiative that could be bolstered through bonded warehouses or expanded to include easier visa processing or trade policy leeway (Crawley 2025).

Canada's Incentive Complex

At present, over 150 federal government programs have been identified as business subsidies, providing either tax-based incentives or direct financial assistance to Canadian firms (Lester 2024, 8–9). Administered by a great number

of federal departments including GAC through its Trade Commissioner Service, government expenditure on direct subsidies has grown by 140 percent since 2015 (ibid., 6–8). Given the renewed focus on fiscal responsibility at the federal level, such programs must emphasize flexibility and maximize their impact-per-dollar. Thus, rather than attempting to expand them, it may be beneficial to consider compartmentalization and centralization of their administration at GAC.

Under the CANExport umbrella at GAC, for instance, several programs are offered to provide advice, expertise and financing below market rates for Canadian firms (GAC 2025b). Although they provide value, it could be beneficial to review their operations for potential overlap with other departments supporting export activity including Innovation, Science and Economic Development (ISED) or perhaps crown corporations such as Export Development Canada (EDC) (ISED 2025; EDC 2025). Cross-administration of these financing activities with other stakeholders in the public service could introduce additional policy lenses and enhance delivery at little additional cost. Further, by conducting a comprehensive review of various specialized programs that aim to bolster export activity, funds could be transferred from high-impact to low-impact programs over the long term.

Diversification through Trade and Diplomacy

Canada's economic security remains vulnerable due to its continued overreliance on the United States, which still accounts for approximately 75 percent of Canadian exports (Statistics Canada 2025). This concentration puts Canada at a high risk, especially considering deteriorating bilateral relations under the second Trump administration, which has been marked by protectionist policies, trade tensions and sector-specific tariffs in key areas such as manufacturing, automotive and energy (Hernandez-Roy 2025).

Recognizing the need to mitigate overdependence well before this latest shift in US policy, the Canadian government launched the Export Diversification Strategy in 2018 (GAC 2018). The strategy aimed to increase overseas exports by 50 percent by 2025 through investments in trade infrastructure, support for small- and medium-sized enterprises, and the negotiation of new

free trade agreements (FTAs). As of 2025, Canada has 15 FTAs with 51 countries, including major framework agreements such as CUSMA, the Canada-European Union Comprehensive Economic and Trade Agreement (known as CETA), and the CPTPP (GAC 2020).

More recently, Canada has adopted region-specific approaches. The Africa Strategy (GAC 2025a) seeks to deepen engagement with African institutions, promote youth employment and strengthen peace and security partnerships. The Indo-Pacific Strategy aims to reduce dependence on traditional partners by enhancing trade, investment and supply chain linkages across the Asia-Pacific, partly in response to a growing Chinese influence in this area (GAC 2022). These efforts are supported by increased diplomatic outreach, such as the Team Canada Trade Missions (GAC2024; Globerman 2023).

However, major gaps remain. Canada has not finalized free trade agreements with key emerging economies and blocs such as the Association of Southeast Asian Nations (known as ASEAN), India, MERCOSUR (a South American trading bloc consisting of Argentina, Brazil, Paraguay and Uruguay), or the long-delayed Canada-CARICOM (Caribbean Community) agreement (GAC 2021; GAC 2017b; GAC 2016b; GAC 2016a). Efforts to strengthen ties with India, Canada's tenth-largest trading partner and the world's fifth-biggest economy, were stalled following diplomatic tensions in 2023 (Choudhury, Dawar and Dutta 2025). While Canada has trade agreements with several Latin American and Caribbean nations (for example, Chile, Colombia, Costa Rica, Peru), it lacks a cohesive regional strategy. Unlike Africa and the Indo-Pacific, where formal strategies guide Canadian engagement, or the Canada-CARICOM Strategic Partnership launched in 2023, no comprehensive Latin America strategy exists, limiting Canada's policy guidance to coordinate trade, diplomacy and development policy (Batacan et al. 2023; GAC 2017a).

Recommendations

Diversify and optimize partners. Within the framework of Canada's Export Diversification and Indo-Pacific Strategies, the government should reevaluate the scope and focus of its engagement with Indo-Pacific nations, considering the recent leadership transition under Prime Minister Mark Carney. Restoring diplomatic relations with India should be a top priority. A clear road map

for re-engagement must be developed, including the scheduling of high-level meetings between prime ministers and foreign ministers, in continuation of the Group of Seven invitation. Canada should also actively advocate for the resumption of negotiations on the Early Progress Trade Agreement.

Prioritize trade partners based on economic compatibility with its export objectives, particularly those with a demand for Canadian transformed goods rather than raw inputs. To support this, GAC and the Trade Commissioner Service should reassess the geographic focus of current trade missions, ensuring they are strategically targeted. Where appropriate, resources should be redirected toward Latin America, especially in countries with underutilized FTAs, such as Peru and Costa Rica, or where trade negotiations are ongoing, including with CARICOM. This should become part of a formal Latin American and Caribbean strategy. Clear priorities and timelines should be set, and input from diaspora communities and the private sector should be included. Canada should design trade policy with Canadian industry in mind, prioritizing transformed goods over raw resources for exports.

Align economic, fiscal and trade policies for resilience. GAC should create a volunteer advisory board to establish ties with the Canadian financial sector, paving the way for a future global investment strategy. This will allow the government to benefit from the Maple Eight¹ public sector pension funds and banking giants' expertise and aid in identifying strategic opportunities for major Canadian firms in emerging markets, while also reducing policy risk for these actors. To reduce overlap with ISED on business subsidy activities, GAC should institute an interdepartmental working group with the goal of aligning funding schemes between the two organizations. This will become particularly important with the growing interest in diversifying trade and economic ties away from the United States. This working group should include relevant crown corporations (for example, EDC) to identify opportunities for joint financing and administration on projects that offer both an economic security benefit and gains for Canada's private sector to ensure the centralization of services.

¹ Maple Eight are the eight-largest Canadian pension funds.

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Works Cited

Bafale, Mawakina and William B.P. Robson. 2024. "Underequipped: How Weak Capital Investment Hurts Canadian Prosperity and What to Do about It." C.D. Howe Institute. September 12. <https://cdhowe.org/publication/underequipped-how-weak-capital-investment-hurts-canadian-prosperity-and-what/>.

Batacan, Bianca, Genevieve Varelas, Jose Villagra and Gustavo Villela. 2023. "A Canadian Strategy for Latin America and the Caribbean." *Open Canada* (blog). April 25. <https://opencanada.org/a-canadian-strategy-for-latin-america-and-the-caribbean/>.

Caranci, Beata and James Marple. 2024. "From Bad to Worse: Canada's Productivity Slowdown Is Everyone's Problem." TD.com. September 12. <https://economics.td.com/ca-productivity-bad-to-worse>.

C.D. Howe Institute. 2022. "Weak Capital Investment in Canada Hurts Canadian Workers." C.D. Howe Institute. August 18. <https://cdhowe.org/publication/weak-capital-investment-canada-hurts-canadian-workers-2/>.

Choudhury, Suvolaxmi Dutta, Tanya Dawar and Suyesha Dutta. 2025. "Background Note on Canada-India Relations: Opportunities, Challenges, and the Road Ahead." Asia Pacific Foundation of Canada. April 9. www.asiapacific.ca/publication/background-note-canada-india-relations-opportunities.

Crawley, Mike. 2025. "Special Economic Zones: The Secret Weapon in Doug Ford's Bill 5." CBC News, May 30. www.cbc.ca/news/canada/toronto/special-economic-zones-ontario-government-bill-5-analysis-1.7547438.

CUSMA. 2019. "Chapter 4: Rules of Origin." www.international.gc.ca/trade-commerce/trade-agreements-accords-commerciaux/agr-acc/cusma-aceum/texte-texte/04.aspx.

Egger, Peter, Alain Pirotte and Catharine Titi. 2023. "International Investment Agreements and Foreign Direct Investment: A Survey." *The World Economy* 46 (6): 1524–65. <https://doi.org/10.1111/twec.13429>.

EDC. 2025. "EDC Investments." EDC.ca. <https://www.edc.ca/en/solutions/financing/investments.html>.

———. 2016a. "Canada-Caribbean Community Free Trade Agreement Negotiations." GAC. December 15. www.international.gc.ca/trade-commerce/trade-agreements-accords-commerciaux/agr-acc/caricom/fta-ale/background-contexte.aspx?lang=eng.

———. 2016b. "Canada-Mercosur Free Trade Agreement." GAC. December 16. www.international.gc.ca/trade-commerce/trade-agreements-accords-commerciaux/agr-acc/mercousr/index.aspx?lang=eng.

———. 2017a. "Canada and Latin America and the Caribbean." GAC. April 12. www.international.gc.ca/world-monde/international_relations-relations_internationales/latin_america-americque_latine/index.aspx?lang=eng.

———. 2017b. "Canada-India Comprehensive Economic Partnership Agreement Negotiations." GAC. October 4. www.international.gc.ca/trade-commerce/trade-agreements-accords-commerciaux/agr-acc/india-india-cepa-apeg/index.aspx?lang=eng.

———. 2018. "Diversifying Canada's Trade and Investment Opportunities." GAC. August 14. www.international.gc.ca/gac-amc/campaign-campagne/trade-diversification-commerce/index.aspx?lang=eng.

———. 2020. "Expand Globally with Canada's Free Trade Agreements." GAC. December 3. www.tradecommissioner.gc.ca/fta-ale-canada.aspx?lang=eng.

———. 2021. "Canada-ASEAN Free Trade Agreement." GAC. November 9. www.international.gc.ca/trade-commerce/trade-agreements-accords-commerciaux/agt-acc/asean-anase/fta-ale/negotiations-negociations.aspx?lang=eng.

———. 2022. "Canada's Indo-Pacific Strategy." GAC. November 24. www.international.gc.ca/transparency-transparence/indo-pacific-indo-pacifique/index.aspx?lang=eng.

———. 2024. "Minister Ng Announces 2025 Team Canada Trade Missions to Bring More of Canada to the Indo-Pacific." News releases. October 17. www.canada.ca/en/global-affairs/news/2024/10/minister-announces-2025-team-canada-trade-missions-to-bring-more-of-canada-to-the-indo-pacific.html.

———. 2025a. "Canada's Africa Strategy: A Partnership for Shared Prosperity and Security." GAC. February 18. www.international.gc.ca/gac-amc/publications/transparency-transparence/canada-africa-strategy-strategie-afrique.aspx?lang=eng.

———. 2025b. "Funding and Support Programs for Doing International Business." GAC. May 22. www.tradecommissioner.gc.ca/funding_support_programs-programmes_de_financement_de_soutien.aspx?lang=eng.

Globerman, Steven. 2023. "Canada's Indo-Pacific Trade Strategy and Trade Diversification | Fraser Institute." October 24. www.fraserinstitute.org/studies/canadas-indo-pacific-trade-strategy-and-trade-diversification.

Gopalan, Sasidaran, Cyn-Young Park and Ramkishen S. Rajan. 2023. "Do International Investment Agreements Attract Foreign Direct Investment Inflows? Revisiting the Literature." *Economic Analysis and Policy* 80 (December): 471–81. <https://doi.org/10.1016/j.eap.2023.09.002>.

Growth Lab at Harvard University. 2023. "Canada." The Atlas of Economic Complexity. Harvard Kennedy School. <https://atlas.hks.harvard.edu/explore/treemap?exporter=country-124&tradeFlow=net>.

Hernandez-Roy, Christopher. 2025. "Effects of the Trump Administration's Tariff Threats Against Canada and Mexico." March. www.csis.org/analysis/effects-trump-administrations-tariff-threats-against-canada-and-mexico.

ISED. 2025. "Programs and Initiatives." May 22. [https://ised-isde.canada.ca/site/ised/en/programs-and-initiatives](http://ised-isde.canada.ca/site/ised/en/programs-and-initiatives).

Kim, Se-Jik and Ziho Park. 2024. "Measuring the Length of Supply Chains." *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.5028966>.

Kohl, Tristan. 2014. "Do We Really Know That Trade Agreements Increase Trade?" *Review of World Economics* 150 (3): 443–69. <https://doi.org/10.1007/s10290-014-0188-3>.

Lester, John. 2024. "Federal Business Subsidies: Explosive Growth since 2014." *The School of Public Policy Publications* 17 (1). <https://doi.org/10.55016/ojs/spp.v17i1.78329>.

McIntyre, Catherine. 2025. "Canadian Startups Are Addicted to American Money." *The Logic*. May 12. <https://thelogic.co/news/canadian-startups-fundraising-american-venture-capital/>.

O'Leary, Katie. 2025. "The Success of the Canadian Model and Maple 8." *Chronograph*. February 13. www.chronograph.pe/the-success-of-the-canadian-model-and-maple-8/.

Orefice, Gianluca and Nadia Rocha. 2014. "Deep Integration and Production Networks: An Empirical Analysis." *The World Economy* 37 (1): 106–36. <https://doi.org/10.1111/twec.12076>.

RBC The Growth Project. 2024. "Canada's Growth Challenge: Why the Economy Is Stuck in Neutral." RBC. June 4. www.rbc.com/en/thought-leadership/the-growth-project/canadas-growth-challenge-why-the-economy-is-stuck-in-neutral/.

Rodrik, Dani. 2018. "What Do Trade Agreements Really Do?" *Journal of Economic Perspectives* 32 (2): 73–90.
<https://doi.org/10.1257/jep.32.2.73>.

Statistics Canada. 2025. "Trade in Goods by Exporter Characteristics, 2024." *The Daily*. Government of Canada. May 16.. www150.statcan.gc.ca/n1/daily-quotidien/250516/dq250516b-eng.htm.

UN Comtrade. n.d. "Trade Data." <https://comtradeplus.un.org>.

Wang, Zhi, Shang-Jin Wei, Xinding Yu and Kunfu Zhu. 2017. "Characterizing Global Value Chains: Production Length and Upstreamness." National Bureau of Economic Research Working Paper No. 23261. Cambridge, MA: National Bureau of Economic Research. <https://doi.org/10.3386/w23261>.

Safeguarding Canadian Democracy: Confronting Foreign Interference and Disinformation

Acouamela Amandé and Kiara Yllescas

Issue

Safeguarding Canadian democracy requires urgent, coordinated strategies to counter threats posed by foreign interference — including disinformation and artificial intelligence (AI)-driven media manipulation, such as the use of algorithms, deepfakes, and automated bots to spread false or misleading content that undermine the integrity of Canadian elections.

Background

Foreign interference, utilizing media manipulation and AI now presents an unprecedented threat to Canada's democratic governance. Recent federal elections have exposed critical gaps in Canada's capacity to respond swiftly and effectively to these challenges. Hogue (2025, 2) highlighted several shortcomings that impair Canada's ability to "deter, detect and counter" threats to electoral integrity (Hogue 2025, 2).

Canada is a democratic, open society renowned for its welcoming and tolerant stance. However, foreign states and proxies exploit this openness through deception in the information space to undermine Canadian democracy and advance strategic interests at Canadians' expense. This constitutes foreign interference and poses a serious national security threat.

The Canadian Security Intelligence Service (CSIS) continues to observe steady — and in some cases

intensifying — foreign interference by state actors against Canada (CSIS, 2025). These campaigns target all facets of society, with a particular focus on democratic institutions and processes. Wesley Wark (2024) explains the insidious nature of this threat: "Foreign interference targeting democratic societies works not by the classic Orwellian formula of ruthless powers limiting sources of information and knowledge...but by producing an opposite effect. The opposite effect is multiplying and amplifying chosen channels of information and attempting to corrupt the availability of true information in favor of that which is both false and harmful."

Such campaigns are designed to exploit societal divisions, erode public confidence in institutions, and influence political outcomes in ways that serve foreign interests. Recent media coverage — particularly allegations of interference by China — has heightened public awareness (Hogue, 2025). Research on the disinformation surrounding Kenny Chiu's 2021 Foreign Influence Registry Act demonstrates how its false framing as a measure targeting the Chinese community fostered confusion and suspicion within diaspora communities. The result was a weakening of trust in democratic processes and a suppression of informed public debate (Lee & Fung, 2022). This case illustrates how targeted disinformation can manipulate public perception, drive social polarization, and exploit vulnerabilities in a country's communication infrastructure. Canadians have often turned to mainstream media for clarity, as the Government of Canada has not

maintained a sufficiently visible or consistent role in public communication (*ibid.*). This gap reflects the inherent challenges of handling sensitive intelligence and the complexities of attribution.

Addressing these threats necessitates a proactive, transparent and coordinated response. One such tool is the Rapid Response Mechanism (RRM) — a Canadian-led Group of Seven (G7) initiative established in 2018 to monitor and counter foreign interference in democratic processes (Global Affairs Canada 2021). The RRM leverages open-source intelligence to raise awareness while protecting classified information. Enhancing and elevating the RRM's role could enable Canada to better inform citizens and strengthen resilience against foreign interference.

The Hogue Commission

In 2023, the Canadian government took a decisive step by establishing the Public Inquiry into Foreign Interference in Federal Electoral Processes and Democratic Institutions, led by the Honourable Marie-Josée Hogue. This marked Ottawa's formal acknowledgment of public concern over foreign meddling (Hogue 2024). The inquiry followed reports of interference by Russia in the 2016 US and French elections and, more recently, Chinese interference in Canada's 2019 and 2021 federal elections (*ibid.*; Runciman and Baker 2017).

The inquiry's mandate was to assess Canada's capacity to "detect, deter and counter" foreign interference, revealing significant gaps in the national security apparatus (Hogue 2025, 2). The 2019 election case study highlighted Chinese influence efforts, including allegations of Chinese officials pressuring students, influencing candidate nominations and indirect financial support for certain candidates. Interference efforts also involved the *Buffalo Chronicle* disinformation campaign. While these did not sway the overall election outcome, they likely influenced specific ridings and damaged public trust, especially among diaspora communities.

Similarly, the 2021 election case study identified interference involving China, India and Russia. Alleged activities included misinformation targeting the Conservative Party and MP Kenny Chiu, covert financial support and influence in key ridings. Again, these efforts did not alter the election outcome but did impact public confidence and community trust (*ibid.* 2025).

A key finding was the government's inadequate response capacity, especially via the RRM, which failed to serve as an effective alerting or coordination tool during critical periods (BBC 2022). Prime Minister Trudeau publicly acknowledged China's "aggressive games," but the delayed response underscored a need for greater operational visibility and responsiveness.

The Hogue Report

On January 28, 2025, the Public Inquiry released its final report, confirming foreign interference in the 2019 and 2021 elections. It found that interference, while not altering the election results, posed an "existential threat" to Canada. The report identified bureaucratic shortcomings, including slow responses, fragmented intelligence sharing and insufficient public communication (Hogue 2025).

Other key findings include:

- No evidence of "traitors" in Parliament conspiring with foreign states.
- Some parliamentarians engaged in questionable conduct but not outright treason.
- The primary threat is the spread of misinformation and disinformation through media and social networks.
- Transnational repression against diaspora communities in Canada is a significant concern.
- The intelligence delivery system has been restructured but remains untested (*ibid.*).

2025 — Additional Developments

The *Cyber Threats to Canada's Democratic Process: 2023* (Canadian Security Establishment [CSE]2023) report identified technological interference as an emerging threat to Canada's democratic processes. Since then, this threat has intensified with the rapid growth of generative AI. Between 2023 and 2024, the number of reported cases involving AI-driven election interference increased to 102 cases across 41 elections worldwide — up from just one case during 2021–2023 — driven by improvements in the quality, affordability and accessibility of AI technologies (CSE 2025, 3).

In their 2025 report, the CSE warned that foreign state actors are actively deploying AI for public opinion manipulation, disinformation and social polarization

(Government of Canada 2025). This development marks a dangerous escalation: AI enables the creation of quicker, more captivating content, which complicates detection and response efforts. Commissioner Hogue has described this manipulation as an “existential threat” to Canada. However, she also noted that Canada’s bureaucratic response remains too fragmented and slow. The widening gap between the agility of foreign adversaries and the institutional capacity of Canada jeopardizes the integrity of upcoming elections (Hogue, 2025).

Recommendations

RRM public attribution protocol. The federal government should develop a clear, evidence-based protocol for publicly attributing foreign interference, ensuring consistency across G7 states. It should create criteria and evidence standards to determine when and how to publicly attribute threats. The RRM should include a tiered attribution system: low-confidence threats are flagged internally, while high-confidence threats are disclosed publicly with evidence. Cautiously leveraging AI technologies, the RRM should analyze large data sets and assess threats, guided by a threat model (Blais-Savoie 2025). Given Canada’s leadership role in the RRM, it can spearhead the development of international attribution standards.

Education and public awareness strategy. The Government of Canada should establish a non-partisan oversight body (for example, ombudsman) to validate attribution claims before public release, ensuring transparency and credibility. The body should incorporate media literacy education into school curricula and higher education programs, focusing on foreign tactics, AI disinformation and election security. It should also launch a public education campaign modelled after successful initiatives such as TVO’s *Big [If True]* television series, which effectively communicate complex threats in an engaging manner (TVO Media Education Group, 2024).

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Works Cited

BBC. 2022. “Trudeau accuses China of ‘aggressive’ election interference.” November 8. www.bbc.com/news/world-us-canada-63551134.

Blais-Savoie, Fabrice. 2025. “Algorithmic Intelligence: A Solution to Canada’s Capacity Constraints?” Unpublished Manuscript.

CSIS. 2022. *CSIS Public Report 2022*. www.canada.ca/en/security-intelligence-service/corporate/publications/csis-public-report-2022.html.

CSIS. 2025. *Foreign interference threats to Canada’s democratic process*. Government of Canada. <https://www.canada.ca/en/security-intelligence-service/corporate/publications/foreign-interference-threat-to-canadas-democratic-process.html>

CSE. 2023. *Cyber threats to Canada’s democratic process: 2023 update*. <https://www.cyber.gc.ca/sites/default/files/cyber-threats-canada-democratic-process-2023-update-v1-e.pdf>

CSE. 2025. *Cyber Threats to Canada’s Democratic Process*. www.cyber.gc.ca/sites/default/files/tdp-2025-e-v1.pdf.

Hogue, Marie-Josée, 2025. *Public Inquiry into Foreign Interference in Federal Electoral Processes and Democratic Institutions – Final Report*. Privy Council Office, Government of Canada. https://foreigninterferencecommission.ca/fileadmin/report_volume_1.pdf.

Global Affairs Canada. 2021. *G7 Rapid Response Mechanism Annual Report 2021*. www.international.gc.ca/transparency-transparence/assets/pdfs/rapid-response-mechanism-mecanisme-reponse-rapide/g7-rrm-2021-annual-report-en.pdf.

Lee, S.-F. and Fung, B. 2022. "Misinformation and Chinese interference in Canada's affairs." *Policy Options*. <https://policyoptions.irpp.org/magazines/january-2022/misinformation-and-chinese-interference-in-canadas-affairs/>

Runciman, Bob and George Baker. 2017. *Controlling Foreign Influence in Canadian Elections*. Report of the Standing Senate Committee on Legal and Constitutional Affairs. https://sencanada.ca/content/sen/committee/421/LCJC/reports/Election_Report_FINAL_e.pdf.

TVO Media Education Group. (2024). *TVO's new show 'Big [If True]' tackles mis- and disinformation with award-winning journalist Molly Thomas*. TVO. <https://tvo.me/tvos-new-show-big-if-true-tackles-mis-and-disinformation-with-award-winning-journalist-molly-thomas/>

Wark, Wesley. 2024. "Foreign Interference Online: Where Disinformation Infringes on Freedom of Thought." In *Legitimate Influence or Unlawful Manipulation*, 1-8. Waterloo, ON: CIGI. www.cigionline.org/publications/foreign-interference-online-where-disinformation-infringes-on-freedom-of-thought/

Modernizing Canada's Trade Approach: Recommendations for Strategic Trade Policy

Daniel Maniyoki and Andrew Olson

Issue

Canadian policy changes in response to the currently shifting global economic paradigm have left the needs of some sectors insufficiently addressed by a uniform approach to trade policy.

Background

Recent global economic policy shifts have been dominated by a broad protectionist turn. A confluence of factors drive this turn, but particularly relevant are the political shifts in the United States, a decline of the influence of multilateral trade organisations, particularly the World Trade Organization (WTO), an increase in state-led industrial policy, a growing push to force the internalization of climate costs and a rising desire for more domestic supply chain resilience. These shifts do not impact all sectors in the same way and some, due to differentiated impacts, require individualized attention. This brief recommends that Canadian digital exports, critical minerals and agricultural sectors require new, specialized responses from Global Affairs Canada's (GAC's) trade policy. The benefits of these policy changes involve new opportunities, derisking, increasing economic resilience and driving economic growth.

This policy brief will focus on specific industries as GAC's overall trade policy has already moved to address broad trends that impact most Canadian industries, such as working to counter the threat of tariffs. There

is no single answer to the protectionist turn that will entirely alleviate the economic damage and risk. In this environment, strategic considerations around key industries are increasingly important, particularly when domestic industrial and trade policy must coordinate. A strategic approach helps enable Canada to take advantage of anticipated trade diversification resulting from third markets becoming more hostile to the United States as tariffs and uncertainty risk rise.

The recommendation is to consolidate critical minerals trade policy into the Canadian Critical Minerals Strategy (CCMS), increasing policy harmonization and taking into consideration the impacts of non-tariff barriers on digital industries and moving toward a “shock-centred” approach to building agricultural import and export opportunities.

Digital Exports

Digital exports² — cross-border trade in services and goods delivered electronically, such as software, streaming, cloud computing and e-commerce — are a fast-growing segment of Canada's economy. These exports are embedded within Canada's broader trade strategy, with agreements like the Canada-United States-Mexico Agreement and the Comprehensive and Progressive Trans-Pacific Partnership including dedicated digital trade chapters, chapters 19 and 14, respectively (Government of Canada 2018; 2020). These agreements ban customs duties on

² The digital goods and services trade is sometimes referred to as electronic commerce or e-commerce.

digital products, mandate free cross-border data flows and prohibit forced data localization and source-code disclosure. Through them, Canada has positioned itself as a supporter of open digital trade, emphasizing innovation and global competitiveness.

Globally, digital protectionism is intensifying. Countries are increasingly regulating digital trade through data localization requirements, digital service taxes and platform-specific obligations, which may function like new kinds of non-tariff barriers (NTBs). China has adopted some of the most restrictive policies, mandating domestic data storage and limiting access for foreign tech firms (Zhang 2024). The European Union, despite its strong privacy framework, has been criticized for targeting foreign digital giants through regulatory regimes such as the Digital Services Act and Digital Markets Act (European Union 2022). The United States has challenged the digital policies of allies and implemented its restrictions on data flows tied to national security (US Department of Justice 2025). These trends suggest a growing fragmentation of the global digital economy. Countries are increasingly asserting control over data, content and platform governance in ways that often conflict with international digital trade norms. To better tackle this fragmentation in the global trading regime, identifying policies that both serve domestic purposes and function as non-tariff trade barriers, such as The Online Streaming Act, Digital Charter Implementation Act and the recently discarded Digital Service Tax is critical. Incorporating these strategically into a negotiating framework is key to modernizing Canada's trade strategy regarding digital goods.

While these measures reflect legitimate domestic policy goals, they also resemble the kinds of digital trade barriers that Canada has committed to avoiding, and are increasingly the tools used in trade conflicts around digital services, rather than direct tariffs. In this context, Canada must adopt a more strategic approach to digital protectionism, directly addressing the trade risks associated both with international and domestic regulations. While open digital markets benefit Canadian exporters, domestic regulations — especially those related to privacy, culture and taxation — are politically important. Policy makers and trade negotiators should, therefore, treat digital protectionism as both a tool and a negotiating asset. At the same time, Canada must be cautious not to undermine its trade credibility or open itself to dispute

resolution claims. Additionally, with Canada's comparative advantage in cheap energy costs, and a similarly educated digital labour force, Canada also stands to gain with the global trade diversion away from the United States. To manage this balance, Canada needs a coherent digital trade strategy that aligns domestic regulatory goals with international commitments.

Critical Minerals

The shift in the international trade environment has been particularly notable for critical minerals. However, unlike many goods that are impacted by tariffs on imports, the critical minerals sector has instead seen the rise of export restrictions. In Indonesia, export restrictions on raw materials escalating to bans have been put into place as a part of a larger push to capture critical minerals refinement (Hopewell 2024). In China, critical mineral tariffs have been used as a part of larger trade and security conflicts against both the United States and other nations (Fan, Omura and Roca 2023). A large number of nations have placed less dramatic restrictions, and across the whole market, restrictions on exports have been increasingly broad and severe. While some of these restrictions result from the confluence of security policy and trade, or as a part of trade conflict, the broad pattern in their expansion is fundamentally rooted in the market dynamics of the critical minerals industry. As stated by an Organisation for Economic Co-operation and Development paper on the practice, "Such restrictions create incentives for other producing countries to introduce similar restrictions, putting yet more upward pressure on international prices and ultimately creating more incentives to restrict exports." (Kowalski and Legendre 2023). These market dynamics have accelerated in the face of the WTO appellate blockage and ongoing trade conflicts. All of these factors have led to a market dominated by political restrictions on the movement, use and price of critical minerals.

The CCMS is the centre of Canadian activity within the sector, and targets extraction, refinement and utilization of critical minerals. Canada has signed a significant number of international partnerships, including key exporters such as Indonesia, but they are not broadly targeted to protect Canada from export restriction. As export restrictions are likely to further increase globally, Canada should expect to be subject to both broad and targeted restrictions on Canadian import capacity. At the same time, this market structure presents major opportunities for Canadian producers, so long as they can navigate the unpredictable

price volatility and political dynamics of these markets.

The combination of a highly restricted international market, competing importers, high demand and intertwined security considerations create further risk around both import and export of critical minerals.

Exporting at unrestricted prices may see purchasing at a premium by states interested in monopolizing refining, and the use of this monopoly power to move prices, which in turn can impact exporters. This, or other similar practices, may put the capacity for Canada to develop its refining industry in peril, putting pressure on Canada's own industrial policy objectives in this space.

Food

While a sharp rise in protectionism has created a major disruption for most global markets, agriculture already existed in a significantly less open environment. The multilateral approach, now in crisis elsewhere, had been struggling in agriculture since the Doha round failures in 2011 (Castellano-Álvarez, Javier and Ramírez 2022). A combination of agricultural subsidies, tariffs and complex NTBs dominates the international agriculture space. Since the pandemic, a further push toward supply chain resilience and an emphasis on domestic food supply have diminished the capacity to open markets. Part of this emphasis is due to food shocks becoming more common. Political shocks such as the invasion of Ukraine, disease-based shocks, oil shocks and climate change-linked shocks all have roles in recently driving global food prices upward (Bentley et al. 2022). These shocks, particularly climate-based ones, are likely to both continue and intensify (Tchonkouang, Onyeaka and Nkoutchou 2024). Further strains such as the pullback of the US Agency of International Development (known as USAID) and persistent concerns about the impact of food support on local farmers create a transformed global environment (Anfaal et al. 2025; Kelinsky-Jones, Niewolny and Stephenson 2024). This environment offers limited opportunities to open new food export markets, but increased vulnerability to shortages and price spikes, even as they occur more often. This combination puts pressure on global food systems but presents a potential opportunity for Canada.

As noted in Canada's "National Food Pathways" document, Canada is explicitly looking to build a food system that is "more resilient to economic and environmental shocks and better positioned to seize opportunities" (Agriculture

Canada 2021). How can Canada utilize international trade to fulfill this mandate? Canada should build partnerships around responding to medium-term food shocks. The need for the simultaneous ability to respond to increasing shocks and to help maintain self-sufficiency creates the space for a type of standardized shock response, which is referred to in this brief as a framework for temporary exports. The goal of this approach would be to utilize and commercialize Canada's developing flexible domestic food capacity. When shocks occur, Canada can expand production with targeted, negotiated exports to impacted countries. This would both help increase the financial viability of maintaining flexible capacity and reduce global price volatility by addressing shocks through temporary international markets. This approach has the advantage of exporting without permanently suppressing domestic farm prices in the impacted areas.

This framework should not be solely domestic. The goal of this framework would be to enable purchasing countries suffering from shocks to negotiate with interested exporters and to purchase future food production capacity using tools such as negotiated price bands. Exporter governments would work with industry partners to identify capable sellers who have previously indicated interest and work to facilitate the response. These markets would be intended to be temporary, specifically targeting medium-term shocks and looking to utilize resilient food capacity.

This is a largely novel approach and, as such, there is currently no international or common bilateral framework for rapid, temporary modification of trade barriers to respond to shocks. While temporary markets are less desirable than permanent trade openness for Canadian exports, they present a new opportunity, which simultaneously helps create a more shock-resilient global system. While short-term responses to food crises are frequently emphasized, shocks are frequently persistent (Andree et al. 2020), and medium-term responses like capacity purchasing can have value.

Recommendations

GAC must incorporate selective digital protectionism into its trade framework, as both a negotiating mechanism and a means of protecting Canadian digital economic interests at home. This includes ensuring new policies are trade-compliant, leveraging existing trade agreements to challenge unfair foreign barriers and engaging actively in digital trade negotiations such as the WTO e-commerce talks and the Digital Economy Partnership Agreement. By using digital protectionism selectively and strategically, Canada can defend national interests while preserving its position in the global digital economy.

GAC should, working with Agriculture Canada, explore possible partnerships with other food exporting nations through organizations such as the Cairns Group, which enables temporary purchasing of food supply for upcoming harvests at negotiated prices. This framework should attempt to link purchasing governments with domestic farmers interested in the sale of temporary supply. The goal of this framework would be to provide a medium-term response to food shocks, not as a replacement for immediate aid. It should enable governments expecting or experiencing pressure on food supplies to buy within a price band that does not harm local farmers and allows for purchasing without modifying overall trade barriers. This is intended to create new temporary markets for interested sellers, help guard against regional price shocks and help utilize flexible domestic production capabilities in such a way that they are continually maintained.

GAC should move from an oversight role to a direct member of the CCMS horizontal initiative. International and trade agreements in the critical minerals space have uniquely important strategic and risk components. The interlinked nature of the political, market and research environment around critical minerals creates cascading impacts into different sectors resulting from state industrial policy. The international goals of the CCMS, the expectation of new export restrictions impacting Canada and the need for strategic policy harmonization creates a need for the inclusion of GAC into the CCMS. This inclusion should be focused on developing a strategy (including, but not exclusively, international agreements, treaties and partnerships) to respond to export restriction, price volatility and monopolization tactics from international actors.

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Works Cited

Agriculture Canada. 2021. "2021 United Nations Food Systems Summit and Dialogues: How Canada Is Supporting the Process." Agriculture and Agri-Food Canada. June 30. <https://agriculture.canada.ca/en/department/initiatives/canadas-national-pathways/food-systems-summit>.

Andree, Bo Pieter Johannes, Aart Kraay, Dieter Wang, Phoebe Spencer and Andres Chamorro. 2020. "Predicting Food Crises." World Bank Group Policy Paper, September. <https://doi.org/10.1596/1813-9450-9412>.

Anfaal, Zainab, Muneeb Khawar, Javed Iqbal and Shree Rath. 2025. "Children at Risk: The Growing Impact of USAID Cuts on Pediatric Malnutrition and Death Rates." *Maternal & Child Nutrition*. March 17. <https://doi.org/10.1111/mcn.70028>.

Bentley, Alison R., Jason Donovan, Kai Sonder, Frédéric Baudron, Janet M. Lewis, Rachel Voss, Pieter Rutsaert, et al. 2022. "Near- to Long-Term Measures to Stabilize Global Wheat Supplies and Food Security." *Nature Food* 3 (7): 483–86. <https://doi.org/10.1038/s43016-022-00559-y>.

Castellano-Álvarez, Francisco Javier and Rafael Robina Ramírez. 2022. "Relevance of the Uruguay and Doha Rounds in the Evolution of International Agricultural Trade: The Case Study of Latin American Countries and Continental Products." *Economies* 11 (1): 2. <https://doi.org/10.3390/economies11010002>.

European Union. 2022. Regulation (EU) 2022/1925 of the European Parliament and of the Council of 14 September 2022 on contestable and fair markets in the digital sector and amending Directives (EU) 2019/1937 and (EU) 2020/1828 (Digital Markets Act). *Official Journal of the European Union* L 265, October 12: 1–66. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L._2022.265.01.0001.01.ENG.

Fan, John Hua, Akihiro Omura and Eduardo Roca. 2023. "Geopolitics and Rare Earth Metals." *European Journal of Political Economy* 78, June, 102356. <https://doi.org/10.1016/j.ejpol eco.2022.102356>.

Government of Canada. 2018. Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP). March 8. www.international.gc.ca/trade-commerce/trade-agreements-accords-commerciaux/agr-acc/cptpp-ptpgp/index.aspx.

———. 2020. Canada-United States-Mexico Agreement (CUSMA). July 1. www.international.gc.ca/trade-commerce/trade-agreements-accords-commerciaux/agr-acc/cusma-aceum/index.aspx.

Hopewell, Kristen. 2024. "The (Surprise) Return of Development Policy Space in the Multilateral Trading System: What the WTO Appellate Body Blockage Means for the Developmental State." *Review of International Political Economy* 31 (4). January 22: 1245–70. <https://doi.org/10.1080/09692290.2024.2303681>.

Kelinsky-Jones, Lia R., Kim L. Niewolny and Max O. Stephenson. 2024. "Magic Concepts' and USAID: Framing Food Systems Reform to Support the Status Quo." *Development Policy Review* 43 (1). December 19. <https://doi.org/10.1111/dpr.12823>.

Kowalski, Przemyslaw and Clarisse Legendre. 2023. "Raw Materials Critical for the Green Transition: Production, International Trade and Export Restrictions." *OECD Trade Policy Papers*, April 11. <https://doi.org/10.1787/c6bb598b-en>.

Tchonkouang, Rose Daphnee, Helen Onyeaka and Hugue Nkoutchou. 2024. "Assessing the Vulnerability of Food Supply Chains to Climate Change-Induced Disruptions." *Science of The Total Environment* 920, April 10: 171047. <https://doi.org/10.1016/j.scitotenv.2024.171047>.

US Department of Justice. 2025. "Preventing Access to U.S. Sensitive Personal Data and Government-Related Data by Countries of Concern or Covered Persons." *Federal Register* 90 (5): 1636–42. January 8. www.govinfo.gov/app/details/FR-2025-01-08/2024-31486.

Zhang, Huyue. 2024. *High Wire: How China Regulates Big Tech and Governs Its Economy*. First edition. New York, NY: Oxford University Press.

Canada's Critical Minerals Capacity

Evan Smith and Joshua Wright

Issue

Canada lacks the production, recycling capacity, regulation and supply chain to increase the output of critical minerals, which will need to be overcome to meet the growing global demand for electric vehicle (EV) batteries and solar panels.

Background

Canada's Current Situation Surrounding Critical Minerals

Critical minerals have become a vital part of Canadians' everyday lives. Over the coming years, Canada will need to increase its production to maintain its current global market share, as it lacks the necessary output, recycling capacity, regulations and supply chain to boost the production of critical minerals. For instance, the world has long been reluctant to innovate when it comes to recycling, the very essence of renewable energy sources. Such negative issues run directly contrary to what renewable energy products, such as EV batteries and solar energy, strive toward. However, the problems of recycling critical minerals from end-of-life EV batteries and solar panels are no longer a technical constraint, but rather a lack of governance initiatives. The lack of governance capability persists in areas of regulatory barriers that hinder Canada's ability to extract critical minerals efficiently and safely. This undercapacity within our governance system stems from the federal and provincial jurisdictional overlap and their ineffectiveness in managing their relationships with Indigenous communities. Despite recycling and regulatory inefficiencies, Canada has managed to maintain its prominence within the global critical mineral supply

chain as a key supplier of many essential critical minerals. Canada's role is crucial for the United States' consumerism and military equipment production. Thus, the goal for Canada should be to help create a robust recycling system that draws in end-of-life EV batteries and solar panels from global markets, while simultaneously streamlining governance structures to reduce bureaucratic hurdles and improve regulatory efficiency in the mining sector. Through these changes, Canada can further grow its global market share of critical minerals in renewable energies that are continuing to grow in demand.

Recycling EV Batteries

Canada has an abundance of five of the seven critical minerals that are found in EV batteries: graphite, nickel, copper, cobalt and lithium. Canada ranks eleventh in graphite production, sixth in nickel, twelfth in copper and fourth in cobalt. Canada also ranks among the top 10 countries in terms of reserves of graphite, nickel, cobalt and lithium (see Table 1). Global EV demand is expected to increase significantly over the next 25 years; by 2050, new EV sales are projected to reach 62 million (Wood Mackenzie 2021). To meet its part in this increase in demand, Canada has two options: either increase the mining of critical minerals or recycling capacity of EV batteries.

Table 1: Critical Mineral Reserves and Production

Critical Mineral	Canadian Reserves	Percent of World Reserves	Canadian Production	Percent of World Production	Canada's 2050 EV Market Share
Graphite	5,900,000	2.11%	4,261	0.27%	8,586
Nickel	2,200,200	1.69%	158,668	5.06%	90,907
Copper	7,600,000	0.76%	480,000	2.18%	27,055
Cobalt	220,000	1.93%	5,099	2.22%	10,996
Lithium	3,200,000	3.05%	3,400	1.89%	7,026.67

Source: Natural Resources Canada (2025).

To maintain Canada's current global market share of mining production, graphite production will need to increase from 4,261 tons to 8,586 tons by 2050 for just EVs, a 102 percent increase. Cobalt and lithium will need 216 percent and 207 percent of current production to go toward EVs to maintain global market share by 2050. Nickel and copper require 57 percent and six percent of current production respectively to be used in EVs by 2050 to maintain market share (see Table 1). This increase, given our current regulatory framework, will be difficult to achieve. Withdrawal rates for nickel, copper and cobalt are at 7.21 percent, 6.32 percent and 2.32 percent, respectively. This indicates that, with current reserves, nickel will last only 13.86 years, copper 15.82 years and lithium 43.1 years (see Table 1). EV battery recycling is, therefore, vital to sustain Canada's current position in the global market share.

Canada has four EV battery recycling plants. When recycled, EV batteries can reuse 95 percent of their critical minerals (Bergerin-Chammah 2024). The United States is projected to have the capacity to recycle 1,293,000 EV batteries annually (International Council on Clean Transportation 2023). The United States is producing 1,390,000 EVs annually as of 2023 (Our World in Data 2025). This is a 97,000 battery difference that needs to be met, and Canada can fill this void. By increasing battery recycling plants, Canada can meet its own demand while also filling the global void in recycling EV batteries, thereby maintaining its current market share in the production of critical minerals such as graphite, nickel, copper, cobalt and lithium.

Recycling Solar Panels

Looking at data collected in the United States, end-of-life solar panel collection rates are estimated to be approximately 10 percent (Lee et al. 2024). Such wastefulness has been tolerated due to the technical limitations in efficiently extracting critical mineral

resources from the panels themselves. However, the use of thermal treatment and gravimetric separation has enabled the efficient extraction of silicon dioxide, silver, lead, tin and indium from end-of-life solar panels (Mukwevho et al. 2025). For instance, most solar panels can be treated through gravimetric separation, resulting in an intact target component and optimal pre-concentration yield of silver and indium (91.42 percent and 94.25 percent for crystalline panels and 96.10 percent for copper indium selenide panels) (Savvilotidou and Gidarakos 2020). "Overall, it is believed that the mitigation of metal losses during the pre-processing stage of waste panels can substantially contribute to an economically viable secondary production of silver or indium" (ibid.). "Based on these findings, recycling can save more than 3,900 tonnes of silver and 120 tons of indium by 2050" (ibid.). However, with annual indium production likely to exceed 2,000 tons per year by 2050 (Werner, Mudd and Jowitt 2015, 217), utilizing recycling techniques alone is insufficient, and new mining extraction techniques are necessary to increase extraction efficiency.

Regulatory Regime

Canada is currently facing a lack of an effective governance framework regarding regulations within the mining industry. For example, industry professionals have indicated that 83 percent of respondents in Manitoba, 69 percent in Nova Scotia and 56 percent in Ontario indicated that uncertainty around disputed land claims was a deterrent to investment, compared to only nine percent in Nevada and none in Utah (Mejia and Aliakbari 2023). Similarly, 89 percent of respondents in Nunavut, 84 percent in the Northwest Territories and 77 percent in Nova Scotia cited uncertainty over which areas would be protected and off-limits for mining exploration, compared to only 15 percent in South Australia and 22 percent in Nevada (ibid.). This problem is further exacerbated when

comparing Canadian provinces to other regions worldwide. For example, when focusing solely on policy factors, Ontario ranks eighteenth out of 62 jurisdictions in terms of mining investment potential, indicating significant room for improvement on the policy front (ibid.).

Overall, the negative aspects surrounding investment in Canada's critical mineral industry can be summarized by environmental and administrative regulations, regulatory duplication and a lack of clarity regarding protected land (Green and Jackson 2016, 6).

Despite Canada's tighter restrictions on critical mineral mining, Indigenous communities continue to be affected. For example, "According to the Assembly of First Nations (AFN), more than 36% of First Nations communities are located less than 50 km from major mines in Canada," many of which are downstream from mining sites (Hipwell et al. 2002, 4). Additionally, 20 percent of water discharges are directed to groundwater in mineral mining cases and tailings ponds in metal ore mining (Atakhanova 2023, 6). Water treatment indicators before discharge are similar across mining sectors, with approximately 43 percent of water undergoing primary or mechanical treatment (ibid.). Most of the remaining water is released untreated, except in metal ore mining, where approximately six percent of the discharged water undergoes secondary or biological treatment (ibid.). Therefore, due to the proximity of many Indigenous communities to mining sites and the lack of adequate water treatment, these communities often face damaged and untreated water resources. Overall, the insufficient regulation of water use has created a disconnect between the Canadian government and Indigenous communities, hindering further cooperation in the mining sector.

Supply Chains

When it comes to global relations, Canada's vast resources enable the federal government to maintain its negotiation power with the United States, as the United States relies on Canadian imports to sustain American consumerism and military power. First, the US agricultural industry relies on Canadian potash and utilizes Canadian refining capabilities of germanium as part of the process for producing microchips and valuable medicine (Nassar, Alonso and Brainard 2020). Second, Canada's indium supply has been a lifeline for American importers shifting away from Chinese exports. Third, silver and zinc are

heavily imported from Canada and Mexico, while nickel is primarily imported from Canada and Australia (ibid.). Third, Brazil and Canada together produce 98 percent of the global niobium supply, which is a crucial critical mineral in America's aerospace industry (ibid.). Ultimately, Canada's vast reserves of natural resources are crucial to the trade balance between Canada and the United States, particularly when examining beyond Canada's oil exports to the United States.

Recommendations

Canada should invest in EV battery and solar recycling.

To date, Canada has invested CDN\$52.5 billion into the electric vehicle supply chain. However, none of this money has been invested in EV battery recycling (Giswold 2024). The federal and provincial governments will need to work alongside each other to facilitate efficient investment. Currently, the country has invested CDN\$52.5 billion, with 60 percent coming from the federal government and 40 percent from provincial governments (ibid.). Using new techniques on old tailings is a viable solution for increasing the indium supply. For example, New Brunswick indium mines indicate that the indium contained within the tailings of two sites alone contributes over 10 percent of the global estimates for indium in zinc processing wastes (Werner, Mudd and Jowitt 2015, 222). Similar to how Canada exchanges garbage with the United States, a process may be followed for recycling end-of-life solar panels and EV batteries, with Canada becoming the leader in recycling and the United States exporting its end-of-life EV batteries and solar panels to Canada. With a system of recycling cooperation between Canada and the United States, Canada will not only be able to preserve the critical mineral resources in solar panels and EV batteries but also create a new industry.

Canada should develop a centralized application process.

To help streamline regulatory processes within Canada, all regulatory applications must be routed through either the federal or provincial governments. Therefore, this pathway requires a choice: provincial governments can relinquish their jurisdiction over critical minerals to the federal government or the federal government can allow provincial governments to gain greater autonomy regarding Indigenous affairs. Regardless of which pathway is chosen, it creates a centralized application process for critical mineral mining, reducing bureaucracy and duplication

within the application process. To ensure that water filtration is held to the highest standard, all critical mining sites must have water treatment stations that ensure that all water discharge undergoes primary filtration treatment. The goal is to ensure that all Indigenous communities' water resources are safe for drinking and able to sustain water-related ecosystems. In pursuit of the federal government's efforts to improve its relationship with Indigenous communities, all critical mineral mining sites within Canada should incorporate a royalty stream that allows Indigenous communities to gain a financial benefit from their traditional lands.

Canada should work with like-minded partners to strengthen supply chains. To bolster Canada's position in the global market, Canada should negotiate with Australia to establish a mutually beneficial relationship in the field of critical minerals. Through this partnership, neither country would directly compete, but instead expand their market share, allowing them to demand higher prices for critical minerals. To develop such an alliance, the Canadian government could offer its extensive expertise in electrical grid infrastructure to assist Australia in managing its electrical grid overload resulting from the surge in solar panel usage.

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Bibliography

Atakhanova, Zauresh. 2023. "Water Impacts and Effluent Quality Regulations of Canadian Mining." *Sustainability* 15 (22).. www.mdpi.com/2071-1050/15/22/16086.

Bergevin-Chammah, Carine. 2024. "Canadian Battery Supply Chain." *Business Development Bank of Canada* (blog), April 8. www.bdc.ca/en/articles-tools/blog/are-there-opportunities-for-canadian-smes-in-automotive-battery-supply-chain.

Giswold, Jill. 2024. "Tallying Government Support for EV Investment in Canada." *Office of the Parliamentary Budget Officer* (blog), June 18. www.cbo-dpb.ca/en/additional-analyses--analyses-complementaires/BLOG-2425-004--tallying-government-support-ev-investment-in-canada--bilan-aide-gouvernementale-investissement-dans-ve-canada.

Green, Kenneth P. and Taylor Jackson. 2016. "Permit Times for Mining Exploration: How Long are They?" Fraser Institute. www.fraserinstitute.org/sites/default/files/permit-times-for-mining-exploration-how-long-are-they.pdf.

Hipwell, William, Katy Mamen, Viviane Weitzner and Gail Whiteman. 2002. "Aboriginal peoples and mining in Canada: Consultation, participation and prospects for change." North-South Institute. [https://caid.ca/MiningCons2002.pdf](http://caid.ca/MiningCons2002.pdf).

International Council on Clean Transportation. 2023. "EV Battery Recycling Plants in the United States." I. <https://theicct.org/wp-content/uploads/2023/09/EV-battery-recycling-plants-in-the-United-States-v4.pdf>.

Lee, Tessa, Yuan Yao, Thomas E. Graedel and Alessio Miatto. 2024. "Critical material requirements and recycling opportunities for US wind and solar power generation." *Journal of Industrial Ecology* 28(3): 532. <https://onlinelibrary.wiley.com/doi/abs/10.1111/jiec.13479>.

Mejía, Julio and Elmira Aliakbari. 2023. "Policy uncertainty major barrier to developing Canada's mining industry." *Fraser Institute* (blog), July 26. www.fraserinstitute.org/commentary/policy-uncertainty-major-barrier-developing-canadas-mining-industry.

Mukwevho, Nehemiah, Andile Mkhohlakali, Napo Ntsasa, James Sehata, Luke Chimuka, James Tshilongo and Mokgehle R. Letsoalo. 2025. "Methodological approaches for resource recovery from end-of-life panels of different generations of photovoltaic technologies—A review." *Renewable and Sustainable Energy Reviews* 207: 1–15 <https://www.sciencedirect.com/science/article/pii/S1364032124007068>.

Nassar, Nedal T., Elis Alonso and Jaime L. Brainard. 2020. "Investigation of U.S. foreign reliance on critical minerals—U.S. geological survey technical input document in response to Executive Order No. 13953" December 7, 1–37. <https://pubs.usgs.gov/publication/ofr20201127>.

Natural Resources Canada. 2025. "Minerals and Metals Facts." March 17. <https://natural-resources.canada.ca/minerals-mining/mining-data-statistics-analysis/minerals-metals-facts>.

Our World in Data. 2025. "Number of New Cars Sold, by Type." <https://ourworldindata.org/grapher/car-sales?tab=table>.

Savvilotidou, Vasiliki and Evangelos Gidarakos. 2020. "Pre-concentration and recovery of silver and indium from crystalline silicon and copper indium selenide photovoltaic panels." *Journal of Cleaner Production* 250 (119440): 1–9. www.sciencedirect.com/science/article/abs/pii/S0959652619343100.

Werner, Tim, Gavin Mudd and Simon Jowitt. 2015. "Indium: key issues in assessing mineral resources and long-term supply from recycling." *Applied Earth Science* 124(4). 217–222. <https://journals.sagepub.com/doi/abs/10.1179/1743275815Y.0000000007>

Wood Mackenzie. 2021. "700 Million Electric Vehicles Will Be on the Roads by 2050." Press Release, February 8. [www.woodmac.com/press-releases/700-million-electric-vehicles-will-be-on-the-roads-by-2050/#:~:text=Electric%20vehicle%20\(EV\)%20sales%20are,new%20research%20from%20Wood%20Mackenzie](https://www.woodmac.com/press-releases/700-million-electric-vehicles-will-be-on-the-roads-by-2050/#:~:text=Electric%20vehicle%20(EV)%20sales%20are,new%20research%20from%20Wood%20Mackenzie).

Canadian Data Protection and Cybersecurity in an Era of Diminishing North American Cooperation

Muna Mohamed and Ananya Vohra

Issue

Canada must urgently strengthen domestic data security and restrict cross-border data flows to the United States, where weak data protection laws threaten Canadian sovereignty, economic competitiveness and digital security.

Background

Digital Sovereignty

In an increasingly digitized world, where nearly every aspect of life is mediated by technology, data has become an essential resource (Ciuriak 2024). Data informs decision making, powers innovation in various technologies such as artificial intelligence (AI) and gives firms and governments a competitive edge. Global value chains also rely on fast, reliable access to data to keep operations running smoothly (Leblond and Aaronson 2019).

Digital sovereignty refers to a state's ability to control its own digital infrastructure, including data, hardware and software, with many policies focused on achieving self-sufficiency (Larsen 2022). Currently, 92 percent of data from users in the Global North is stored on servers owned by US-based tech companies, consolidating much of the jurisdictional authority within a single country (Fleming 2021).

Although much of Canada's data is stored on servers in the United States, neither country has established

comprehensive laws or guidelines to protect this data (Orr 2019). Additionally, there are no specific regulations that require data to be stored within Canada, and the dominance of US-based technology providers such as Google have contributed to a growing reliance on American cloud services (*ibid.*). The absence of robust data protections and digital sovereignty increases the likelihood of data being weaponized. As Xuan Liu (2022,) notes, “Data is the strategic intelligence of a country, and the party with the advantage of data can carry out ‘dimensionality reduction’ strikes.” Data impacts national security in three key ways:

- **Undermining democratic institutions:** Data on specific demographics can allow algorithms to send misinformation and target specific people (Dawood 2021, 10–31).
- **Crippling critical infrastructure:** Without proper regulations, hackers can aid terrorists and hostile states in accessing critical information about Canadian critical infrastructure (information on roads, pipelines, electricity grids, health care, etc.)
- **Big tech control of cloud computing:** The Canadian and US governments regularly collaborate with big tech and depend on commercial communication and cloud services. However, the profit-driven nature and lack of public accountability of these companies pose risks of sensitive data being misused or accessed by adversaries (Schaake 2024).

Without strong policies guiding data protection, big tech often fails to address software vulnerabilities, making them susceptible to cyberattacks (ibid.). Despite these risks, there is currently little organizational structure beyond the security measures tech companies implement internally to mitigate such threats (ibid.).

Data protection regulations typically establish rights to access, deletion and portability of data, while mitigating risks and shielding individuals from potential threats (Kira, Sinha and Srinivasan 2021, 1337–60). Data localization is a key mechanism for enhancing data protection and digital sovereignty. It refers to policies requiring that data generated within a country be stored and processed on domestic servers or within cloud environments operated by entities physically located and regulated within national borders (Trachtenberg 2025, 1–3). In Canada's case, this would mean ensuring Canadian data remains within Canadian data centres. Canada's lack of comprehensive data localization policies, combined with limited domestic internet and data infrastructure, results in a heavy reliance on US networks. This creates a phenomenon known as “boomerang routing,” whereby Canadian data routinely passes through the United States, even when users access domestic websites (Orr 2019). Although most American trade agreements, such as the Canada–United States–Mexico Agreement (CUSMA), include commitments to protecting personal information (Trachtenberg 2025, 1–3), they do not address data related to national security. Once data crosses into the US, it is subject to US jurisdiction, where there are no comprehensive federal data protection laws. This exposes Canadian data to potential misuse and significantly weakens Canada's ability to safeguard its digital sovereignty and uphold national privacy standards.

Evolving US–Canada Dynamics

The new Trump administration's approach to data access presents challenges to Canadian digital sovereignty, highlighting the need for careful consideration of data-sharing policies. The United States has traditionally emphasized openness and minimal regulation in its approach to data governance (Hollis and Raustiala 2022). Under the Biden administration, however, there was a gradual shift toward stronger data and AI regulations aimed at protecting national security, as reflected in measures such as the *Protecting Americans' Data from Foreign Adversaries Act of 2024* and the *Protecting Americans from Foreign Adversary Controlled Applications Act of 2024*. In contrast, President Trump's

second presidency has largely advocated for deregulation to accelerate innovation in strategic sectors like AI (InCountry 2025). Without strong domestic safeguards and infrastructure, Canadian data remains vulnerable to US policy shifts.

Recent actions by the Trump administration have strained historically close US–Canada relations and heightened concerns about the security of Canadian data, particularly as the United States intensifies efforts to advance AI (Al-Haque et al. 2024). Canada holds some of the world's most comprehensive and representative datasets, which are vital for training effective and equitable AI systems. Health data is a prime example: Canada's centralized, publicly funded health-care system generates inclusive data that captures a wide demographic range (ibid.). In contrast, the United States' fragmented, insurance-based system creates significant data gaps by excluding uninsured populations (Canadian Press 2025). This highlights the strategic value of Canadian data and the need to safeguard it. However, much of this data is stored by American tech companies such as Microsoft, Google and Amazon Web Services (ibid.). With diplomatic relations under strain and the US government showing little regard for Canadian sovereignty, legal experts and medical researchers are increasingly concerned that Canadian health data could be accessed or used by the United States without Canadian consent. All three companies have confirmed that they would comply with lawful US court orders, even if doing so conflicts with Canadian interests (ibid.).

Implementing strong data protection measures would not only shield Canada from cyber threats but also contribute to national defence efforts, which are also a focus of the US administration. President Trump has repeatedly emphasized the need for Canada to increase its defence spending to meet the two percent North Atlantic Treaty Organization target (Wherry 2024). By prioritizing data security, Canada can demonstrate its commitment to security and cooperation with its allies. Investment into cybersecurity and data protection gives Canada the opportunity to build a strong industrial base and skilled workforce that is ready to handle emerging technological challenges. This would also enable Canada to become a global expert on cybersecurity, making us indispensable to our allies. Within the defence realm, a number of new threats to national security and sovereignty require new thinking toward defence and defence capability. Increasingly, national defence has come

to include economic security (National Defence 2024). Ensuring economic prosperity requires not only reliable cybersecurity systems and internet infrastructure, but also strategic control over data. While curated data can be shared with US partners to strengthen cross-border collaboration, the Canadian government must retain authority over how that data is used and disseminated. This raises key questions about which data Canada should safeguard, and which data can be leveraged in negotiations with the United States.

It should also be noted that Canada's data relationship with the United States is shaped by both formal agreements and operational practices that facilitate the automatic sharing of personal information of persons within their borders. Under existing protocols, Canada and the United States exchange biographic and biometric data on non-citizens and permanent residents (Nardi 2025). For example, Canada is authorized to use information about US permanent residents applying for immigration to Canada to query their immigration history with US authorities. The United States can, in turn, access similar data on Canadian permanent residents (*ibid.*). Additionally, in CUSMA, Article 19.12 reinforces the free flow of data across borders by prohibiting barriers to cross-border data transfers among the three countries. While this facilitates trade and integration, it also limits Canada's ability to impose stronger data protection requirements on information that leaves its jurisdiction.

Current Canadian Data Protection Measures

Within its own borders, Canada lacks comprehensive and enforceable legislation governing data, especially cross-border data flows. Existing laws like the Privacy Act and the Personal Information Protection and Electronic Documents Act (PIPEDA) offer general protections for personal data held by federal institutions and private entities (Office of the Privacy Commissioner of Canada n.d.). Specifically, PIPEDA establishes the foundational rules for collecting, using and disclosing personal information, while also granting individuals the right to access and control their own data (*ibid.*). However, as previously noted, Canada's digital infrastructure relies heavily on the United States due to boomerang routing, meaning Canadian data is no longer protected once it exits national jurisdiction. At the provincial level, Alberta, British Columbia and Quebec have enacted privacy legislation that addresses some aspects of digital governance. However, there are no existing

federal or provincial laws that provide a full regulatory framework tailored to the new unique challenges posed by AI technologies.

Ontario has taken a step forward with Bill 194, which aims to modernize digital security and privacy practices in the public and private sector. The bill's Section 2 amends the Freedom of Information and Protection of Privacy Act, requiring institutions to conduct privacy impact assessments and report breaches that pose a real risk of significant harm (Legislative Assembly of Ontario 2024). Bill 194 also expands the powers of the Privacy Commissioner to ensure compliance and protect citizens' digital rights (*ibid.*). While this bill marks progress at the provincial level, it further illustrates the fragmented nature of Canada's digital governance landscape. The federal government took steps toward modernizing its approach to AI and data regulation with the introduction of the Artificial Intelligence and Data Act. However, the bill was not passed due to the prorogation of Parliament earlier in 2025, and it will now be up to the new parliamentary session to revisit and advance.

National defence is one of the few areas where the federal government is actively developing policy on data. Canada's most recent national defence policy outlines a commitment to advancing big data capabilities, acquiring sophisticated analytical technologies and enhancing secure cloud-based computing (National Defence 2024). These digital initiatives aim to build a data-driven defence organization that can rapidly transform information into actionable insights, enabling faster decision making and near real-time responses (*ibid.*). However, these advancements are primarily focused on data relevant to the Canadian Armed Forces, with limited attention given to other forms of data that may also pose risks to national or economic security.

Canada is at a crossroads: whether to align with the US model of minimal data regulation or the European Union's stricter, privacy-focused approach. Regardless of the choice, Canada must ensure it has a strong voice in shaping international data rules to protect its sovereignty and national interests.

Key Partnerships

To implement effective data protection regulations, Global Affairs Canada (GAC) should consider working closely with key federal agencies on regulating data flows. One of the most important of these agencies is the Innovation,

Science and Economic Development Agency (ISED). The ISED plays a critical role in Canada's technology development and digital infrastructure, making it an essential player in any efforts related to data sovereignty and security. The ISED will be crucial in advancing a national strategy focused on protecting Canadian data and ensuring its sovereignty. This includes developing the infrastructure necessary to secure data and support policies that protect Canada's interests in an increasingly digital world. With the ISED's expertise, GAC can help shape a robust framework that aligns with Canada's digital and economic goals.

In addition, GAC should partner with the Communications Security Establishment (CSE), particularly through its Canadian Centre for Cyber Security, also known as the Cyber Centre. As the federal government's technical authority on cybersecurity, the Cyber Centre leads Canada's response to cybersecurity incidents and provides expert guidance to protect the systems and information Canadians rely on every day. It also has a track record for working with other levels of government and critical infrastructure operators to safeguard the digital foundations of Canada's economy and society (Government of Canada 2023). Leveraging the CSE's technical capabilities would enhance Canada's ability to protect sensitive data, respond to cyber threats and support GAC's ability to secure implementation of international digital policy.

Recommendations

Implement a data location tier. To strengthen Canada's digital sovereignty and security, the federal government should implement a policy of "tiering data" based on its sensitivity. This approach would involve categorizing data according to its potential risks to national security, privacy and economic stability, allowing for more tailored and secure storage solutions. High-sensitivity data that can impact national security — such as information related to personal, demographic and health — should be stored in secure, domestic environments, while less sensitive data could continue to flow with fewer restrictions. By organizing data in this manner, Canada can better allocate resources, enhance data protection measures and ensure that critical information remains safeguarded while allowing for efficient handling of less critical data. To achieve this, the federal government must collaborate

with agencies such as the CSE to develop a regulatory framework that clearly defines which types of data must remain within national jurisdiction.

Investment into digital infrastructure. The federal government should prioritize building robust Canadian digital infrastructure, including secure, Canadian-owned data centres, expanded power grid capacity and sovereign cloud services, to reduce reliance on foreign networks and strengthen national control over data. A tiered data localization strategy should guide this investment, ensuring highly sensitive data remains in Canada while encouraging voluntary domestic retention of less sensitive data. Rather than imposing strict localization laws, which risk deterring US investment or straining Canada-US relations, the government should offer incentives for Canadian firms to store and process data within national borders. This dual approach would safeguard digital sovereignty, stimulate the domestic digital economy and enable Canada to assert greater control over its data while remaining interoperable with trusted international partners.

Add cybersecurity experts to GAC's US team. Lastly, as trade negotiations with the United States increasingly touch on issues of digital infrastructure and data governance, it is essential that GAC integrates cybersecurity experts into its US-Canada relations team. Canadian data is both abundant and highly valuable, and its protection is vital to the country's economic growth, innovation potential and national security. In today's digital landscape, where cyberthreats can compromise not only sensitive information but also the integrity of diplomatic and economic agreements, expert oversight is indispensable. Cybersecurity professionals can proactively identify and mitigate vulnerabilities that may be overlooked during high-level negotiations. Moreover, they can evaluate the strategic risks posed by proposals that offer greater access to Canadian data in exchange for reduced trade barriers, ensuring that such concessions do not compromise national interests. A dedicated expert would also play a critical role in shaping cross-border, data-sharing frameworks to align with Canada's privacy legislation, cybersecurity standards and long-term geopolitical objectives. Such expert capability would help safeguard Canadian sovereignty in the digital realm and reinforce public trust in international agreements.

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Works Cited

Al-Haque, Shahed, Marie-Renée B-Lajoie, Erez Eizenman and Nick Milinkovich. 2024. "The Potential Benefits of AI for Healthcare in Canada." McKinsey & Company, February 26. www.mckinsey.com/industries/healthcare/our-insights/the-potential-benefits-of-ai-for-healthcare-in-canada.

Ciuriak, Dan. 2024. "The Investment Canada Act: Updates for the Knowledge-Based and Data-Driven Economy at the Dawn of the Age of Machine Knowledge Capital." Brief. <http://dx.doi.org/10.2139/ssrn.4771331>.

Dawood, Yasmin. 2021. "Combatting Foreign Election Interference: Canada's Electoral Ecosystem Approach to Disinformation and Cyber Threats." *Election Law Journal*, 20(1). <https://doi.org/10.1089/elj.2020.0652>.

Fleming, Sean. 2021. "What is Digital Sovereignty and Why is Europe so Interested in it." World Economic Forum, January 10. www.weforum.org/stories/2021/03/europe-digital-sovereignty/.

Government of Canada. 2023. "About the Cyber Centre." Canadian Centre for Cyber Security. www.cyber.gc.ca/en/about-cyber-centre.

Hollis, Duncan B. and Kal Raustiala. 2022. "The Global Governance of the Internet." In *The Oxford Handbook of International Institutions*, edited by Duncan Snidal and Michael N. Barnett, Temple University Legal Studies Research Paper No. 2022-17. <http://dx.doi.org/10.2139/ssrn.4197418>.

InCountry. 2025. "Trump's impact on global data sovereignty." *InCountry* (blog). February 11. <https://incountry.com/blog/trumps-impact-on-global-data-sovereignty/>.

Kira, Beatriz, Vikram Sinha and Sharmadha Srinivasan. 2021. "Regulating digital ecosystems: bridging the gap between competition policy and data protection." *Industrial and Corporate Change* 30 (5). <https://doi.org/10.1093/icc/dtab053>.

Larsen, Benjamin Cedric. 2022. "The Geopolitics of AI and the Rise of Digital Sovereignty." The Brookings Institution, December 8. www.brookings.edu/articles/the-geopolitics-of-ai-and-the-rise-of-digital-sovereignty/.

Leblond, Patrick and Susan Ariel Aaronson. 2019. *A Plurilateral "Single Data Area" Is the Solution to Canada's Data Trilemma*. CIGI Papers No. 226. Waterloo, ON: Centre for International Governance Innovation. www.cigionline.org/sites/default/files/documents/no.226.pdf.

Legislative Assembly of Ontario. "Strengthening Cyber Security and Building Trust in the Public Sector Act, 2024." <https://www.ola.org/en/legislative-business/bills/parliament-43/session-1/bill-194>.

Liu, Xuan. 2022. "The Study on National Security in Big Data Era." *Frontiers in Business, Economics and Management* 5(3), Article 3. <https://doi.org/10.54097/fbem.v5i3.2006>.

National Defence. 2024. *Our North, Strong and Free: A Renewed Vision for Canada's Defence*. www.canada.ca/en/department-national-defence/corporate/reports-publications/north-strong-free-2024.html.

Nardi, Christopher. 2025. "The U.S. and Canada quietly agreed to share personal data on

permanent residents crossing the border.” *National Post*, January 15. <https://nationalpost.com/news/politics/the-u-s-canada-share-personal-data-permanent-residents>.

Office of the Privacy Commissioner of Canada. “PIPEDA Requirements in Brief,” https://www.priv.gc.ca/en/privacy-topics/privacy-laws-in-canada/the-personal-information-protection-and-electronic-documents-act-pipeda/pipeda_brief/

Orr, Jacqueline. 2019. “Canadian Cross-Border Data: Your Data May Be Heading South Even When You Are Not.” Wilson Center Canada Institute, May. www.wilsoncenter.org/sites/default/files/media/documents/article/canadian_cross-border_data_report.pdf.

Schaake, Marietje. 2024. *The Tech Coup: How to Save Democracy from Silicon Valley*. Princeton, NJ: Princeton University Press. <https://doi.org/10.2307/jj.13359161>.

The Canadian Press. 2025. “Protect ‘valuable’ Canadian health data from Trump’s AI aspirations, experts urge.” CTV News, April 24. www.ctvnews.ca/health/article/protect-valuable-canadian-health-data-from-trumps-ai-aspirations-experts-urge/.

Trachtenberg, Danielle M. 2025. “Digital Trade and Data Policy: Key Issues Facing Congress.”

Congressional Research Service, January 6. <https://crsreports.congress.gov/product/pdf/IF/IF12347>

Wherry, Aaron. 2024. “Everyone agrees Canada should spend more on defence. How do we pay for it?” *CBC News*. <https://www.cbc.ca/news/politics/canada-defence-spending-nato-trump-1.7397141>

Securing Canada's Future: Cybersecurity, Prosperity and Sovereignty

Thomas Gries, Sarah Hamm and Sierra Van Tent

Issue

Amid growing geopolitical uncertainty and economic challenges, the need for a robust cybersecurity ecosystem has become a strategic imperative for governments around the world. For Canada, strengthening institutional capacity in intelligence and cybersecurity is critical to protect national security while collaborating with international partners. This policy brief examines key issues and opportunities in the cybersecurity domain, which address global security challenges facing Canadian prosperity imperatives and its allies.

The importance of these technologies and infrastructure is particularly evident in the Arctic territories. Former Defence Minister Bill Blair has emphasized the necessity to invest in projects such as deep-water ports, fibre and satellite communications, and medical treatment facilities to help build prosperity while defending Canada's north, highlighting the need for such investment (Global Affairs Canada [GAC] 2024).

Trump Tensions

The second Trump administration has embraced transactional diplomacy, treating friend and foe alike while focusing solely on what each party can offer the United States. This is evident in the mineral deal which granted the United States access to Ukraine's rare earth metals and other precious resources such as oil and copper, deepening US interests in Ukrainian continued sovereignty (Kottasova and Butenko 2025). This signals a US shift away from traditional alliance interactions toward quid-pro-quo geopolitical dealings and is undoubtedly why Prime Minister Mark Carney listed "establishing a new economic and security relationship with the United States" as his mandate's number one priority (Carney 2025).

Despite being a US neighbour and NATO member, Canada is not exempt from such geopolitical dealings and must demonstrate its strategic value. Despite a CDN\$38.6 billion dollar commitment to help modernize NORAD (North American Aerospace Defense Command) and protect NATO's Arctic flank (Government of Canada 2024, 18), as well as a CDN\$4.6 billion pledge to technology development (Ciuriak and Carboneau 2024),

Background

Geopolitical Challenges

Multi-use Necessities

Canada requires further investment in dual-use technology and infrastructure — those that serve both military and civilian purposes. These investments ensure a commitment to national security and the promotion of Canadian prosperity. This need was recognized by the Trudeau government, which pledged CDN\$218 million over the next two decades to invest in Arctic multi-use infrastructure (Doward 2024). Moreover, the federal government's defence policy has committed to contributing to the North Atlantic Treaty Organization (NATO) Innovation Fund, which aims to promote start-ups in their pursuit of dual-use technologies such as artificial intelligence (AI), quantum computing and energy (Department of National Defence 2024, 21-22).

Canada still only contributed an estimated 1.37 percent of GDP to defence in 2024 (Burke 2025). President Trump has repeatedly referenced this lack of defence contributions, even saying, “They rely on our military... They’ve got to pay for that. It’s very unfair” (Crawley 2025). This suggests the United States can no longer be relied upon as Canada’s security guarantor and that Canada must improve its worth as an ally.

Need for Cybersecurity

The Carney government’s mandate has prioritized strengthening the Canadian Armed Forces and acknowledged “the transformative” nature of AI technologies (Carney 2025). This is in-line with the 2024-2025 Canadian budget, which included increased investment in AI through its Canadian Sovereign AI Compute Strategy. This program allocates CDN\$2 billion to Canadian researchers and AI companies, with CDN\$700 million intended to increase Canadian AI capabilities (Innovation, Science and Economic Development Canada 2025). This investment is significant, as AI has many potential defence applications. Logistics, satellite imagery and information processing can all benefit through AI implementation, reducing costs and freeing up personnel (Araya 2024).

However, with increased AI adoption come certain challenges. Current AI systems remain vulnerable to cyberwarfare through methods such as jamming and spoofing (Payne 2024, 100). Additionally, the widespread availability of AI tools enhances the capabilities of non-state actors, allowing them to “target and automate, at scale, disinformation and influence campaigns, malicious cyber operations, espionage, and foreign interference activities” (Department of National Defence 2024, 9). This could have consequences for Canada, which is increasingly reliant on digital infrastructure for banking, health services, communications, energy and defence (Klein and Hossain 2020, 11). As such, without sufficient attention to, and investment in, Canadian cybersecurity, Canada’s critical infrastructure and its investments in AI research and development could be severely undermined.

Canada’s Current Innovation Ecosystem: Challenges and Opportunities

Cybersecurity in Canada functions within a broader “innovation ecosystem,” composed of four interdependent pillars. The first pillar is material sourcing and processing,

which involves the extraction and refinement of critical minerals and rare earth elements used to manufacture the hardware components that support cybersecurity technologies. The second pillar is software development, which is supported by Canada’s strong education system, a growing pool of expertise and a strong start-up culture. The third pillar is globalization, where Canadian cybersecurity firms face challenges to scaling to globally competitive “unicorn” status due to domestic constraints. The fourth pillar is commercialization and value creation, which is currently limited by an underdeveloped intellectual property (IP) infrastructure and procurement process supporting the protection of IP.

Material Sourcing and Processing

Canada’s current innovation ecosystem begins with the sourcing and extraction of critical minerals used for cybersecurity hardware components. There are numerous critical minerals, including lithium, graphite, cobalt, nickel, copper and other rare earth elements. Critical minerals and rare earth elements are integral to the production of semiconductors, batteries and other technologies (Natural Resources Canada 2022). Canada is resource-rich in these minerals and elements, harbouring some of the largest known reserves and resources (measured and indicated) of rare earths in the world, estimated at over 15.2 million tonnes of rare earth oxide in 2023 (*ibid.*). This abundance places Canada in a strategically advantageous position to support not only domestic technological needs, but also to contribute to global supply chains. Despite this advantage, Canada’s capacity to process these materials and manufacture them into finished cybersecurity hardware remains underdeveloped. Currently, Canada imports a vast amount of this hardware, the mainstay of which is from China (Observatory of Economic Complexity 2023). This dependence stems from domestic barriers, including long approval processes on mining and a tax structure that disincentivizes the development of processing facilities (Bruvels et al. 2025). As a result, raw materials extracted in Canada are exported for processing and returned as finished products, thereby missing opportunities for economic and technological value capture within Canadian borders.

Overreliance on foreign supply chains, especially those tied to China is increasingly viewed as a vulnerability. As Prime Minister Carney has noted in his mandate letter, “the global trading system is currently undergoing

the biggest transformation since the fall of the Berlin Wall" (Carney 2025). In the context of shifting global geopolitics, particularly the accelerated China containment strategy pursued by the Trump administration in the United States, Canada is facing renewed pressure to reassess its role within North American security and trade. Canada will, therefore, be expected to foster a regional environment that is less accommodating to Chinese influence, particularly in sectors related to national security and technological sovereignty.

As cybersecurity becomes increasingly intertwined with national defence and economic competitiveness, the need to localize supply chains for hardware components becomes more urgent. This includes investing in the infrastructure and innovation required to refine, process and manufacture hardware domestically. The future of Canada's cybersecurity hardware supply chain will depend on its ability to utilize natural resources while reducing dependencies on foreign actors.

Software Development

Alongside its resource wealth, Canada boasts top-tier universities and produces highly skilled graduates in software development and related disciplines. However, a significant portion of this intellectual capital is migrating out of Canada (*The Brock News* 2018). Canadian universities, largely funded by public money, conduct research, but foreign companies often acquire the resulting IP and commercialize it outside the country. As a result, Canada loses out on potential royalties, job creation, tax revenue and global competitiveness. Thus, while the education system produces quality outputs, Canada's current innovation ecosystem is not conducive to retaining talent and capitalizing on homegrown research.

Globalization

As the global economy has transitioned from tangible goods to intangibles, Canada has failed to adapt. Public procurement accounts for approximately 14.6% of Canada's GDP; however, the government's preference for large incumbent, and often foreign, firms, undermine domestic technology companies and weakens Canada's innovation ecosystem (Carboneau and Kamat 2024, 4,13). The Organisation for Economic Co-operation and Development recently ranked Canada last out of 38 countries in per capita economic growth and predicted it

would be the "worst-performing advanced economy over 2020 to 2030" (Veldheuis and Palacios 2023).

One of the most significant barriers is the inability of start-ups to access investment or the mentorship required to expand. This challenge is exacerbated by Canada's comparatively small venture capital market, particularly in capital-intensive sectors such as cybersecurity, quantum technologies and AI (Tran and Kwok 2022). Combined with a broader culture of risk aversion, this forces firms to seek US-based funding, which often comes with conditions that require relocation of operations, talent and IP abroad, draining Canadian innovations of long-term domestic value (Prescott 2024). In this context, Canada functions as an innovation donor in the global knowledge economy, surrendering its strategic advantage at a time when geopolitical influence increasingly hinges on technological leadership (Fitz-Gerald and Padalko 2025).

Commercialization and Value Added

Canada's weak commercialization infrastructure further compounds this challenge. An underdeveloped IP infrastructure means that many start-ups struggle to secure the legal and financial support required to protect their inventions. Many are discouraged by the high costs, lengthy processes and unclear returns on investment (Gallini and Hollis 2019). This often leads to a failure to secure ownership over key technologies, making firms more vulnerable to foreign acquisition or IP theft, and limiting opportunities for economic benefit and national technological sovereignty.

Furthermore, Canadian public procurement processes are often too arduous for smaller businesses. Without the government acting as an early adopter, something that has played a key role in scaling innovation in the United States and the United Kingdom, Canadian start-ups struggle to secure the early revenue and validation needed to attract private sector investment. An underdeveloped IP and procurement process therefore presents problems in scaling up, which undermines Canada's ability to provide the value-added goods that can compete successfully in the global marketplace.

While Canada possesses many of the right ingredients in the innovation ecosystem — an abundance of critical minerals, strong post-secondary institutions and deep multilateral partnerships — it lacks the procurement

strategy and scale-up support necessary to retain IP, grow Canadian firms and compete globally in emerging sectors such as cybersecurity.

Canada loses economic and strategic advantages by not building its own cybersecurity supply chain and, therefore, strengthening its innovation ecosystem should be the strategic objective to help Canada produce hard capability in a way which will support prosperity, sovereignty and security.

Recommendations

Exploration of the development of mineral refining within Canada. While beyond the scope of this project, the strengthening of Canada's innovation system with the promotion of mineral refinement within Canadian borders is encouraged. Canada should commission a study on the mineral refinement processes in allied global producers such as Australia with lithium, and the United States with rare earth metals. It should examine the practices of leading producers in Latin America, such as Chile, which produced 4,400 metric tons of lithium in 2023 (Williams 2025). This can develop Canadian human capacity in the area of mineral production and refinement in a way that promotes good practices globally. Readily available, domestically produced critical minerals can promote the production of cybersecurity hardware within Canada. Finally, domestically produced hardware reduces reliance on foreign states and can allow Canada to export hardware to allied nations.

Establish expert committees. Canada should re-establish expert committees as structured channels to advise the government on how IP, data and knowledge assets are the driver of modern economies. Experts should include representatives from academia, industry, public institutions and innovation sectors with experience in technology, cybersecurity, IP law and commercialization. Canada once had strong expert advisory committees (for example, the Science, Technology and Innovation Council), but these were disbanded in 2015, creating a gap between policy makers, universities, think tanks and technical experts from industries. Expert committees would be dedicated to longitudinal research, which falls outside the immediate mandate of policy makers, similar to the models used in the United States and the United Kingdom. Expert committees would liaise with federal funding agencies

to act as a centre of expertise and training, specifically to review and direct funding priorities, align research and development with industrial strategy, and support commercialization of public research.

Establish IP attachés. Canada should improve its cybersecurity innovation through strengthening its IP protection and enforcement. Trade agreements between countries are brokered bilaterally or multilaterally with each country maintaining its own IP laws. Therefore, Canada should consider the development of roles for IP attachés in embassies. IP attachés could be similar to those used by the US Patent and Trademark Office (USPTO) or the United Kingdom's Intellectual Property Office (IPO). The attachés can be hired based on their knowledge of international property law. With the rise of AI and increased digitization will come increased regulatory frameworks regarding governing data, data sharing, and how data and computing equipment is used. Attachés in embassies can strengthen Canadian IP negotiating capability on the ground. Protected IP will encourage cybersecurity innovation, which can be shared with allies, improving Canada's value as a defence partner, in line with Prime Minister Carney's mandate of a defence policy that "fulfills our responsibilities to our allies, and helps build our economy" (Carney 2025). The attaché program could be completely self-funded by mirroring the IPO or the USPTO, which are not funded by taxpayers but instead through patent and trademark fees. (Eurofound 2022; US Patent and Trademark Office 2024).

Protect and project Canadian competencies via science diplomacy streams. Canada should establish itself as a global leader in cybersecurity and technology regulation — embedded in a trusted and predictable legal and democratic system through science diplomacy streams led by GAC. Canada has produced world-leading scientists, particularly in transformative areas such as AI and data science, thus placing it in a strong position to lead on science diplomacy. Completed through the development of Canadian-led capacity-building programs to strengthen digital governance and cyber resilience in partner countries, thereby promoting data sovereignty more broadly. The federal government can project Canadian expertise abroad by embedding cybersecurity training and regulatory support into diplomacy efforts while promoting responsible, rights-based digital norms that reflect Canadian values and encourage global cyber stability.

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Works Cited

Araya, Daniel. 2024. "Leveraging AI for the Canadian Armed Forces." CDA Institute, expert series. <https://cdainstitute.ca/leveraging-ai-for-the-canadian-armed-forces/>.

Bruvels, Alex, Micah Zierer-Clyke, Cory Kent, Joshua Chad and Andrew Striling. 2025. "Ontario mining: Rocky industry challenges and opportunities." McMillan. <https://mcmillan.ca/insights/ontario-mining-rocky-industry-challenges-and-opportunities/#:~:text=Our%20mining%20sector%20faces%20critical,which%20we%20steadfastly%20remain%20committed.&text=%5B9%5D%20Ibid.,Financial%20Statements%20%7C%20Solaris%20Resources%20Inc.>

Burke, Ashley. 2025. "Defence minister accelerates 2% NATO spending timeline to 2027 amid pressure from Trump." CBC. www.cbc.ca/news/politics/defence-spending-two-percent-defence-spending-target-1.7440870.

Carboneau, Laurent, and Abu Kamat. 2024. *Buying Ideas: Procuring Public Sector Innovation in Canada*. Council of Canadian Innovators. <https://www.canadianinnovators.org/content/buying-ideas-procuring-public-sector-innovation-in-canada>

Carney, Mark. 2025. "Mandate letter." Office of the Prime Minister. May 21. www.Pm.gc.ca/en/mandate-letters/2025/05/21/mandate-letter.

Ciuriak, Dan and Laurent Carboneau. 2024. "Canada needs to use government procurement to boost innovation." *The Globe and Mail*. October 6. <https://www.theglobeandmail.com/business/commentary/article-canada-needs-to-use-government-procurement-to-boost-innovation/>.

Crawley, Mike. 2025. "Trump has threatened Canada in all sorts of ways. What does he really want?" CBC Radio Canada International. <https://ici.radio-canada.ca/rca/en/news/2131634/trump-has-threatened-canada-in-allsorts-of-ways-what-does-he-really-want>.

Department of National Defence. 2024. *Our North, Strong and Free: A Renewed Vision for Canada's Defence*. Government of Canada. June 6. www.canada.ca/content/dam/dnd-mdn/documents/corporate/reports-publications/2024/north-strong-free-2024-v2.pdf.

Doward, Kira Wronski. 2024. "Examining the Canadian government's future approach to Arctic defence." *Nunavut News*. October 15. www.nunavutnews.com/home/examining-the-canadian-governments-future-approach-to-arctic-defence-7552142.

Eurofound. 2022. "Intellectual Property Attaché Network, Measure GB-2011-1/2667 (Measures in United Kingdom)." EU PolicyWatch. https://static.eurofound.europa.eu/covid19db/cases/GB-2011-1_2667.html.

Fitz-Gerald, Ann and Padalko, Halyna. 2025. "Canada's Opportunity to Redefine Its Defence, and Its Value to Allies". Centre for International Governance Innovation. <https://www.cigionline.org/articles/canadians-are-ready-to-strengthen-national-defence/>

GAC. 2024. *ENGLISH — Launch of Canada's Arctic Foreign Policy* [YouTube Video]. www.youtube.com/live/L2BdNjEJhaw.

Gallini, Nancy and Hollis, Aidan. 2019. "To Sell or scale up: Canada's patent Strategy in a knowledge economy". Institute for Research on Public Policy. <https://irpp.org/research-studies/to-sell-or-scale-up-canadas-patent-strategy-in-a-knowledge-economy/>

Government of Canada. 2024. "Canada's Arctic foreign policy." GAC. www.international.gc.ca/gac-amc/publications/transparency-transparence/arctic-arctique/arctic-policy-politique-arctique.aspx?lang=eng.

Innovation Science and Economic Development Canada. 2025. "Canadian sovereign AI compute strategy." Government of Canada. <https://ised-isde.canada.ca/site/ised/en/canadian-sovereign-ai-compute-strategy>.

Klein, Joelle and Kamrul, Hossain. 2020. "Conceptualising human-centric cyber security in the Arctic in light of digitalisation and climate change." *Arctic Review on Law and Politics* 11: 1–18. <https://doi.org/10.23865/arctic.v11.1936>.

Kottasova, Ivana and Victoria, Butenko. 2025. "Here's what's in Trump's Ukraine minerals deal and how it affects the war." CNN, May 1. <https://edition.cnn.com/2025/05/01/world/what-we-know-about-trumps-ukraine-mineral-deal-intl>.

Natural Resources Canada. 2022. "The Canadian Critical Minerals Strategy." Government of Canada. <https://www.canada.ca/content/dam/nrcan-rncan/site/critical-minerals/Critical-minerals-strategyDec09.pdf>,

Observatory of Economic Complexity. 2023. "Computers in Canada trade." <https://oec.world/en/profile/bilateral-product/computers/reporter/can>.

Payne, Kenneth. 2024. *Bright Prospects, Big Challenges: Defence AI in the United Kingdom*. In T. Schütz, H. Borchert and J. Verbovsky (Eds.), *The Very Long Game*: 85–106. Springer. <https://doi.org/10.1007/978-3-031-58649-1>.

Prescott, Jimmy. 2024. "Canada's Tech Industry: Trends and Global Competitiveness." Beltway Grid Policy Centre. <https://beltwaygrid.org/canadas-tech-industry-trends-and-global-competitiveness/>.

The Brock News. 2018. "Brain Drain: Study shows many science and tech grads heading to U.S. for work." Brock University. <https://brocku.ca/brock-news/2018/05/brain-drain-study-shows-many-science-and-tech-grads-heading-to-u-s-for-work/>.

Tran, Stephanie and Tiffany, Kwok. 2022. "Scaling Cyber: Advancing Canada's Cybersecurity Startups." Cybersecure Policy Exchange, Toronto Metropolitan University. <https://dais.ca/wp-content/uploads/2023/11/ScalingCyber.pdf>.

US Patent and Trademark Office. 2024. "Budget and financial information." US Department of Commerce. www.uspto.gov/about-us/performance-and-planning/budget-and-financial-information.

Veldhuis, Niels and Milagros, Palacios. 2023. "Cabinet shuffle won't improve Canada's weak economic performance" Fraser Institute. <https://www.fraserinstitute.org/commentary/cabinet-shuffle-wont-improve-canadas-weak-economic-performance>

Williams, Georgia. 2025. "Top 9 Lithium-producing Countries." Investing News Network. March 5. <https://investingnews.com/daily/resource-investing/battery-metals-investing/lithium-investing/lithium-production-by-country/>.

Food Security, Climate and International Assistance

Remittances for Climate Resilience: Building Resilient Communities against Climate Change-related Disasters

Ainsley Cunningham, Holly Davis and John McMurry

“Climate change is a global challenge that requires global solutions... Transformational investments are needed to help communities around the world to better address climate change and adapt to its harmful consequences” (Government of Canada 2024).

Issue

Against the backdrop of intensifying climate-related disasters, limited climate finance, stagnant global aid and constrained disaster reduction frameworks, remittances present a unique and underexplored pathway to building climate adaptation and resilience in vulnerable communities in the Global South.

Background

Migrant Remittances and Their Impacts

Remittances are funds sent by individuals working or living abroad to people in their home country, typically family members (Annan-Aggrey 2025). These private financial transfers are made through formal channels such as banks or money transfer services but can also occur informally. Remittances serve as a vital source of income for many households in low- and middle-income countries (LMICs), and are often used to cover essentials such as food, housing, education and health care. In smaller economies, remittances account for a substantial share of GDP and play a vital role in supporting current accounts and addressing fiscal deficits. Compared to other

funding flows, remittances are generally more frequent, personal and stable. International remittances have increased from an estimated US\$128 billion in 2000 to US\$831 billion in 2022 (McAuliffe and Oucho 2024). Unlike foreign direct investment or bonds, remittances directly improve household welfare and often function as private social safety nets. Remittances have been instrumental in supporting LMIC countries that face significant challenges, including food insecurity, droughts, supply chain issues, floods and debt servicing (Ratha et al. 2024). Collective remittances have also been used to fund community-level development projects in these countries (Bada 2015).

Using Remittances for Disasters

Existing literature suggests that remittances can serve as powerful adaptation tools during disasters, supporting communities in both recovery and preparation for climate-related disaster events (Bettin, Jallow and Zazzaro 2025; Bragg et al. 2018; Su 2022). They play an influential role in funding strategies such as irrigation farming, which promotes climate resilience building. Farmers typically use remittance income to purchase farming supplies such as fertilizers and drought-tolerant seeds, as well as to support their families through food purchases. In Ghana, for example, smallholder farmers face significant challenges due to climate change, including reduced productivity and difficulties in adapting due to limited resources (Musah-Surugu et al. 2017). Remittance-receiving households in Ethiopia have higher per capita consumption (Mohapatra,

Joseph and Ratha 2009). To cope with droughts, these households are more likely to rely on cash reserves rather than selling their livestock. Additionally, many remittance recipients are urban dwellers; thus, remittance flows during disasters can help build urban resilience to climate-related disasters such as floods or cyclones.

Intensifying Climate Disasters

In recent years, the increasingly visible effects of climate change have begun to manifest in the form of a rise in climate-related disasters on a global scale. According to the *World Disaster Report 2020*, over 97 million people were affected by numerous disasters in 2019 alone (International Federation of Red Cross and Red Crescent Societies 2020). Between 2000 and 2019, the total disaster-related economic losses for LMICs were US\$38 billion, accounting for 0.61 percent of their GDP. In contrast, high-income countries faced US\$1.99 trillion in economic losses, which constituted only 0.18 percent of their GDP (United Nations Office for Disaster Risk Reduction 2020). As climate change impacts intensify, disaster-prone communities in the Global South are caught in a vicious cycle of increased risks and heightened vulnerabilities, unable to deal with a current disaster effectively, let alone the next one.

Climate-related disasters pose significant threats to sustainable development in countries in the Global South, undermining their progress toward achieving the Sustainable Development Goals and the UN 2030 Agenda. The Sendai Framework for Disaster Risk Reduction underscores that a significant adaptation gap exists for effective responses to climate disasters. Weak funding to strengthen climate resilience-building in at-risk communities is a crucial challenge.

Canada and Global Climate Action

Climate adaptation and effectively addressing the impacts of climate change have long been core priorities for the Canadian government. In 2018, former Prime Minister Justin Trudeau emphasised the need to “go further and move faster” for effective climate action in the Throne Speech (Government of Canada 2021). This sentiment was echoed in every ministerial mandate letter for his subsequent term. Recently elected Prime Minister Mark Carney also has an active history of climate action, having earlier served as the United Nations Special Envoy on

Climate Action and Finance. His election platform outlined his intention to build a “clean economy [to] tackle climate change,” reiterating Canada’s commitment to climate action through national and global initiatives that support marginalized communities (Liberal Party of Canada 2025). The Government of Canada has made additional commitments through the Group of Twenty (G20) for sustainable development, using economic, social and environmental parameters to guide initiatives that address future challenges (Global Partnership for Financial Inclusion 2024). Within this framework, the G20 has recognized the importance of remittance flows as a significant source of income for many families in the Global South and committed to reducing transaction costs for remittance services as part of the UN 2030 Agenda (ibid. 2021). The Financial Consumer Agency of Canada (FCAC) additionally acknowledged that remittance flows have an inherently gendered aspect that needs to be studied further to improve remittance equity.

Canada and International Disaster Assistance

During emergencies, Canada deploys the Disaster Assistance Response Team (known as DART) to assist with the adverse impacts of natural disasters. The cost of these missions is dependent on the specific circumstances, but can be significantly higher in cases where a lack of preparedness plays a role. Canada’s 33-day mission to the Philippines following Typhoon Haiyan cost CDN\$29.2 million, providing troops and equipment to support local communities (Everson 2014). Canadian disaster aid also takes the form of the Emergency Disaster Assistance Fund, which the Canadian Red Cross Society administers. After Hurricane Beryl in the Caribbean region, Canada provided over CDN\$1 million in humanitarian assistance funding (Global Affairs Canada [GAC] 2024a). These funding initiatives also support climate adaptation strategies for enhanced disaster preparedness. GAC has awarded CDN\$28.7 million to fund a three-year project that will advance climate adaptation in African cities (World Resources Institute Africa [WRI Africa] 2024). This funding initiative aims to better support vulnerable communities in urban areas through increased efficiency of nature-based solutions (ibid.).

In 2021, Canada doubled its international climate finance commitment to CDN\$5.3 billion for countries in the Global South and for “supporting ambitious climate action

abroad" (Government of Canada 2024). However, as highlighted in the United Nations Environment Program's (UNEP's) *Adaptation Gap Report 2023*, substantially more public and private financial resources are required for effective adaptation to this new climatic normal of intensifying climate-related disasters (UNEP 2023).

Canada and Remittance-sending

In 2020, it was estimated that 15 percent of Canadians send remittances (FCAC 2023). By 2023, one in five Canadians (20 percent) remitted using their bank accounts, representing a five percent increase in just three years (Yun, Olorundare and Apata 2024). Individuals arriving in Canada from countries receiving official development assistance (ODA) were found to remit more than other migrants. The FCAC's report showed that CDN\$5.4 billion in remittances were sent to ODA-receiving countries in 2017 (FCAC 2023). Canadian immigrant and diaspora communities frequently contribute to disaster relief through remittances. Since Canada has demonstrated itself as a reliable partner in international climate action, supporting and implementing a policy framework that leverages all forms of public and private financial support to build climate resilience, especially remittances, would further strengthen Canada's leadership in this area.

Where Could Canada Improve?

While the commitments made by the Canadian government serve as an important first step, gaps in both data collection and remittance practices still limit migrants' ability to send money during environmental crises. The first gap is in the remittance data collected on African nations. Countries in Sub-Saharan Africa are the most vulnerable to climate change-related disasters. Despite this vulnerability, these countries are often the least studied. Remittance data for these nations is limited, making it difficult to determine how much money is being sent, its monetary value and how it is being used. There is also a knowledge gap regarding the use of remittances during disasters and how they can help build climate resilience. Detailed data on remittances would help stakeholders identify current barriers to remitting and disparities in remittance receipts, enabling the development of better programs for their effective use. For example, collective remittance initiatives could be used to increase funding for disaster resilience projects in Sub-Saharan Africa. Moreover, providing migrants in Canada with

more information and education on different remittance methods and safe practices could cut unnecessary costs and prevent exploitation.

The second issue is the cost of sending remittances. Financial institutions charge substantial fees for monetary remittances sent overseas, which increases the cost for remitters and reduces the amount received by recipients (Sunu and Ramachandran 2025). High remittance fees also considerably decrease the amount that recipients in migrants' home countries receive during critical times, such as when disasters occur. Electronic remittances are considered safer and more secure than cash pickup remittances (FCAC 2023). Despite this, Canadian banks impose high fees for electronic transfers. A Statistics Canada study found that remitters who sent amounts of up to CDN\$200 paid an average of 11 percent in transaction fees, while those sending amounts over CDN\$1,000 paid an average of two percent (Dimbuene and Turcotte 2019). These uneven costs highlight the inherent inequality within the remittance fee system, as the poorest individuals pay a proportionally higher amount. According to the World Bank (2023), a five percent reduction in formal remittance costs on the principal amount could save an estimated US\$16 billion, which can benefit both senders and recipients and be used to build adaptive capacity to climate disasters.

Costs Analysis

Despite the growing need, the international community is currently experiencing a decline in global public funding for many sustainable development initiatives, including humanitarian and overseas development assistance and climate adaptation action (GAC 2024b; Sunu and Ramachandran 2025). This reduction in funds underscores the urgency to leverage other less-considered sources of private funding to build climate resilience in the Global South. The costs of addressing these remittance-related concerns are minimal compared to most foreign aid initiatives and involve money sent by immigrants and diaspora communities in Canada, rather than requiring increased assistance from the federal government. Lowering transaction fees for remitting is an opportunity cost, resulting in the loss of potential revenue for banks through these fees.

Establishing education programs and support services would necessitate additional funding. However, countries

receiving remittances from family abroad may require less international aid from Global North governments, including Canada. Therefore, reducing transaction fees on international electronic transfers for remittances has the potential to complement the Canadian government's development assistance program and international climate finance commitment and decrease the amount of government spending needed to achieve the same impact.

Recommendations

To ensure that multiple forms of remitting are possible and accessible, **GAC should establish educational support surrounding remittances, promote safe remittance practices and safeguard all remitting avenues.**

GAC and the Government of Canada should support the regular collection of data on remittance flows from Canada, especially those sent to African countries, by funding research projects that examine remittance flows, uses, frequencies and effectiveness, along with challenges and barriers to their optimal utilization.

The FCAC and the finance minister should work with financial institutions and reduce fees related to remittance flows, ensuring access remains available during environmental crises.

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Works Cited

Annan-Aggrey, Eunice. 2025. "Harnessing Diaspora Finance for Climate Resilience in Africa." MiFOOD Paper No. 37. <https://mifood.org/papers/harnessing-diaspora-finance-for-climate-resilience-in-africa/>.

Bada, Xochitl. 2015. "Collective Remittances and Development in Mexico: A View from Chicago's Mexican Hometown Associations." *Population, Space and Place* 22(4): 343–55.

Bettin, Giulia, Amadou Jallow and Alberto Zazzaro. 2025. "Responding to Natural Disasters: What Do Monthly Remittances Data Tell Us?" *Journal of Development Economics* 174: 103413. <https://doi.org/10.1016/j.jdeveco.2024.103413>.

Bragg, Catherine, Glenn Gibson, Haleigh King, Ashley A. Lefler and Faustin Ntoubandi. 2018. "Remittances as Aid Following Major Sudden-Onset Natural Disasters." *Disasters* 42(1): 3–18. doi: 10.1111/disa.12229.

Dimbuene, Zacharie Tsala and Martin Turcotte. 2019. "Study on International Money Transfers From Canada." Ottawa, ON: Statistics Canada. www150.statcan.gc.ca/n1/pub/89-657-x/89-657-x2019007-eng.htm.

Everson, Kristen. 2014. "Canada's Dart Mission to the Philippines Cost \$29M." CBC News, July 15. www.cbc.ca/news/politics/canada-s-2013-dart-mission-to-the-philippines-cost-29m-1.2707373.

FCAC. 2023. "Sending Money to Someone in Another Country." Government of Canada, January 13. www.canada.ca/en/financial-consumer-agency/services/payment/international-money-transfers.html#toc2.

GAC. 2024a. "G20 Rio de Janeiro Leaders' Declaration." Canada and the G20. www.international.gc.ca/world-monde/international_relations-relations_internationales/g20/2024-11-18-g20-rio-declaration.aspx?lang=eng.

—. 2024b. “Report to Parliament on the Government of Canada’s International Assistance 2022-2023.” Government of Canada, International Development. www.international.gc.ca/transparency-transparence/international-assistance-report-rapport-aide-internationale/2022-2023.aspx?lang=eng.

Global Partnership for Financial Inclusion. 2021. “G20 National Remittance Plan: Canada 2021 — Biennial Update.” www.gpfi.org/sites/gpfi/files/sites/default/files/Canada.pdf.

—. 2024. “2024 Update to Leaders on Progress Towards the G20 Remittance Target.” November. <https://docs.google.com/document/d/1j9JtHPiQ64WD5n4h3EqznsObnzJaAlcNTdgp3sIALbE/edit?usp=sharing>.

Government of Canada. 2021. “Statement by the Prime Minister on the Speech from the Throne.” Prime Minister of Canada, November 21. www.pm.gc.ca/en/news/statements/2021/11/23/statement-prime-minister-speech-throne.

—. 2024. “Canada’s international climate finance.” Environment and Natural Resources. www.canada.ca/en/services/environment/weather/climatechange/canada-international-action/climate-finance.html.

International Federation of Red Cross and Red Crescent Societies. 2020. *World Disasters Report 2020*. Geneva: International Federation of Red Cross and Red Crescent Societies.

Liberal Party of Canada. 2025. “Building a Clean Economy and Tackling Climate Change.” <https://liberal.ca/cstrong/build/#building-a-clean-economy>.

McAuliffe, Marie and Linda Ocho. 2024. *World Migration Report 2024*. Geneva: International Organisation for Migration.

Mohapatra, Sanket, George Joseph and Dilip Ratha. 2009. “Remittances and Natural Disasters.” World Bank Policy Research Paper No. 4972. Washington, DC: World Bank.

Musah-Surugu, I. J., A. Ahenkan, J.N. Bawole and S.A. Darkwah. 2017. “Migrants’ Remittances: A Complementary Source of Financing Adaptation to Climate Change at the Local Level in Ghana.” *International Journal of Climate Change Strategies and Management*, 10(1): 178–96.

Ratha, Dilip, Vandana Chandra, Eung Ju Kim, Sonia Plaza and Akhtar Mahmood. 2024. “Remittances Slowed in 2023, Expected to Grow Faster in 2024.” Washington, DC: World Bank.

Su, Yvonne. 2022. “Networks of Recovery: Remittances, Social Capital and Post-Disaster Recovery in Tacloban City, Philippines.” *International Journal of Disaster Risk Reduction* 67: 102641.

Sunu, Naomi and Sujata Ramachandran. 2025. “Remittance Practices, Digital Technologies and the Ghana-Canada Migration Corridor.” MiFOOD Paper No. 42. <https://mifood.org/papers/remittance-practices-digital-technologies-and-the-ghana-canada-migration-corridor/>.

UNEP. 2023. *Underfinanced, Underprepared*. Nairobi: UNEP.

United Nations Office for Disaster Risk Reduction. 2020. *The Human Cost of Disasters: An Overview of the Last 20 Years (2000–2019)*. Geneva, Switzerland: United Nations Office for Disaster Risk Reduction.

World Bank. 2023. “Remittance Prices Worldwide: Making Markets More Transparent.” <https://remittanceprices.worldbank.org/about-remittance-prices-worldwide>.

WRI Africa. 2024. “Canada Awards over CAD\$28 Million to Scale Nature-Based Solution for “Climate Adaptation in African Cities.” WRI Africa Press Release, May 21. <https://africa.wri.org/news/release-canada-awards-over-cad28-million-scale-nature-based-solutions-climate-adaptation>.

Yun, S., D., Charette, A. Olorundare and N. Apata. 2024. “Canadian Payment Methods and Trends Report: Fueling the Future of Payments through Choice.” Ottawa: Payments Canada.

Food Security and Health Outcomes: Supporting Climate Change Adaptation in Sub-Saharan Africa

Nathalie Gatti and Lilla Eperjesi

Issue

Despite the widespread recognition of the intersectional dimensions of food security and malnutrition, Canada's development initiatives in Sub-Saharan Africa (SSA) remain siloed and compartmentalized, failing to capture key intersections between gender, food security and health outcomes. To meaningfully protect communities from malnutrition in a changing climate, it is essential that Global Affairs Canada (GAC) support initiatives that prioritize women smallholder producers, to build local capacity for improving nutrition and health outcomes.

Background

The Food and Agriculture Organization (FAO) defines food security as the circumstances "when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life" at the individual, household, national and global level (FAO 2006, 1). In SSA, malnutrition and food insecurity are widespread and urgent public health challenges. In 2020, an estimated 264.2 million people living in SSA were undernourished, representing 24.1 percent of the population (Owolade et al. 2022). Globally, women, infants, children and adolescents are at a higher risk of malnutrition, which manifests in wasting, stunting and nutrient deficiencies (World Health Organization 2024).

For individuals and households in SSA, the risk of food insecurity and malnutrition is heightened by social, economic and environmental factors including poverty, income, education level, household size, employment status, and the age and gender of the head of the household (Drammeh, Hamid, and Rohana 2019). Women are disproportionately affected by food insecurity; they are two percent more likely to experience some form of food insecurity than their male counterparts. This is largely due to social norms, which determine the distribution of food within communities and households: men in SSA receive the best food because they are perceived as having more productive roles, while women are subjected to eating lower quality food or leftovers (Odey et al. 2022).

Despite the disproportionate effect of food insecurity experienced by women, women smallholder producers are the key to strengthening food and nutrition security capacity in SSA. Women play an essential role in small-scale agriculture, farm labour and day-to-day family subsistence, producing a large percentage of food across SSA and comprising an estimated 50 percent of those employed in the agricultural sector (*ibid.*). Due to gendered social and economic inequalities, however, there is a large productivity gap between women and men in the agricultural sector, underpinned by gendered norms and practices, unequitable power relations and rigid gender divisions of labour. Gendered agricultural productivity gaps manifest through lower access to agricultural inputs,

lower returns on inputs used, less secure land rights and gender-based market distortions (Rodgers and Akram-Lodhi 2019), in addition to higher burdens of care work and household management responsibilities (Brixi and Van Nieuwkoop 2022). As such, transformative gendered approaches are essential to bolster women's agricultural productivity in SSA.

Canada's Role

In recent years, the importance of global health has become increasingly apparent. Global outbreaks have exemplified how the interconnected nature of our social, economic and political systems have significant effects on worldwide health (Elliott 2022). Addressing health outcomes such as malnutrition, therefore necessitate a global health approach, requiring global attention and support. Similarly, it is widely accepted that food security cannot be achieved unless it is universal, meaning that it is achieved for all individuals, households, communities and nations (FAO 2006, 1). Therefore, Canada has a responsibility to contribute to progress towards the goals of global health and food security.

This responsibility aligns with Canada's commitments to the Feminist International Assistance Policy, the Sustainable Development Goals and the G7 (Group of Seven) Adaptation Accelerator Hub. Canada's Feminist International Assistance Policy highlights the importance of gender equality and the empowerment of women and girls in a variety of areas, including health and nutrition, sustainable agriculture and climate adaptation (GAC 2017). Canada's commitment to the Sustainable Development Goals, particularly the goals of zero hunger, good health and well-being, and gender equality, similarly exemplify Canada's involvement in supporting the agricultural production of women in SSA (Employment and Social Development Canada 2021). Lastly, as part of the G7 Adaptation Accelerator Hub, Canada commits to strengthening support and enhancing the adaptive capacity of countries most affected by climate change, which includes SSA (G7 Italia 2024).

Case Studies

Canada's main priorities in Africa include "increasing economic cooperation, strengthening partnerships, providing international development assistance, and promoting peace, security, democracy and human rights" (Government of Canada 2025, para. 1). Canada's Feminist International Assistance is the foundation for the delivery of

Canada's international assistance. Between 2017-2018 and 2022-2023 the Canadian government provided CDN\$18.4 billion in international assistance to SSA to improve the livelihoods of people through better health, nutrition, food security education and economic well-being (*ibid.*). Commercial exchanges between Canada and Africa have grown significantly since 2020, with exports from Canada increasing by 13 percent and imports from Africa by 130 percent (*ibid.*). To support future trade and commercial ties, it is crucial to support the stability of African nations in the context of food security and health.

Given the diversity between countries within SSA, this brief focuses on two countries for analysis: Burkina Faso and Ghana. GAC provides comparable international assistance to both nations, which confront similar challenges regarding food security and health outcomes. In Burkina Faso, out of 22.5 million people, 40 percent live below the poverty line (World Food Programme 2025, 1). The majority of the population is dependent on rain-fed agriculture, leaving them vulnerable to climate-related shocks (*ibid.*). Food insecurity, therefore, is a critical issue with a reported 2.7 million people facing acute food insecurity between June and August of 2024, an increase of 687,000 from the same period in 2019 (*ibid.*). Additionally, while Burkina Faso is on course to meet its maternal, infant and young child nutrition targets, progress is slow in reducing anemia among women of reproductive age and stunting among children under the age of five (Global Nutrition Report n.d.b).

Similarly in Ghana, hunger and malnutrition remains an issue, especially in the north, where 90 percent of families rely on agriculture as their main source of income (World Food Programme 2024, 1). Over one million people in Ghana are food insecure; chronic malnutrition of children aged six to 59 months is at 17 percent (*ibid.*). Ghana has been on course to meet targets for maternal, infant and young child nutrition, however anemia among women of reproductive age is still at 35.4 percent, while stunting is at 17.5 percent (Global Nutrition Report n.d.a).

Women and children are disproportionately affected by food insecurity and its negative health effects. The World Food Programme reports that the economic toll of child malnutrition accounts for a 6.5 percent loss of Ghana's GDP annually (World Food Programme 2024, 1). Women continue to face social, economic and political barriers, including the lack of control and mobilization of assets, access to education, the exercise of local indigenous

knowledge and access to scale-appropriate technology that significantly impacts food security.

GAC is already very active in supporting initiatives in Burkina Faso and Ghana related to food security and health. In the past five years, between 2019 and 2024, GAC contributed international assistance to Burkina Faso and Ghana through a focus on food security, health and climate-resilient agriculture. Highlights include a CDN\$1.5 million and a CDN\$12.7 million food security project in Ghana and a CDN\$20 million health project servicing Ghana, Burkina Faso, and other Sub-Saharan countries. (Government of Canada n.d.a; GAC 2022; World Food Programme 2023; Government of Canada n.d.b). In terms of support on health, both countries received grants which significantly improved issues like sanitation, reproductive healthcare access and disease control (*ibid.* n.d.a; n.d.b). With respect to climate resilient agriculture, our research did not find publicly available programs in Ghana past 2018. In Burkina Faso, three climate resilience projects were carried out to support the development of coping strategies for vulnerable populations and develop agro-ecological farms (*ibid.*).

International assistance provided by GAC somewhat aligns with the national policy targets of Burkina Faso and Ghana. Nutrition targets in national policies in Burkina Faso and Ghana include reducing anemia among women, child stunting, childhood wasting and creating a comprehensive multi-sectoral nutrition plan (Global Nutrition Report, n.d.b; n.d. a). While food security, health and climate-resilient agriculture are intertwined in achieving these targets, a holistic approach in addressing these issues is lacking. Canada falls short of supporting Burkina Faso and Ghana in a fully rounded way as it does not account for the intersectional dimensions of food insecurity and malnutrition that result in disproportionate impacts on women and women smallholder producers.

GAC can amplify its contributions by taking a holistic approach in addressing food security, health and climate adaptation. Supporting women smallholder producers in combatting malnutrition for themselves and their communities necessitates approaches that target inequitable social and economic relationships and structural discrimination. Progress towards the UN Sustainable Development Goals 2 (Zero Hunger) and 3 (Good Health and Well-being), requires collective action toward Goal 5 (Gender Equality). Therefore, the recommendations in this

brief focus on initiatives, mechanisms and measures that prioritize social transformation and holistically support the agency of women smallholder producers in addressing malnutrition in their communities.

Recommendations

Canada must engage in transformative projects, specifically those that target women smallholder producers, to build local capacity in the fight against malnutrition. Transformative gendered approaches that dismantle systemic barriers rather than reinforce them, are essential in the strengthening of women's agricultural productivity in SSA. Such transformative programs must be centred around the elimination of social, economic and political barriers for women smallholder farmers, including the control and mobilization of assets and farm inputs, access to education, the exercise of local indigenous knowledge, access to and adoption of scale-appropriate technology, and other unequitable gendered divisions that have large effects on farm productivity. Through the transformation of gender dynamics and the empowerment of women, projects and programs targeted at increasing societal equity will be far more impactful than standard development interventions. As Canada continues to engage with SSA through targeted projects and programs, societal transformation must be a central aim.

Canada must shift programming and funding efforts to be more holistic and interdisciplinary. As noted in this brief, current GAC initiatives in SSA are fairly siloed and compartmentalized, separated into key issue areas: gender, food security, health and climate adaptation. Interdisciplinarity, especially in these key areas, allows for deeper insight and could identify potential policy convergence, further enabling projects to be more effective in their application and implementation (Mahringen et al. 2023). Holistic approaches that incorporate gender, food security, health and climate adaptation can have long-lasting and further-reaching impacts. Such approaches are more attuned to local social, economic and political dynamics, intersectionality and the ways in which gender, food security, health and climate adaptation interact and manifest at the local level. Thus, the adoption of holistic and interdisciplinary approaches, such as the methodology for interdisciplinary research framework (Tobi and Kampen 2018) would be incredibly beneficial for Canada's engagement in SSA.

Canada must continue collaborating with local governments to support both existing and new policy developments. GAC should maintain close relationships with governments across SSA to develop, support and align policy goals. The cases of Burkina Faso and Ghana demonstrate that national policies are being implemented by local governments to address food insecurity and malnutrition. While GAC aligns with these policy goals, it also has a responsibility to work with governments to address policy gaps. For example, GAC should enhance its support for food security among women of child-bearing age in Burkina Faso to close the government's policy gap in reducing the incidence of low birth weights among infants. It is essential that Canada continues to align its funding with local policy goals and work collaboratively to provide additional support where needed.

Canada must enhance funding to support and maintain free primary education. Women are disproportionately affected by food insecurity and malnutrition, yet they are the key to strengthening food and nutrition security capacities in their families and communities. School fees in SSA are a significant financial burden. Even in countries where free primary education is offered, parents are still required to pay ancillary school expenses (Klapper and Panchamia 2023). Childcare in SSA is limited. The most common strategy — used by 57 percent of mothers with children under the age of three — is to care for their children while working (Waterhouse, Hill and Hinde 2017, 773). The simultaneous task of work and childcare negatively affects women's well-being, including their ability to provide for their families (*ibid.*, 771). Providing programs that enable children to attend school at no cost strengthens women's well-being and enhances their ability to improve food and nutrition security of their families and communities.

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Works Cited

Bixi, Hana and Martien Van Nieuwkoop. 2022. "Empower HER to Address Food and Nutrition Security in Africa." *World Bank Blogs*. 2022. <https://blogs.worldbank.org/en/voices/empower-her-address-food-and-nutrition-security-africa>.

Drammeh, Wuyeh, Noor Aman Hamid and A. J. Rohana. 2019. "Determinants of Household Food Insecurity and Its Association with Child Malnutrition in Sub-Saharan Africa: A Review of the Literature." *Current Research in Nutrition and Food Science Journal* 7 (3): 610–23.

Elliott, Susan J. 2022. "Global Health for All by 2030." *Canadian Journal of Public Health* 113 (2): 175–77. <https://doi.org/10.17269/s41997-022-00623-x>.

Employment and Social Development Canada. 2021. "Canada and the Sustainable Development Goals." Program descriptions. February 16. www.canada.ca/en/employment-social-development/programs/agenda-2030.html.

FAO. 2006. "Food Security." Agricultural and Development Economics Division. https://www.fao.org/fileadmin/templates/faoitaly/documents/pdf/pdf_Food_Security_Cocept_Note.pdf.

G7 Italia. 2024. "The G7 Countries Join Forces to Strengthen Adaptation Actions in Support of the Most Vulnerable Countries." G7 Italia. www.g7italy.it/en/the-g7-countries-join-forces-to-strengthen-adaptation-actions-in-support-of-the-most-vulnerable-countries.

GAC. 2017. "Canada's Feminist International Assistance Policy." GAC. February 21 www.international.gc.ca/world-monde/issues_development-enjeux_developpement/priorities-priorites/policy-politique.aspx?lang=eng.

———. 2022. “Canada’s Funding Responds to Food and Nutrition Crisis in Sahel and Lake Chad Regions.” Government of Canada. April 6. www.canada.ca/en/global-affairs/news/2022/04/canadas-funding-responds-to-food-and-nutrition-crisis-in-sahel-and-lake-chad-regions.html.

Global Nutrition Report. n.d.a. “Country Nutrition Profiles — Ghana.” <https://globalnutritionreport.org/resources/nutrition-profiles/africa/western-africa/ghana/>.

———. n.d.b. “Country Nutrition Profiles — Burkina Faso.” <https://globalnutritionreport.org/resources/nutrition-profiles/africa/western-africa/burkina-faso/#:~:text=Burkina%20Faso%20has%20shown%20limited,women%20and%209.2%25%20for%20men>.

Government of Canada. 2025. “Canada and Africa.” March 6. https://www.international.gc.ca/world-monde/international_relations-relations_internationales/africa-afrique/index.aspx?lang=eng.

———. n.d.a. “International Assistance Projects Funded by Global Affairs Canada — Burkina Faso.” <https://w05.international.gc.ca/projectbrowser-banqueprojets/filter-filtre>.

———. n.d.b. “International Assistance Projects Funded by Global Affairs Canada — Ghana.” <https://w05.international.gc.ca/projectbrowser-banqueprojets/filter-filtre>

Klapper, Leora and Mansi Vipin Panchamia. 2023. “The High Price of Education in Sub-Saharan Africa.” *World Bank Blogs*. March 13. <https://blogs.worldbank.org/en/developmenttalk/high-price-education-sub-saharan-africa#:~:text=Even%20in%20countries%20like%20Uganda,%24420%2D680%20for%20private%20schools>.

Mahringer, Christian A., Franziska Baessler, Martin F. Gerchen, Christoph Haack, Katharina Jacob and Simone Mayer. 2023. “Benefits and Obstacles of Interdisciplinary Research: Insights from Members of the Young Academy at the Heidelberg Academy of Sciences and Humanities.” *iScience* 26 (12): 108508. <https://doi.org/10.1016/j.isci.2023.108508>.

Nunbogu, Abraham Marshall and Susan J. Elliott. 2022. “Characterizing Gender-Based Violence in the Context of Water, Sanitation, and Hygiene: A Scoping Review of Evidence in Low- and Middle-Income Countries.” *Water Security* 15 (April): 100113. <https://doi.org/10.1016/j.wasec.2022.100113>.

Nyantakyi-Frimpong, Hanson, Joseph Kangmennaang, Rachel Bezner Kerr, Isaac Luginaah, Laifolo Dakishoni, Esther Lupafya, Lizzie Shumba and Mangani Katundu. 2017. “Agroecology and Healthy Food Systems in Semi-Humid Tropical Africa: Participatory Research with Vulnerable Farming Households in Malawi.” *Acta Tropica, Ecohealth: An African Perspective* 175 (November): 42–9. <https://doi.org/10.1016/j.actatropica.2016.10.022>.

Odey, Goodness Ogeyi, Moriam Adesola Adegbite, Salomey Asaah Denkyira, Samar Mohammed Alhaj and Don Eliseo Lucero-Prisno. 2022. “Chapter Two — Women and Food Security in Africa: The Double Burden in Addressing Gender Equality and Environmental Sustainability.” In *Advances in Food Security and Sustainability*, edited by Marc J. Cohen, 7:35–59. Elsevier. <https://doi.org/10.1016/bs.af2s.2022.07.001>.

Owolade, Adedoyin John-Joy, Ridwanullah Olamide Abdullateef, Ridwan Olamilekan Adesola and Esanju Daniel Olaloye. 2022. “Malnutrition: An Underlying Health Condition Faced in Sub-Saharan Africa: Challenges and Recommendations.” *Annals of Medicine and Surgery* 82 (October): 104769. <https://doi.org/10.1016/j.amsu.2022.104769>.

Rodgers, Yana and Haroon Akram-Lodhi. 2019. “The Gender Gap in Agricultural Productivity in Sub-Saharan Africa: Causes, Costs and Solutions.” UN Women Policy Brief Series. UN Women. www.unwomen.org/en/digital-library/publications/2015/12/un-women-policy-brief-series.

Tobi, Hilde and Jarl K. Kampen. 2018. “Research Design: The Methodology for Interdisciplinary Research Framework.” *Quality & Quantity* 52 (3): 1209–25. <https://doi.org/10.1007/s11135-017-0513-8>.

Waterhouse, Philippa, Allan G. Hill and Andrew Hinde. 2017. "Combining Work and Child Care: The Experiences of Mothers in Accra, Ghana." *Development Southern Africa* 34 (6): 771–86. <https://doi.org/10.1080/0376835X.2017.1323627>.

World Food Programme. 2023. "Canada Funding Strengthens Delivery of Vital Food Assistance in Burkina Faso." February 15. www.wfp.org/news/canada-funding-strengthens-delivery-vital-food-assistance-burkina-faso.

———. 2024. "Ghana." <https://www.wfp.org/countries/ghana>.

———. 2025. "WFP Burkina Faso Country Brief." www.wfp.org/countries/burkina-faso.

World Health Organization. 2024. "Malnutrition." www.who.int/news-room/fact-sheets/detail/malnutrition.

Creating Conduits: Tackling Climate-Driven Food Insecurity in Jamaica

Sameer Gupta and Callan Woolnough

Issue

Climate-driven food insecurity in Jamaica, a key Caribbean Community and Common Market (CARICOM) member and Seasonal Agricultural Worker Program (SAWP) partner, persists due to implementation gaps in climate-resilient agricultural practices caused by funding shortfalls and fragmented data systems, requiring Canada to leverage its established partnerships through targeted climate finance, agricultural technology transfer and regional supply chain coordination.

Background

Climate Change Is Eroding Food Security in Jamaica

Jamaica's status as a small island developing state (SIDS) makes it highly vulnerable to sea-level rise, hurricanes, drought and saltwater intrusion into freshwater aquifers, all of which collectively reduce agricultural productivity (Food and Agriculture Organization [FAO] 2023a; 2023b; Stanberry and Fletcher-Paul 2024, 38; Geoghegan-Martin 2018). These environmental pressures have resulted in over 55 percent of Jamaicans experiencing food insecurity from 2021–2023, while 22.1 percent could not afford a healthy diet in 2022 (*The Gleaner* 2025). This data highlights the urgent need for targeted interventions to strengthen food system resilience in Jamaica.

Vision 2030 and Policy Frameworks

Jamaica's *Vision 2030 National Development Plan* prioritizes climate adaptation through hazard risk reduction and

the promotion of resilient agricultural systems (Planning Institute of Jamaica 2009). This aligns with the National Food and Nutrition Security Policy's goal of ensuring access to nutritious food for all Jamaicans (Ministry of Agriculture and Fisheries and Ministry of Health 2013). However, implementation gaps remain, particularly in scaling up initiatives such as drought-resistant crop adoption, improved irrigation and farmer training. These gaps are primarily due to persistent funding shortfalls and fragmented data systems, which limit the ability of policy makers and farmers to target resources effectively and measure progress (Scobie 2016).

Hurricane Beryl's Impact

The impact of Hurricane Beryl in 2024 illustrates the acute vulnerability of Jamaica's food system to climate shocks:

- agriculture and fishing losses totalled USD \$41 million (Angueira 2024);
- crop damage affected over 23,000 hectares of farmland, including 18,700 hectares of vegetables and 1,780 hectares of banana and plantain (Pate 2024a);
- livestock losses included 43,000 poultry and 1,000 cattle (*ibid.*); and
- infrastructure damage included 236 greenhouses destroyed and 62 km of farm roads damaged (*ibid.*).

These losses led to a decline in crop yields and further increased Jamaica's reliance on food imports, which have steadily climbed to over US\$1 billion annually (Stanberry and Fletcher-Paul 2024, 111). This dependence exposes

the country to price volatility in global food, energy and financial markets, demonstrating the far-reaching effects of food security for national or regional prosperity (*Jamaica Gleaner* 2024; Taghizadeh-Hesary, Rasoulinezhad and Yoshino 2019; Dai et al. 2025).

Structural Vulnerabilities

Significant structural challenges, particularly the informality of Jamaica's agricultural sector, have further exposed the country's food systems to environmental and economic shocks. Approximately 43 percent of Jamaica's economy operates informally, and this rate is even higher among agricultural workers (Jamaica Business Development Corporation [JBDC] 2024; International Labour Organization 2021). Informality thus compounds Jamaica's physical vulnerabilities by limiting adaptive capacity.

Physical and Environmental Constraints

Soil degradation is projected to affect an estimated 44 percent of Jamaican arable land by 2030 (*Jamaica Gleaner* 2018), while water scarcity is projected to worsen as agriculture already consumes 75 percent of the country's freshwater resources, and Jamaica loses as much as 10 percent of local supply each year due to saltwater intrusion (Government of Jamaica 2023, 32; Water Task Force 2009). These physical constraints intensify food system vulnerability, as degraded soils cannot support resilient crop production while water stress limits farmers' ability to maintain consistent yields during climate shocks.

Financial and Institutional Barriers

Most smallholder farmers lack access to essential resources such as agricultural insurance, affordable credit and timely climate information, leaving them highly exposed to climate impacts and unable to invest in adaptation measures (JBDC 2024). At the farm level, limited access to capital constrains farmers' adoption of climate-resilient practices needed to address soil and water challenges, such as improved irrigation, soil conservation techniques or drought-resistant seed varieties. For instance, while GK Insurance launched its GK Weather Protect crop insurance policy in 2021 with premiums as low as JMD\$5,700 per season, uptake has remained limited due to farmers' unfamiliarity with parametric insurance products and concerns about basis risk — the potential mismatch between actual losses and insurance payouts (Jamaica

Ministry of Agriculture 2021; Pate 2024b). This illustrates the persistent gap between available financial tools and practical access for those most at risk.

Systemic Dependency Patterns and Moral Hazard

The lack of robust institutional safety nets and fragmented supply chains further weakens the resilience of local agriculture. Instead of systematic risk management, farmers have come to expect government *ex-post* disaster relief through input vouchers and direct assistance, creating an unsustainable dependency that leaves smallholders particularly disadvantaged in recovering from climate-related losses and undermines incentives for proactive adaptation investments. This pattern is evident in government responses: JMD\$2.6 billion in recovery funds after Hurricane Dean in 2007 (Jamaica Information Service 2007), and J\$165 million announced after Hurricane Beryl in 2024, alongside JMD\$50 million annually distributed through Members of Parliament for production incentives and drought mitigation programs (Brooks 2007; Jamaica Ministry of Agriculture 2024; 2020). This cycle of post-disaster relief, while necessary for immediate recovery, creates moral hazard by reducing farmers' incentives to invest in climate-resilient infrastructure or insurance products, perpetuating the cycle of vulnerability and dependence on government intervention.

Canada's Strategic Stake

Canada's engagement in Jamaica's climate-driven food security crisis is grounded in a long history of economic, diplomatic and strategic cooperation that directly connect to the structural vulnerabilities outlined above. The broad scope of this engagement with Jamaica (and CARICOM) provides a durable foundation for a whole-of-government approach. The SAWP brings over 8,000 Jamaican workers to Canada's agri-food sector each year, supplying what has become a vital lifeline for Canadian farmers, with roughly half of farmers participating in the program (Statistics Canada 2022; Canadian Agricultural Human Resource Council 2024, 124). This extended relationship gives Canada deep familiarity with Jamaican agriculture and labour dynamics and can be leveraged to accelerate and amplify impact — for example, by linking SAWP labour flows to workforce development.

Canadian financial institutions continue to play a central role in financing agriculture and climate adaptation in Jamaica through targeted lending programs and dedicated agricultural sector financing (Council on Hemispheric Affairs 2022). Diplomatically, Canada's role as CARICOM's representative at the International Monetary Fund (IMF) and World Bank positions it to champion SIDS-friendly financing tools and concessional climate finance (Government of Canada 2025a). Through the CARIBCAN trade agreement, Canada also has more than four decades of experience leveraging commerce to bolster economic and social development in the region (Phagoo 2023).

The retreat of US climate leadership has amplified Canada's opportunity to emerge as CARICOM's primary partner. At the 2025 CARICOM Summit, Canada announced CDN\$38 million for regional climate action (Government of Canada 2025c), including CDN\$10 million for the FAO-backed climate-smart agriculture training. Recent efforts also include CDN\$58.5 million for renewable energy projects through the Caribbean Development Bank (Government of Canada 2025b; FAO 2024; Prime Minister's Office 2023), and CDN\$20 million for Sustainable Agriculture in the Caribbean (Government of Canada n.d.).

This commitment directly supports CARICOM's "25 by 2030" food import reduction target while advancing Canadian interests: stabilizing SAWP labour flows; reducing climate-driven migration pressures; and creating markets for Canadian agricultural technology exports such as solar irrigation, hydroponics and vertical farming systems (CARICOM 2025; FAO 2023b; Agriculture and Agri-Food Canada 2022). These initiatives align with Jamaica's *Vision 2030 National Development Plan*, which prioritizes climate adaptation and food security, creating synergies between Canadian technical expertise and local priorities (Planning Institute of Jamaica 2009). By aligning technical assistance, climate finance and research partnerships, Canada reinforces its role as both a humanitarian ally and a strategic investor in Caribbean development and agricultural resilience.

Risks

Several risks and constraints could undermine the effectiveness and sustainability of Canada's engagement in Jamaica's food security and climate adaptation efforts. Domestically, foreign aid spending may face political

scrutiny, particularly given recent US funding cuts threaten to undermine Caribbean climate initiatives, with Jamaica alone seeing 73 percent of US Agency for International Development funds halted (Sandefur and Kenny 2025). Canada must communicate mutual benefits such as SAWP labour supply stability and opportunities for Canadian agri-tech exports, to build public and political support for filling these investment gaps.

Regional indebtedness mean Canadian firms may be hesitant to invest in infrastructure or extend insurance without clear incentives or risk-sharing mechanisms, potentially limiting the reach of agri-finance innovations. The risk of perceived paternalism also looms if Canadian-led initiatives do not prioritize local ownership and leadership. Effective collaboration with Jamaican and CARICOM partners is crucial to ensure programs are context-appropriate and locally driven.

Finally, fragmented supply chains, limited institutional capacity and weak extension services in Jamaica could hinder uptake, limiting the impact of new programs or financing models. This underscores the need for cross-sectoral coordination and capacity building on a regional Caribbean scale, rather than a purely siloed, bilateral approach.

Recommendations

Expand climate-smart agriculture training. Canada should expand climate-smart agriculture training and extension services to reach at least 5,000 Jamaican farmers by 2026, prioritizing women and youth, in partnership with the FAO and local institutions. This builds on existing Canadian commitments while addressing the skills gap identified in Jamaica's agricultural sector.

Invest in soil-free agriculture pilots. Canada should invest in hydroponics and soil-free agriculture pilots in drought and flood-prone regions to demonstrate scalable, climate-resilient production models and reduce water use. These pilots directly address Jamaica's water scarcity challenges, where agriculture consumes 75 percent of freshwater resources.

Facilitate agri-finance access. FinDev Canada (Development Finance Institution) should facilitate access to affordable agri-finance and climate insurance by providing catalytic investment and advisory services to Jamaican and Canadian financial institutions developing

tailored risk products and concessional credit solutions aimed at smallholders. This addresses the current low uptake of crop insurance products due to high premiums and farmer unfamiliarity.

Leverage multilateral influence. Canada should leverage its influence at the IMF and World Bank to advocate for concessional, SIDS-friendly climate finance and flexible loan terms for food-climate infrastructure in Jamaica and the wider Caribbean. This capitalizes on Canada's unique position as CARICOM's representative at these institutions.

Channel Canadian expertise through regional innovation hubs. Canada can build on its recent announcement of a Caribbean Future Skills Fund (Global Affairs Canada 2024) by partnering with the National Research Council (NRC) and climate or agriculture-focused Canadian universities to establish innovation hubs in the Caribbean. The hubs can deploy some of the CDN\$3 million earmarked for the Fund to establish talent pipelines that feed joint research, generate employment and support capacity building. By leveraging the NRC's business development expertise to commercialize research outputs, the hubs would help stimulate the growth of the region's intellectual property portfolio.

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Works Cited

Agriculture and Agri-Food Canada. 2022. "Government announce funding through the Innovative Solutions Canada program [Backgrounders]." Government of Canada, March 15. www.canada.ca/en/agriculture-agri-food/news/2022/03/government-announce-funding-through-the-innovative-solutions-canada-program.html.

Angueira, G. A. 2024. "Jamaica's female farmers rebuild after Hurricane Beryl through women-led cash voucher program." AP News, September 6. <https://apnews.com/article/jamaica-hurricane-beryl-hurricanes-farmers-united-way-resilience-c13e0bfe898f3e660c8640dfcf1367ee>.

Brooks, Kerry-Anne. 2007. "Jamaica: Initiatives implemented for recovery of agricultural sector after Hurricane Dean." ReliefWeb, December 28. <https://reliefweb.int/report/jamaica/jamaica-initiatives-implemented-recovery-agricultural-sector-after-hurricane-dean>.

Canadian Agricultural Human Resource Council. 2024. "Sowing Seeds of Change: Agriculture Labour Market Forecast 2023-2030." https://cahrc-ccrha.ca/sites/default/files/2024-02/CAHRC_LMI-Report_FEB_2024_EN%20%281%29.pdf.

CARICOM. 2025. "25 by 2030: Regional Food Import Reduction Strategy." Georgetown: CARICOM Secretariat. <https://caricom.org/food-security-initiative-expanded-extended-to-2030/>.

Council on Hemispheric Affairs. 2022. "Canada-Caribbean Banking Relations: Scotiabank's Role in Regional Development." Washington, DC. <https://coha.org/canadas-financial-dominance-in-the-former-english-caribbean-colonies-fecc/>.

Dai, Yun-Shi, Peng-Fei Dai, Stéphane Goutte, Duc Khuong Nguyen, and Wei-Xing Zhou. 2025. "Multiscale Risk Spillovers and External Driving Factors: Evidence from the Global Futures and Spot Markets of Staple Foods." arXiv preprint. <https://arxiv.org/abs/2501.15173>

FAO. 2023a. "State of Food Security and Nutrition." FAO. <https://openknowledge.fao.org/server/api/core/bitstreams/bb7496ec-6e8c-41f2-8428-6f08174be3c4/content>.

———. 2023b. Sustainable Hydroponics Production to Increase Food Security in Jamaica. FAO. www.fao.org/americas/news/news-detail/Sustainable-Hydroponics-Production-to-increase-food-security-in-Jamaica/en.

———. 2024c. "FAO and Canada Launch CA\$10 million Regional Project." FAO. www.fao.org/americas/news/news-detail/fao-and-canada-launch-ca-10-million-regional-project/en.

Geoghegan-Martin, J. 2018. "Climate Change & Small Island Developing States." 49th Session of the United Nations Statistical Commission, March 7, New York, NY. <https://unstats.un.org/unsd/statcom/49th-session/side-events/documents/20180307-1M-Jamaica-Climate-Change-&-SIDS-1March2018.pdf>.

Government of Canada. 2025a. "Canada and the Caribbean Community (CARICOM)." Government of Canada. www.international.gc.ca/world-monde/international_relations-relations_internationales/caricom/index.aspx?lang=eng.

———. 2025b. "Climate Finance Announcement." Government of Canada. www.canada.ca/en/services/environment/weather/climatechange/canada-international-action/climate-finance/announcements.html.

———. 2025c. "Minister Hussen attends 48th CARICOM and Announces New Support for the Caribbean Region." Government of Canada. <https://www.canada.ca/en/global-affairs/news/2025/02/minister-hussen-attends-48th-caricom-and-announces-new-support-for-the-caribbean-region.html>.

———. n.d. "Project Profile – Sustainable Agriculture in the Caribbean." International assistance projects funded by Global Affairs Canada. <https://w05.international.gc.ca/projectbrowser-banqueprojets/project-projet/details/p006153001>.

Government of Jamaica. 2023. "Updated Climate Change Policy Framework." www.mof.gov.jm/wp-content/uploads/Updated-Climate-Change-Policy-Framework_with-message-16032023.pdf.

Global Affairs Canada. 2024. "Canada to Establish Caribbean Future Skills Fund." News release, Ottawa, Canada. December 19, 2024. <https://www.canada.ca/en/global-affairs/news/2024/12/canada-to-establish-caribbean-future-skills-fund.html>

International Labour Organization. 2021. "Support for the Transition to Formality in the Household Services, Agriculture and Fisheries Sectors in Jamaica." <https://www.ilo.org/projects-and-partnerships/projects/support-transition-formality-household-services-agriculture-and-fisheries>.

Jamaica Information Service. 2007. "Gov't to Provide \$2.6 Billion for Hurricane Recovery." Kingston, Jamaica. <https://jis.gov.jm/govt-to-provide-2-6-billion-for-hurricane-recovery/>.

Jamaica Ministry of Agriculture. 2020. "Agriculture Ministry Providing \$50 Million For Production Incentive, Drought Mitigation." August 10. www.moa.gov.jm/content/agriculture-ministry-providing-50-million-production-incentive-drought-mitigation.

———. 2021. "Crop Insurance Launched for Farmers and Fishers." August 11. www.moa.gov.jm/content/crop-insurance-launched-farmers-and-fishers.

JBDC. 2024. "Formalizing Operators in the Jamaican Agriculture & Fisheries Sector." www.jbdc.net/project/ilo-formalizing-operators-in-the-jamaican-agriculture-fisheries-sector/.

Ministry of Agriculture and Fisheries and Ministry of Health. 2013. "National Food and Nutrition Security Policy." Government of Jamaica. www.moa.gov.jm/sites/default/files/pdfs/National%20Food%20and%20Nutrition%20Security%20Policy.pdf.

Pate, D. 2024a. "Hurricane damage to agricultural sector swells to \$4.73 billion." *Our Today*, July 17. <https://our.today/hurricane-damage-to-agricultural-sector-swells-to-j4-73-billion/>.

———. 2024b. "Jamaican Farmers to Receive GK Weather Protect Payout." *Our Today*, July 26. <https://our.today/jamaican-farmers-to-receive-gk-weather-protect-payout/>.

Phagoo, Vishanna. 2023.). “Caribcan arrangement extended to 2033.” *Trinidad and Tobago Newsday*, June 22. <https://newsday.co.tt/2023/06/22/caribcan-arrangement-extended-to-2033/>.

Planning Institute of Jamaica. 2009. *Vision 2030 Jamaica: National Development Plan*. Kingston, Jamaica: Planning Institute of Jamaica. <https://sustainabledevelopment.un.org/content/documents/1501jamaica.pdf>.

Prime Minister’s Office. 2023. “Prime Minister Announces Caribbean Development Bank Partnership.” Ottawa, ON: Government of Canada. www.pm.gc.ca/en/news/news-releases/2023/10/18/prime-minister-and-caribbean-leaders-take-next-steps-fight-climate.

Sandefur, Justin and Charles Kenny. 2025. “USAID Cuts: New Estimates at Country Level.” Blog post. Center for Global Development, March 26. www.cgdev.org/blog/usaid-cuts-new-estimates-country-level.

Scobie, M. 2016. “Policy coherence in climate governance in Caribbean small island developing states.” *Environmental Science & Policy* 58: 16–28.

Stanberry, D. and L. Fletcher-Paul. 2024. “Food Availability in the Caribbean.” In D. Stanberry and L. Fletcher-Paul (Eds.), *Food Security in the Caribbean: Historical Perspectives, Current Challenges, and Sustainable Solutions*: 93–133. Springer Nature Switzerland. https://doi.org/10.1007/978-3-031-66055-9_4.

Statistics Canada. 2022. “Agriculture and agri-food labour statistics.” *The Daily*. Government of Canada, June 13. www150.statcan.gc.ca/n1/daily-quotidien/220613/dq220613d-eng.htm.

Taghizadeh-Hesary, F., Rasoulinezhad, E. and Yoshino, N. 2019. “Energy and food security: Linkages through price volatility.” *Energy policy* 128: 796–806. <https://doi.org/10.1016/j.enpol.2018.12.043>.

The Gleaner. 2018. “Ongoing Loss of Farmland Cause for Concern.” Kingston, Jamaica: Gleaner Company. <https://jamaica-gleaner.com/article/lead-stories/20180809/ongoing-loss-farm-land-cause-concern>.

———. 2024. “Food Import Dependency Threatens National Security.” Kingston, Jamaica: Gleaner Company. <https://jamaica-gleaner.com/article/esponsored/20221214/food-security-national-security>.

———. 2025. “Many Jamaicans Grappling with Food Insecurity, Inability to Afford a Healthy Diet.” Kingston, Jamaica: Gleaner Company. <https://jamaica-gleaner.com/article/news/20250127/many-jamaicans-grappling-food-insecurity-inability-afford-healthy-diet>.

Water Task Force.. 2009. “Vision 2030 Jamaica: Water Sector Plan.” Kingston, Jamaica: Planning Institute of Jamaica. www.vision2030.gov.jm/wp-content/uploads/sites/2/2020/12/Water-Sector-Plan-June-2009.pdf.

Canadian Assistance to Ghana for Regional Medicinal Manufacturing

Kianna Low-A-Chee and Frances Northeast

Issue

Canada should assist Ghana to develop its drug manufacturing capability and position as a regional hub.

Background

US HIV/AIDS Funding Cuts

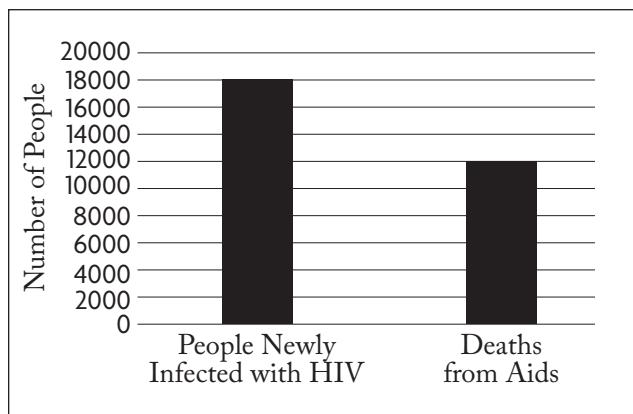
On January 20, 2025, the President Donald Trump froze US Agency for International Development (USAID) activities for 90 days (The White House 2025). On April 20, 2025, the US State Department proposed a 30-day extension of the aid freeze to align with the US budget cycle. Forty-five days after President Trump's announcement, 83 percent of USAID programs had been terminated. By the end of March 2025, 80 percent of global health grants given by USAID had been defunded (Schraer 2025). Despite "lifesaving activities" of the president's Emergency Plan for AIDS Relief (PEPFAR) theoretically being exempt from cuts, the uncertainty halted most initiatives (Rubio 2025).

On March 28, 2025, the dismantling of USAID was announced to the US Congress. One thousand USAID programs were to lose their independence and be restructured under the US State Department while all others would cease to exist. This reorganization was enacted on July 1, 2025 (Faguy 2025). Because of this drastic measure, approximately 75,000 excess deaths in Africa due to HIV/AIDS are projected between 2025–2030 (Van Beusekom 2025). Since January 2025, lives have been at risk, and the situation will worsen.

HIV/AIDS in Ghana

Prior to PEPFAR's introduction in 2003, HIV/AIDS deaths were on the rise in Ghana (Institute for Health Metrics and Evaluation 2025). In 1990 when data were first recorded, seven percent of deaths in the 15–49 age group were due to AIDS. At the height of the crisis in 2003, 31.67 percent of deaths in the same age group were AIDS related. In 2021, HIV/AIDS still accounted for 18 percent of deaths in this age group (*ibid.*). With the USAID freeze, this will increase.

Figure 1: HIV/AIDS Infections and Deaths in 2023



Source: UNAIDS (2025).

Over the next five years, US\$45 million of funding for HIV/AIDS treatments in Ghana are at risk (Foreign Assistance n.d.) unless the administration reverses course. A US\$156 million gap in funding for HIV/AIDS medication now exists (Miridzhanian, and Felix 2025).

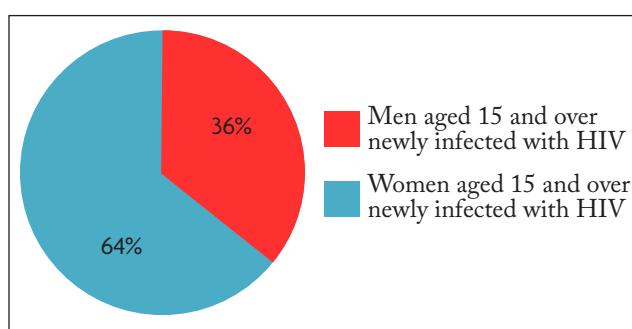
Canada's Role

From 1995, the Canadian International Development Agency (CIDA), now Global Affairs Canada (GAC), supported HIV/AIDS prevention programs and services in West African countries — including in Ghana (GAC 2002). CIDA's efforts were focused on eight key areas: prevention; community capacity-building; care, treatment and support; human rights; vulnerable populations; political commitment and leadership; and research and development (*ibid.*). Between 2000 and 2005, CIDA quadrupled its annual funding for HIV/AIDS, to total CND\$270 million over the five-year period (*ibid.*).

Once the United States introduced PEPFAR in 2003, Canada pivoted away from funding HIV/AIDS. Between 2005 and 2015, Canada scaled back international aid to focus on trade. CIDA was absorbed within the Department of Foreign Affairs, Trade and Development in 2013, and rebranded as GAC (Owen 2013). In 2017, the Feminist International Assistance Policy was introduced and has influenced funding since then (GAC 2017).

In the 2023-2024 fiscal year, GAC gave CDN\$21.18 million in Official Development Assistance for sexually transmitted infection control including HIV/AIDS and CDN\$211.29 million through multilateral institutions such as UNAIDS and the Global Fund to Fight AIDS, Tuberculosis and Malaria (*ibid.* 2025).

Figure 2: New HIV Infections by Gender, Ghana 2023



Source: UNAIDS (2025).

With the United States abandoning its commitments, redirecting funding towards HIV/AIDS is crucial to fill gaps. Doing so will support the feminist aid policy. In 2023, women over 15 accounted for 64 percent of new infections (UNAIDS 2025). HIV/AIDS can be passed from mother to child if the mother is not on anti-retroviral

treatment (World Health Organization n.d.). To honour its commitment to the Convention on the Rights of the Child, Canada can assist Ghana in its medicinal manufacturing capabilities (GAC 2024).

Canada's Comparative Advantage

Canada has a comparative advantage in HIV/AIDS vaccine research and development. The Canadian Institutes for Health Research (CIHR) focuses on five areas:

- biomedical and clinical research;
- health services and population health research;
- Community-Based Research;
- the CIHR Canadian HIV Trials Network; and
- the Canadian HIV Vaccine Initiative (CIHR 2015).

Canada should apply its advantages in these five areas in Ghana. In addition, CIHR strategic directions 2 and 3 — “mobilize research evidence” and “promote leadership in stakeholder engagement and accountability in HIV research” — align with Ghana’s needs (*ibid.*). Lessons learned abroad can also be applied to Canadian aid.

Canada can leverage its experiences from the CanGIVE initiative. CanGIVE was launched in 2022 in 12 countries to support an improved COVID-19 vaccine roll-out. The aim was “to bolster COVID-19 vaccine delivery, strengthen health systems and increase regional vaccine manufacturing capacity” (GAC 2023). CanGIVE activities included:

- supporting immunization planning, monitoring and data systems;
- providing waste management, cold chain and logistics support for vaccination; and
- supporting quality essential gender-responsive maternal, newborn, child and adolescent health and infection prevention and control (*ibid.*).

Ghana was one of the 12 countries CanGIVE focused on. The experience gained, both from the execution of these activities, as well as being aware of the Ghanaian context can be applied to HIV/AIDS initiatives.

Current Capabilities in Ghana

Ghana has strong democratic credentials and an active civil society that connects its people with government. Ghana ranks 80th out of 180 countries globally on the corruption perception index (Transparency International

2025). Ghana is a member of the West African Health Organization (WAHO) and is working toward “WAHO’s system for certification and pre-qualification to enable regional trade” (WAHO n.d.). High startup costs exist as essential active ingredients for drugs are not manufactured in Africa (Abrahams 2024).

Recommendations

Canada should assist Ghana in developing regional medicinal manufacturing capabilities.

Canada has a comparative advantage in Ghana due to years of cooperation. It is one of the top bilateral donors to Ghana’s health sector. Efforts have focused on health system strengthening, sexual and reproductive health, and nutrition (GAC 2020). The Ghanaian government is already providing incentives to increase local manufacturing; Canada can bolster these measures by redirecting existing financial assistance to Ghanaian pharmaceutical companies. Canada’s history of cooperating with the US Food and Drug Administration regarding medications can inform knowledge sharing to support Ghana in meeting “WAHO’s system for certification and pre-qualification to enable regional trade” (WAHO n.d.).

Canada should empower Ghanaians through community-based research (CBR) to reduce dependencies in the fight against HIV/AIDS.

CBR would empower Ghanaians rather than creating a dependency. CBR would:

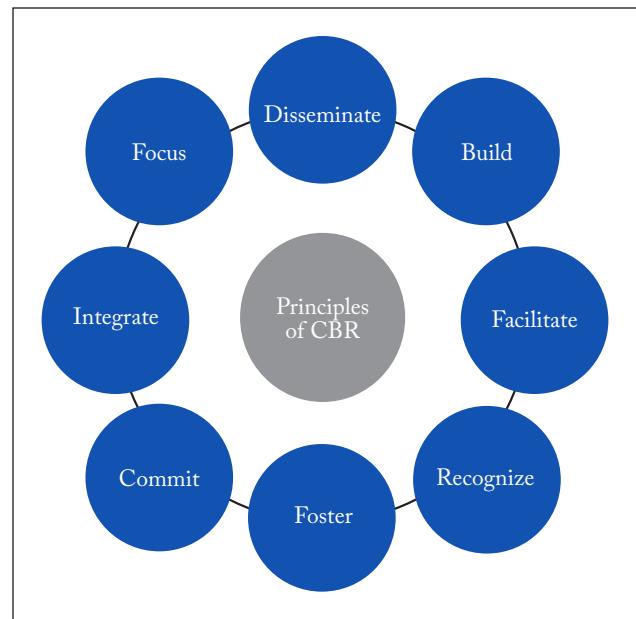
- identify the issues;
- generate and/or collect, analyze and interpret the data; and
- decide how to use the results to inform policy, change practice and improve conditions in the community (Yale School of Medicine, n.d.)

CBR is rooted in equity, justice and fairness (ibid.). To implement CBR, Canada should send researchers in the HIV/AIDS field to Ghana to assist in orienting the project, which would also benefit the Canadian researchers through knowledge transfer. The community can become more involved, resulting in self-sufficiency through the practice of CBR. This will destigmatize access to health care by building a bridge between the formal health-care sector and already marginalized communities. Involving these communities is beneficial as dwindling funds can

be allocated in a more appropriate and timely manner, increasing the effectiveness of efforts and recognizing community needs and existing barriers.

Figure 3: Steps of Community-based Research

Source: Yale School of Medicine (n.d.).



Canada should encourage Ghanaian alliances with other states to improve HIV/AIDS research and treatments.

Alliances will play a vital role in growing Ghanaian medicinal manufacturing capabilities. Globalization allows greater connections (Butrous 2008). Allying with Ghana would advantage all states involved by providing greater learning opportunities for advancements in HIV/AIDS research and treatment. Canada can lead by example through strengthening its alliances with Ghana and finding shared value partnerships. This relationship would encourage other like-minded states to ally with the Ghanaian government and pharmaceutical industry.

Expected Outcomes

If these recommendations are implemented, lives would be saved in Ghana as well as in Canada due to increased knowledge sharing and improved research. While development assistance funding is rapidly declining, it is vital that Canada redirect existing funding to be used in more efficient ways in the short term. This will support the advancement of self-sufficiency in case of future reductions in aid spending.

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Works Cited

Abrahams, Miguel. 2024. "Aurum's Commitment to Healthcare Access and Health Equity in Africa." Johannesburg, South Africa: Arum Institute. www.auruminstitute.org/component/content/article/28-blog/aurum-news/838-aurum-s-commitment-to-healthcare-access-and-health-equity-in-africa.

Butrous, Ghazwan. 2008. "International Cooperation to Promote Advances in Medicine." *Annals of Thoracic Medicine* 3 (3): 79–81. <https://doi.org/10.4103/1817-1737.41913>.

CIHR. 2015. "CIHR HIV/AIDS Research Initiative: Strategic Plan (2015-2020)." Government of Canada. www.cihr-irsc.gc.ca/e/49302.html.

Faguy, Ana. 2025. "USAID officially closes, attracting condemnation from Obama and Bush." BBC. <https://www.bbc.com/news/articles/c307zq8ppj6o>

Foreign Assistance. n.d. "ForeignAssistance.gov." <https://foreignassistance.gov/>. Accessed February 18, 2025. Since then, the data has been removed.

GAC. 2002. "CIDA takes action against HIV/AIDS around the world." <https://publications.gc.ca/Collection/E94-325-2002E.pdf>.

———. 2017. "Canada's Feminist International Assistance Policy." www.international.gc.ca/world-monde/assets/pdfs/iap2-eng.pdf?_ga=2.46852967.1923577906.1747778488-759751259.1740863924.

———. 2020. "Canada-Ghana Relations." www.international.gc.ca/country-pays/ghana/relations.aspx?lang=eng.

———. 2023. "COVID-19: Canada's Global Initiative for Vaccine Equity." www.international.gc.ca/world-monde/issues_development-enjeux_developpement/global_health-sante_mondiale/equite_vaccinale_covid-19_vaccine_equity.aspx?lang=eng.

———. 2024. "Rights of Children." [/www.canada.ca/en/canadian-heritage/services/rights-children.html](http://www.canada.ca/en/canadian-heritage/services/rights-children.html).

———. 2025. "Statistical Report on International Assistance, Fiscal Year 2023-2024." www.international.gc.ca/transparency-transparence/assets/pdfs/international-assistance-report-stat-rapport-aide-internationale/2023-2024-en.pdf.

Institute for Health Metrics and Evaluation. 2025. "GDB Compare." Washington, DC: Institute for Health Metrics and Evaluation. <http://vizhub.healthdata.org/gbd-compare>.

Miridzhanian, Anait and Bate Felix. 2025. "Ghana Takes Steps to Bridge \$156 Million Funding Gap after USAID Freeze." Reuters. www.reuters.com/world/africa/ghana-takes-steps-bridge-156-million-funding-gap-after-usaid-freeze-2025-02-11/.

Owen, Brenna. 2013. "Canada's Harper Government Opt for Trade over Aid in Africa." *Geopolitical Monitor* (blog). www.geopoliticalmonitor.com/canadas-harper-government-opts-for-trade-over-aid-in-africa-4835/.

Rubio, Marco. 2025. "Emergency Humanitarian Waiver to Foreign Assistance Pause." *United States Department of State* (blog). www.state.gov/emergency-humanitarian-waiver-to-foreign-assistance-pause-2/.

Schraer, Rachel. 2025. “Trump’s Deadline to Review USAID Cuts Has Passed – so What Happens Now?” *The Independent*, April 26. www.independent.co.uk/news/health/trump-us-aid-cuts-explained-latest-b2739509.html.

Transparency International. 2025. “Ghana.” www.transparency.org/en/countries/ghana.

UNAIDS. 2025. “Ghana” www.unaids.org/en/regionscountries/countries/ghana.

Van Beusekom, Mary. 2025. “PEPFAR Funding Cuts Will Lead to up to 74,000 Excess HIV Deaths in Africa by 2030, Experts Warn.” CIDRAP, University of Minnesota. www.cidrap.umn.edu/hivaids/pepfar-funding-cuts-will-lead-74000-excess-hiv-deaths-africa-2030-experts-warn.

WAHO. n.d. “P05 — Medicines, Vaccines and Other Health Products.” www.wahooas.org/web-ooas/en/programmes/p05-medicines-vaccines-and-other-health-products.

White House. 2025. “Reevaluating and Realigning United States Foreign Aid.” Presidential order. www.whitehouse.gov/presidential-actions/2025/01/reevaluating-and-realigning-united-states-foreign-aid/.

World Health Organization. n.d. “Strategies.” www.who.int/teams/global-hiv-hepatitis-and-stis-programmes/strategies.

Yale School of Medicine. n.d. “Benefits of Community Engaged Research.” <https://medicine.yale.edu/internal-medicine/genmed/eric/cbprguidebook/principles/>.

Rethinking Canada's Role in International Development Assistance Beyond 2030

Hannah Barbero and Emma Sonnemann

Issue

As the endpoint of the “2030 Agenda for Sustainable Development” (the “2030 Agenda”) approaches, a reassessment of Canada’s international development assistance (IDA) strategy is critical. Canada must implement a development framework that utilizes globally informed but locally tailored solutions to address emerging global challenges — notably technological disruptions and IDA funding gaps — to ultimately address the structural drivers of inequality and accelerate development in the post-2030 era.

Background

The 2015 transition from the Millennium Development Goals to the Sustainable Development Goals (SDGs) occurred in a markedly different geopolitical and environmental context than today. While some progress has been made, these development gains are increasingly undermined by a convergence of domestic and global crises — climate emergencies, geopolitical tensions, economic instability and rising inequality.

Despite substantial evidence of what works, a persistent gap remains between knowledge and action-oriented implementation. This disconnect is contributing to stagnation or even regression in many areas of SDG progress.

In 2025, Canadian IDA operates against the backdrop of a complex global polycrisis. Compounding disruptions from climate change, fragile health systems, geopolitical

instability and the unregulated expansion of artificial intelligence (AI) technologies are challenging traditional models of multilateral cooperation and sustainable development. Moving forward, Canada must adopt a proactive, inclusive and systems-oriented approach to international assistance — one that strengthens resilience, fosters equity and advances shared global priorities without compromising domestic interests and values in a more uncertain and multipolar world.

The Changing Landscape of IDA

The landscape of IDA is undergoing transformation, shaped by new actors, financial mechanisms and political dynamics. The growing involvement of non-traditional actors — particularly the private sector — and the rise of alternative financing frameworks are reshaping how aid is mobilized and delivered (Burke 2025). The dominance of traditional, Western-led aid paradigms is waning as South-South cooperation gains traction, and regionalized, country-led models increasingly take precedence.

This decentralization reflects a broader shift toward more context-sensitive and accountable forms of assistance. For Canada to remain an effective and credible actor in this space, it must adapt to these emerging frameworks, engage meaningfully with local actors, and commit to models that reflect principles of equity, sustainability and mutual accountability.

Canada’s Position and Evolving Role

Canada has historically positioned itself as a global advocate for human rights and gender equity, most notably

through the 2017 Feminist International Assistance Policy (FIAP). While these efforts are laudable, criticisms have emerged suggesting that Canada's approach has, at times, been overly narrow, failing to account for the broader systemic and structural issues that undermine sustainable development (Black 2020).

Integrating Indigenous knowledge into Canada's development assistance framework offers a powerful means to address these issues. Indigenous peoples in Canada possess traditional knowledge and insights regarding environmental stewardship and resource management that are unique and underutilized. Engaging Indigenous partners as equal collaborators — not symbolic stakeholders — can enrich development outcomes globally, while advancing reconciliation and decolonization domestically.

By mobilizing Canada's full spectrum of assets — including its pluralistic society, Indigenous knowledge, technological expertise and multilateral diplomacy — Canada can contribute more holistically to reshaping the global aid landscape and responding to next-generation development challenges.

Emerging Challenges and Trends

As the international community approaches the culmination of the 2030 Agenda, several emerging challenges necessitate a re-evaluation of Canada's IDA strategy.

Water, environment and health challenges: 3.6 billion people already live in areas highly susceptible to climate change. Between 2030 and 2050, climate change is expected to cause approximately 250,000 additional deaths per year, from undernutrition, malaria, diarrhoea and heat stress alone (World Health Organization 2023). Increasingly frequent and severe climate events — droughts, floods, wildfires — are reversing development gains and disproportionately affecting vulnerable populations, particularly in the Global South. Water is a systems-level entry point for addressing intersecting development challenges — from climate resilience and biodiversity loss to food security and public health.

Geopolitical tensions and fragmentation: The global order is experiencing increased fragmentation, the erosion of multilateral cooperation and increases of armed conflicts. Nearly 23 percent of experts who participated in the World Economic Forum's (WEF) Global Risks Perception Survey 2024-2025 highlighted armed conflicts as their main concern (WEF 2025). Ongoing inter and intrastate

conflicts, including those in Israel-Palestine, Sudan and Russia's war in Ukraine, are having devastating impacts on civilians. The Centre for International Governance Innovation outlines scenarios where the international system could undergo significant transformations due to global shocks, necessitating adaptability in foreign aid strategies (Samson et al. 2024). Additionally, the US-China relationship will remain a defining feature in global geopolitics, with competition between the two states shaping governance and international relations. As cooperation declines and fragmentation increases — trends highlighted in *The Global Risk Report 2025* (WEF 2025) — IDA efforts face growing challenges in sustaining multilateral engagement.

Technological disruption: Rapid advances in AI and digital technologies present both opportunities and risks for international development. While digital tools can enhance service delivery and accelerate progress toward the SDGs, they also risk deepening the digital divide, reinforcing algorithmic bias and undermining privacy — especially in countries lacking infrastructure, regulation and local capacity.

Funding gaps: Development assistance is at a crossroads. Global needs for IDA are growing as the effects of the ongoing polycrisis intensify, yet funding is in decline. Rising nationalism and shifting domestic priorities have led several donor governments to reduce their IDA contributions. For example, in the past year, the Netherlands has cut its IDA budget by 30 percent, France by 37 percent and the United States has withdrawn nearly all of its IDA support (Cuso International 2025).

This funding shortfall comes at a time when donor countries, including Canada, face increasing pressure to respond to both domestic and international challenges. Budget constraints have made it difficult to address these dual demands, even as needs in both spheres continue to grow (Ahmed, Calleja and Jacquet 2025).

While not exhaustive, the challenges outlined here reflect some of the most urgent issues contributing to the polycrisis. Moving forward, IDA strategies must strike a balance between short-term, high-impact interventions and long-term resilience building. To remain effective, Canada will need to embrace innovative models of engagement that move beyond reactive cycles and toward transformative, sustainable solutions (Assadourian 2025).

Recommendations

Champion Post-2030 SDG Integration: Consolidate Goals for Clearer Policy Action. As 2030 approaches, Canada should champion post-2030 SDG integration, working with global partners to consolidate overlapping goals for clearer policy action. For example, framing water as an entry point for health, climate resilience, food security, energy and peace building can support systems-based decision making. This integrated approach will enable policy makers to address root causes of inequality and underdevelopment more effectively, simplifying complex agendas into actionable priorities.

Think “Glocal”: Localize Development and Tailor Solutions to Context. Canada should deepen its shift toward local ownership and glocal (global-local) solutions, moving away from siloed, top-down interventions. Global Affairs Canada (GAC) should continue to ensure that innovative solutions create inclusive opportunities for the poorest, the most vulnerable and marginalized populations by including them in the design, testing, learning and adoption of innovative solutions (GAC 2024b). Local actors should be the ones driving solutions; therefore, Canada should tailor solutions to regional contexts and foster local capacity-building.

Canada should institutionalize support for local systems, institutions, scientists and entrepreneurs as a foundational standard of its IDA. This includes strengthening health system infrastructure, water governance institutions and local pharmaceutical and diagnostic manufacturing capabilities to ensure sustainable, context-relevant development outcomes. As a trusted technical assistance partner, Canada can leverage its strengths in water, the environment and health to build local capacity and institutional resilience.

Accelerate Innovation: Use Technology to Drive Smarter Development. *Canada's 2024 Annual Report on the 2030 Agenda and the SDGs* highlights the need to leverage digital technology to accelerate progress to achieve the SDGs (Government of Canada 2024). Therefore, Canada should invest in data-driven IDA that enhances effectiveness, accountability and agility while ensuring strong safeguards are in place. This call for action is applicable to the post-2030 agenda as well. The innovative use of emerging digital technologies includes, but is not limited to, developing open-source digital public infrastructure, remote sensing and data science for water security, and quantum computing for sustainable development.

Prior to utilizing AI for streamlining the delivery of IDA, GAC should create a policy for the use of AI on foreign vulnerable populations that ensures for algorithmic transparency, accountability, and regular risk and impact assessments that mirror GAC's five-step risk management cycle for international development projects (GAC 2024c).

Embed Equity at the Core: Address Structural Drivers of Inequality. Canada should embed equity and justice throughout its IDA strategy by addressing the social determinants of health and inequality, and promoting an economy rooted in inclusion, circularity and sustainability. This could be achieved by amplifying marginalized voices — especially from Indigenous communities and the Global South — prioritizing intersectional, rights-based approaches in all investments and championing a global equity agenda that incorporates gender justice and leverages Global South leadership.

To further prioritize equity in IDA, Canada should build upon the FIAP to incorporate next-generation gender equity approaches that integrate sexual and reproductive health and rights, sexual and gender-based violence prevention and economic empowerment. Consultations should be conducted alongside stakeholders that amplify the voices of marginalized and/or vulnerable groups within the Global South.

Rethink Financing: Mobilize Smarter, Fewer and More Agile Mechanisms. Canada is committed to reducing spending by CDN\$14.1 billion by 2028-2029 and by CDN\$4.1 billion each year following (ibid. 2024a). In an era of tightening fiscal constraints, Canada must focus on time-bound, targeted sustainable development objectives, and embrace innovative financing to ensure that IDA funding is used efficiently and effectively to avoid wasted resources and missed opportunities. Therefore, Canada should support performance-based financing to maximize impact, including catalytic capital and blended financing schemes for climate and health solutions. The Global Health Investment Fund, which improves the health of 12 million people annually, is an example of the kind of success that blended financing can produce. Other financing models that Canada should further utilize include development impact bonds and pay-for-results models. Canada should also strengthen bilateral relationships and scale public-private partnerships, such as the Global Polio Eradication Initiative, notably for sustainable infrastructure, digital health and clean energy.

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Works Cited

Ahmed, Masood, Rachael Calleja and Pierre Jacquet. 2025. "The Future of Official Development Assistance: Incremental Improvements or Radical Reform?" Center for Global Development. www.cgdev.org/publication/future-official-development-assistance-incremental-improvements-or-radical-reform.

Assadourian, Erik. 2025. "What Comes after the Polycrisis?" *Global Sustainability* 8 (e12). doi:10.1017/sus.2025.12.

Black, David R. 2020. "Canada and the Changing Landscape of Global Development Cooperation." *Canadian Foreign Policy Journal* 26 (2): 228–34. <https://doi.org/10.1080/11926422.2019.1682019>.

Burke, Christopher. 2025. "Aid in Decline: Rethinking Overseas Development Assistance in a Changing World." *The World Financial Review*, February 23. <https://worldfinancialreview.com/aid-in-decline-rethinking-overseas-development-assistance-in-a-changing-world/>.

Samson, Paul, S. Yash Kalash, Nikolina Zivkovic, Tracey Forrest and Bessma Momani. 2024. *Scenarios of Evolving Global Order*. Special Report. Centre for International Governance Innovation, October 24. <https://www.cigionline.org/publications/scenarios-of-evolving-global-order/>.

Cuso International. 2025. "The Future of Foreign Aid: A Call to Action for Canadian International Development." <https://cusointernational.org/news/the-future-of-foreign-aid-a-call-to-action-for-canadian-international-development/>.

GAC. 2024a. "Global Affairs Canada 2024–25 Departmental plan." www.international.gc.ca/transparency-transparence/departmental-plan-ministeriel/2024-2025.aspx?lang=eng.

GAC. 2024b. "Innovation in international assistance." www.international.gc.ca/world-monde/issues_development-enjeux_developpement/priorities-priorites/development_innovation-innovation_developpement.aspx?lang=eng.

GAC. 2024c. "Risk management in international development projects." www.international.gc.ca/world-monde/funding-financement/risk-management-gestion_risques.aspx?lang=eng.

Government of Canada. 2024. *Taking Action Together: Canada's 2024 Annual Report on the 2030 Agenda and the Sustainable Development Goals*. www.canada.ca/content/dam/esdc-edsc/images/programs/agenda-2030/4483-SDG-Annual-Report-2024-E.pdf.

United Nations. 2024. *The Sustainable Development Goals Report 2024*. <https://unstats.un.org/sdgs/report/2024/The-Sustainable-Development-Goals-Report-2024.pdf>.

WEF. 2025. *The Global Risks Report 2025*. 20th Edition. https://reports.weforum.org/docs/WEF_Global_Risks_Report_2025.pdf.

World Health Organization. 2023. "Climate Change Factsheet." www.who.int/news-room/fact-sheets/detail/climate-change-and-health.

Human Rights and the Indo-Pacific

Strengthening Canada's Role in the Future of International Criminal Justice

Leonardo Lombardi and Arfa Rana

Issue

The erosion of the international rules-based order, evidenced by ongoing humanitarian crises, dynamic geopolitical tensions and growing challenges to international bodies of justice, underscores the urgent need for Canada to reimagine its role as a proactive leader in addressing the evolving landscape of international crimes and in strengthening the international criminal justice system.

Background

Regional Wars

The International Court of Justice (ICJ) has increasingly become a forum for adjudicating legal disputes arising from armed conflict. However, its slow judicial processes and lack of enforcement of international laws have signalled impunity, emboldening oppressive governments to commit mass atrocities without fear of legal repercussions. Multiple cases have been initiated against Russia for its illegal invasion of Ukraine, including allegations of genocide and violations of international treaties. Moreover, South Africa brought proceedings against Israel under the Genocide Convention in 2024, following Israel's repeated violations of international law in Gaza, such as targeting civilians in hospitals (Human Rights Watch 2025), schools, aid and alleged safe zones (Forensic Architecture 2024). Israel's alleged violations of international law have avoided serious repercussions from legal bodies, thereby setting a dangerous precedent for the future of international criminal justice (United Nations 2025).

Canada has taken steps to support the ICJ's authority in these matters. In July 2022, Global Affairs Canada (GAC) reiterated its support for Ukraine's application instituting proceedings against Russia at the ICJ under the 1948 Genocide Convention, emphasizing that Russia has no lawful basis to take military action in Ukraine based on unsubstantiated allegations of genocide (GAC 2022). Furthermore, in December 2022, Canada, alongside the Netherlands, filed a joint declaration of intervention in Ukraine's case against Russia at the ICJ, aiming to reinforce the application of the Genocide Convention. Moreover, Canada is one of three countries that are threatening to sanction Israel unless it allows aid into Gaza (Prime Minister of Canada 2025). Despite these actions, Canada's response to the ICJ proceedings concerning alleged genocide in Gaza has revealed a significant inconsistency in its approach to international legal obligations (United Nations 2025). The ICJ's provisional ruling in January 2024 found a plausible risk of genocide in Gaza, ordering Israel to implement measures to prevent such acts. Yet Canada refrained from explicitly endorsing the ICJ's decision. Former Foreign Affairs Minister Mélanie Joly stated that while Canada supports the ICJ's role in upholding international law, it does not accept the premise of South Africa's case against Israel, which requires a high threshold of compelling evidence to be met (GAC 2024). This apathetic position undermines Canada's commitments to combat prejudice, hatred and violent extremism while people continually suffer around the globe.

In February 2025, Canada launched its first Minister of Foreign Affairs' Standing Table on Human Rights "to provide the minister and senior officials with independent insight and advice on human rights considerations across all aspects of Canada's foreign policy." (GAC 2025). The disparity in Canada's overall responses toward defending and advancing universal human rights remain a key concern of human rights organizations. Specifically, Amnesty International Canada emphasized that Canada has both a moral and legal obligation to prevent genocide and should urge Israel to comply with the ICJ's provisional measures (Human Rights Watch 2025). The Canadian Foreign Policy Institute and Just Peace Advocates have also called on Canada to align its actions with its stated commitment to international law (Just Peace Advocates 2024).

This divergence between Canada's proactive legal engagement in the Ukraine-Russia conflict and its cautious approach to the Gaza situation raises questions about the consistency of its foreign policy and adherence to international legal standards.

Cybercrime

In an era characterized by the increasing weaponization of technologies by malicious actors, cybercrimes pose a critical challenge to international cybersecurity and the future of international criminal justice. As the international legal framework governing these actions remains unclear, no authoritative legal judgment has clearly defined how principles of international law apply to cyber operations, and the ICJ has yet to rule on a cyber case. Consequently, cyber operations by state and non-state actors have increased in scale and complexity, with cyberattacks on infrastructure, interference in democratic processes and data theft now becoming common features of international relations (United Nations Security Council 2024).

Canada has acknowledged the importance of cybersecurity through its involvement in national strategies and multilateral cooperation (Matiangai 2024). It has also participated in UN working groups and endorsed non-binding norms of state behaviour in cyberspace (GAC 2024). Notably, in 2024, Canada was targeted by Russia's Operation Doppelganger. This pro-Kremlin disinformation campaign deployed fabricated articles against Canada's Liberal Party, highlighting the escalating threat cybercrimes pose not only to Canada's sovereignty, but to global security as a whole (Human Rights Watch 2025).

Beyond state-sponsored cyber operations, the role of big tech in facilitating digital harm has come under scrutiny. A notable example is Facebook's (now Meta) contribution to the atrocities committed against the Rohingya in Myanmar. Amnesty International reported that Facebook's algorithms, designed to maximize user engagement, amplified hate speech and disinformation, fuelling violence and the forced displacement of over half the Rohingya population into neighbouring Bangladesh. Despite repeated warnings from civil society organizations between 2012 and 2017, Meta failed to implement adequate safeguards, prioritizing profit over human rights. Amnesty International has since called on Meta to provide reparations to the Rohingya for its role in the ethnic cleansing (Amnesty International 2023).

This case underscores the urgent need for international legal frameworks to address the accountability of technology companies in the digital age. As digital platforms increasingly influence global events, their responsibilities and liabilities must be clearly defined to prevent future human rights violations.

Climate Justice

The concept of ecocide, defined as widespread, severe or long-term environmental destruction caused by human action (Stop Ecocide Foundation 2021), is increasingly being positioned as a potential fifth international crime under the Rome Statute. Legal scholars and climate justice advocates argue that environmental destruction of this scale should trigger international criminal accountability, particularly when state or corporate actors knowingly cause irreparable harm to ecosystems and vulnerable populations (Higgins, Short and South 2013, 251–66). Advocates, including the Stop Ecocide Foundation, have proposed a legal definition of ecocide that aligns with core principles of criminal law, notably intent, foreseeability, and harm to human and non-human life.

A growing number of legal cases and environmental disasters are being cited as illustrative of potential ecocide. For instance, the mass deforestation of the Amazon, largely driven by industrial agriculture and enabled by Brazilian state policy under former president, Jair Bolsonaro, has been framed by international jurists as ecocide due to its irreversible effects on biodiversity, Indigenous communities and the global climate system (Silva et al. 2022). Similarly, the 2020 oil spill in Mauritius, which devastated marine ecosystems and local livelihoods, is often referenced as a case that reveals the absence of legal remedies for transboundary

ecological harm (*ibid.*). These examples echo broader calls to elevate environmental destruction to a matter of criminal responsibility, not merely regulatory or civil liability.

In 2023, the UN General Assembly, led by Vanuatu and supported by numerous climate-vulnerable states, formally requested an advisory opinion from the ICJ regarding state obligations on climate change under international law (Human Rights Watch 2023). The opinion, while non-binding, could establish a legal basis for recognizing environmental harm, including ecocide, as a violation of existing human rights and international legal principles.

Canada's engagement in evolving legal discourse is crucial as the country faces growing expectations to align its environmental policy with its international legal commitments. Advocating for the recognition of ecocide within international criminal justice mechanisms would not only bolster Canada's credibility on climate justice but also resonate with its historical commitments to the rule of law and human rights.

Reimagining Canada's Role in International Justice

Global power dynamics are undergoing major shifts due to changes in US leadership, growing geopolitical fragmentation and the rise of illiberal governance, collectively challenging the stability of international law and multilateral cooperation. In this context, Canada must reassess its foreign policy priorities and deepen its commitment to defending international legal institutions.

Recommendations

Champion advisory opinions at the ICJ. Canada should leverage advisory opinions at the ICJ as a strategic means to clarify international norms and promote accountability. Specifically, Canada should: support and participate in key proceedings, such as the UN General Assembly's request on climate justice; advocate for ICJ engagement in emerging legal areas, including artificial intelligence (AI), cybersecurity, transboundary climate harms and statelessness linked to environmental collapse; submit legal arguments and contribute to scholarly discourse to influence the interpretation of state responsibilities; ensure meaningful inclusion of Indigenous peoples with expertise in Indigenous legal traditions, particularly those related to land rights, environmental stewardship and intergenerational justice; recognize that Indigenous legal

frameworks offer essential perspectives rooted in ecological governance, critical for shaping culturally grounded legal norms; and promote the evolution of international law to address the criminal dimensions of ecological collapse, as it has previously adapted to cybercrime and terrorism.

Establish and strengthen the legal policy and strategy hub within GAC. To address the evolving and escalatory nature of international crimes, the hub should: position Canada as a global leader in inclusive, rights-based digital governance; ensure wider consultation with civil society partners, including the Standing Table on Human Rights, legal experts, relevant GAC departments such as the Centre for International Digital Policy, representatives of allied states and multilateral institutions with a view to develop international legal strategy, advisory opinions and any other forms of intervention; monitor legal trends (for example, AI, cyber conflict, climate justice); draft ICJ submissions and advise on treaty work; and ensure transparency and participation in all processes.

Lead the development of a global digital rights framework with ICJ mechanisms. Canada should take the lead in advancing international digital rights by: developing a global framework based on Canada's Digital Charter, setting clear standards that safeguard digital rights and freedoms from bad actors; addressing key issues such as disinformation, intrusive surveillance, cyberattacks and algorithmic bias; legitimizing ICJ advisory opinions to clarify legal grey zones; prioritizing rights protection, transparency and the peaceful resolution of digital harms; and ensuring global consultation with civil society, the private sector and Indigenous groups.

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Works Cited

Amnesty International. 2023. "Myanmar: Time for Meta to Pay Reparations to Rohingya for Role in Ethnic Cleansing." August. www.amnesty.org/en/latest/news/2023/08/myanmar-time-for-meta-to-pay-reparations-to-rohingya-for-role-in-ethnic-cleansing/.

Forensic Architecture. 2024. *A Spatial Analysis of the Israeli Military's Conduct in Gaza since October 2023*. October 15. https://content.forensic-architecture.org/wp-content/uploads/2024/10/FA_A-Spatial-Analysis-of-the-Israeli-militarys-conduct-in-Gaza-since-October-2023.pdf.

GAC. 2022. "Briefing Binder for the Minister of Foreign Affairs: Appearance Before the Standing Committee on Foreign Affairs and International Development (FAAE)." August 4. www.international.gc.ca/transparency-transparence/briefing-documents-information/parliamentary-committee-comite-parlementaire/2022-08-04-faae.aspx?lang=eng.

———. 2024. "Statement by Minister Joly on South Africa's Case Against Israel at the International Court of Justice." www.canada.ca/en/global-affairs/news/2024/01/statement-by-minister-joly-on-south-africas-case-against-israel-at-the-international-court-of-justice.html.

———. 2025. "Minister Joly launches Standing Table on Human Rights." GAC. www.international.gc.ca/world-monde/issues_development-enjeux_developpement/human_rights-droits_homme/index.aspx?lang=eng.

Higgins, Polly, Damien Short and Nigel South. 2013. *Ecocide: A Crime Against Peace*. London, UK: Zed Books. https://www.researchgate.net/publication/257552825_Protecting_the_planet_A_proposal_for_a_law_of_ecocide.

Human Rights Watch. 2023. "UN General Assembly Seeks World Court Ruling on Climate Change." March 29. <https://www.hrw.org/news/2023/03/29/un-general-assembly-seeks-world-court-ruling-climate-change>.

———. 2025. "The Day in Human Rights: March 20, 2025." March 20. www.hrw.org/the-day-in-human-rights/2025/03/20.

Just Peace Advocates. 2024. "Damning Report on Canadian Charities Funding Israeli War Crimes Against the Palestinian People." November 8. <https://www.justpeaceadvocates.ca/damning-report-on-canadian-charities-funding-israeli-war-crimes-against-the-palestinian-people/>.

Matiangai, Sirleaf. 2024. "Palestine as a Litmus Test for Transitional Justice." *International Journal of Transitional Justice* 18 (1), March: 162–88. <https://doi.org/10.1093/ijtj/ijae012>.

Prime Minister of Canada. 2025. "Joint Statement from the Leaders of Canada, the United Kingdom and France on the Situation in Gaza and the West Bank." May 19. www.pm.gc.ca/en/news/statements/2025/05/19/joint-statement-leaders-canada-united-kingdom-and-france-situation.

Silva, Maria E. S., Rosmeri Porfírio da Rocha, Gabriel Pereira, Andre Medeiros Rocha, Daniel Mendes and Carlos Batista da Silva. 2022. "The Combined Influences of Amazon Deforestation and Pacific Decadal Oscillation on the South America Climate Variability." *International Journal of Climatology*. First published December 24. <https://doi.org/10.1002/joc.7967>.

Stop Ecocide Foundation. 2021. "Definition of Ecocide." www.stopecocide.earth/legal-definition.

United Nations. 2025. "Pattern of Israeli Attacks on Gaza Hospitals Raises Grave Concerns About Serious Crimes under International Law." March 8. <https://palestine.un.org/en/286847-pattern-israeli-attacks-gaza-hospitals-raises-grave-concerns-about-serious-crimes-under>.

United Nations Security Council. 2024. "Digital Breakthroughs Must Serve Betterment of People, Planet, Speakers Tell Security Council during Day-Long Debate on Evolving Cyberspace Threats." SC/15738. June 20. <https://press.un.org/en/2024/sc15738.doc.htm>.

Global Debt Challenges: Canada's Role in a Complex Landscape

Jennifer Amuah, Maha Saymeh and Fabian Wiek

Issue

The ongoing global debt crisis alongside global macroeconomic turbulence has provided Canada with an opportunity to take a leadership role in debt governance efforts, to advance trade diversification and strengthen diplomatic ties with strategic partners.

Background

The sudden fluctuations in the global economy such as trade disruptions, higher financing costs and shifting foreign policy priorities, particularly under the Trump administration, have resulted in rising debt vulnerabilities. The impacts are felt the most by low-income and emerging economies, whose debt grew increasingly unsustainable, narrowing the fiscal space to invest in basic sectors such as health, education and infrastructure. These constraints are severely stressing political, economic and social institutions. The World Bank (2024a) also adds that the percentage of export earnings used to service interest by 35 developing countries has risen over twice as much since 2015, now equivalent to approximately six percent of total exports, a foreboding indicator of growing debt servicing. While Canada does not necessarily have an interest in most sovereign debt transactions themselves, it does take issue with the implications.

Interconnected economic interdependence means that economic instability in the Global South has real spillover effects for Canada, resonating in trade and supply chains, rendering it difficult to stabilize financial markets, and undermining advances in multilateral climate and

development partnerships. Collapse of highly indebted countries' investments in resilience, green transitions and shared prosperity also represents systemic risk to achieving global objectives, to which Canada has high-level ambitions and commitments, for example, the Paris Agreement on Climate Change (Paris Club) and the UN Sustainable Development Goals. The declining trend in US foreign assistance over the longer term has also put pressure on the international development system.

Even though it was never a panacea, USAID had alleviated budget deficits in nations that were already facing shortages and high debt servicing costs. This shift has prompted governments to use borrowing on deteriorating or less-transparent terms, usually with other financiers, adding further to their vulnerability. Although Canada has stepped forward to fill the space with targeted bilateral and multilateral support, the larger international response has not yet discovered the way to bring debtor countries' perspectives and agendas into the broader policy discussion. The result is one in which debt distress is being compounded by geopolitical tensions, fragility and halted progress in development, something requiring a realistic, connected and sensitive response.

Adding to this complexity is the growing involvement of non-traditional creditors. China, now the world's largest bilateral creditor (Chen 2023), is a vital stakeholder in debt governance. Meanwhile, private bondholders and asset managers increasingly hold sovereign debt but are often out of reach of coordinated debt restructuring efforts. As of 2024, private creditors hold US\$13 billion more

debt than they did in 2022, and many are resistant to engaging in debt relief efforts (United Nations Conference on Trade and Development [UNCTAD] 2024a). In the meantime, 40 percent of low-income countries remain without transparent and comprehensive debt reporting mechanisms, and needs cannot be gauged nor can relief mechanisms be fitted to suit them (ONE Campaign 2024; UNCTAD 2024b).

Domestic Challenges as Foundation for Global Action

Canada has both economic and strategic interests in contributing to this worldwide debt crisis. Unsustainable debt reduces the level of commerce, disrupts supply chains and destabilizes regions vital to Canadian trade priorities and foreign policy. The Caribbean, for example, is not only an economic partner of significant worth, but a critical climate ally. Natural disasters in the Caribbean, such as hurricanes and floods, displace millions of people and deepen environmental challenges. Canada allocated CDN\$1.2 million in 2024 for Hurricane Beryl relief, reflecting its role in addressing regional humanitarian needs resulting from climate vulnerabilities (Government of Canada 2024). Besides, a default by one of Canada's trading partners in Latin America, the Caribbean or Africa could adversely affect Canadian exports, Canadian investments and Canadian-based multinational enterprise operations.

Canada's domestic fiscal situation must also be managed carefully. A study by the Department of Finance Canada indicates that the country's federal debt has reached CDN\$1.4 trillion as of 2024. Canada faces limitations in expanding emergency grants and concessional loans for poverty reduction development finance because of its own federal debt burden. The humanitarian aid and development finance systems work separately from commercial export credits under Organisation for Economic Co-operation and Development (OECD) rules. Under OECD market-rate terms, the export credits from Export Development Canada (EDC) reach developing nations with CDN\$12 billion worth of cleantech-focused credit support (EDC 2023).

Track Record of Innovative Debt Solutions

Canada is in a position to contribute positively to debt management globally. Among Group of Seven (G7) countries, Canada is in the middle-tier position of deficit reduction, providing a sound policy foundation to support

sustainable debt reforms. While the federal government aims to reduce its debt-to-GDP ratio from 42.4 percent to 37.9 percent by 2028 (Department of Finance Canada 2024), this excludes provincial liabilities. The consolidated debt-to-GDP ratio of Canada's federal and provincial sectors stands at 107.5 percent. Structural problems persist due to decreasing real GDP per capita from 2022 along with immigration growth that hides unchanging productivity rates (IMF 2024a) while provincial health care and educational expenses have increased provincial debt levels.

Canada's record of international contributions to debt relief and climate finance remains noteworthy. Through the Heavily Indebted Poor Countries (HIPC) Initiative, Canada cancelled over CDN\$1 billion in debt and assisted in creating more stable economies. Its support for climate-sensitive development finance has also been broadened. Notably, Canada has committed CDN\$5.3 billion for 2021 through 2026 from its climate fund to cover initiatives such as Ghana's green energy upgrade and Indonesia's rehabilitation of mangrove forests (Government of Canada 2024).

Presently, Canada uses lending financial tools such as Climate Resilient Debt Clauses (CRDCs) in loan packages to Moldova and Guyana. These measures allow countries to delay debt repayment during climate crises (Department of Finance Canada 2025). EDC has raised CDN\$4.2 billion in green bond sales since 2014 to fund 47 renewable energy projects, which indicates Canada's commitment to linking debt financing with climate action (EDC 2023).

Structural Barriers in Debt Governance

Multiple structural challenges affect the current debt governance architecture, including fragmented creditor coordination, lack of binding frameworks for private sector participation and inadequate information-sharing mechanisms. The majority of non-Paris Club creditors have not implemented debt relief promises. Just 51 percent of committed assistance has been activated by 2025, a rate slowing down and delaying restructuring for countries like Zambia and Sri Lanka (IMF 2025). Furthermore, there are no legally binding frameworks to compel private creditors to follow a coordinated relief process. Without global guidelines or incentives, the rate continues to lag and become uneven.

Previous international debt initiatives have frequently fallen short of their objectives. The HIPC and Multilateral Debt Relief Initiatives, while providing over US\$100 billion in debt relief to 37 countries (World Bank 2024b), failed to prevent renewed debt accumulation in many cases. Post-relief analyses reveal that 11 out of 13 HIPC countries experienced deteriorating debt-to-export ratios due to structural economic challenges and new borrowing (IMF 2025). The Debt Service Suspension Initiative, introduced during the COVID-19 pandemic, exacerbated inequities by excluding 18 small island developing states and 48 upper-middle-income countries from eligibility, despite their acute vulnerability to climate and economic shocks (European Network on Debt and Development 2020).

Similarly, the Group of Twenty's (G20's) Common Framework for Debt Treatments has been criticized for slow implementation, with many countries hesitant to apply due to concerns about credit rating impacts and creditor treatment. These historical precedents suggest the need for measured expectations about what new initiatives might achieve (UNCTAD 2024b).

Opportunities for Systemic Reforms

This is where Canada's future presidency in 2025 presents a meaningful opportunity for leadership. As host, Canada can lead a continued and enhanced agenda on transparency, equity, and climate resilience in sovereign debt markets. This could include advocating for the universal adoption of CRDCs as a component of all bilateral and multilateral loan agreements, encouraging the adoption of transparent debt reporting frameworks, recognizing the sovereignty concerns and capacity constraints that may affect implementation, and leveraging its pension reserves of CDN\$1.4 trillion to use climate-debt swaps via the contemplated global debt-climate facility (World Bank 2024a).

Such initiatives would not only be a source of critical support for nations facing debt distress but also be in Canada's long-term interests. Stable, economically vibrant partner states are a more viable market for Canadian goods and services and key allies in addressing shared global challenges. They are a more effective force to work with on common problems such as reducing climate change, resettling refugees and peacekeeping in their area.

While these opportunities exist, it is important to

recognize the complexity of debt governance reform. The reality is that transforming debt governance requires navigating a complex web of competing interests, including those of private creditors who may resist coordinated restructuring efforts.

Overall, although the international debt crisis presents complex challenges for the global community, it also presents an opportunity for Canada to advance a principled and pragmatic leadership agenda. Canada can contribute constructively to evolving debt governance reform. The present moment calls for a forward-looking policy approach that supports sustainable debt management while safeguarding Canada's economic and geopolitical interests.

Recommendations

Leveraging debt support mechanisms to diversify trade. Ongoing diplomatic and economic tensions with the United States have placed a strain on the Canadian economy, particularly given the United States' status as Canada's primary trading partner. Geographical proximity and global trade patterns have traditionally necessitated close economic integration between the two nations, complicating efforts to diversify Canada's trade portfolio. Concurrently, the United States is scaling back its foreign and humanitarian aid commitments and reassessing its international trade engagements. This global shift presents an opportunity for Canada to assert leadership by expanding its economic relationships, particularly with countries experiencing debt distress. By aligning trade diversification with debt support initiatives, Canada can cultivate new markets for its goods and services, notably in sectors less reliant on physical goods, such as financial services, e-commerce and digital technologies. Redirecting debt support mechanisms to align with Canadian economic interests can position Canada as a dependable development partner and promote the "Made in Canada" brand. This approach not only supports Canadian economic resilience but also upholds Canada's commitment to international development. Collaborating with initiatives such as the Bridgetown Initiative, which advocates for sustainable and equitable debt governance, could enhance Canada's global leadership in debt-related development assistance.

Enhancing Canada-Europe relations through collaborative debt relief initiatives. Considering the recent unpredictability in US foreign policy, it is

increasingly critical for Canada to reinforce its alliances with other strategic partners, particularly European nations. Effective global debt governance depends on robust international collaboration, especially within multilateral lending frameworks. The G20's Common Framework for Debt Treatments provides a platform for coordinated debt restructuring by engaging all relevant creditors and debtors. This initiative draws heavily from the principles of the Paris Club, of which both Canada and several European countries are permanent members. By deepening its cooperation with European partners in these debt-restructuring and relief mechanisms, Canada can simultaneously strengthen transatlantic ties and contribute to more effective global debt solutions. Joint investments in data infrastructure and transparency initiatives related to sovereign debt are one example of a practical steps towards more efficient and equitable debt governance.

Rebuilding bilateral relations with China through joint debt relief mechanisms. Canada's diplomatic relationship with China has been strained in recent years due to a series of geopolitical tensions. However, as the United States increasingly undermines established global governance norms, it is imperative for Canada to recalibrate its relationships with other major powers. China has emerged as the world's largest bilateral creditor and is, therefore, a pivotal actor in any future framework for global debt sustainability. Notably, China's preference for extending new loans contrasts with the debt relief strategies employed by Canada, the European Union and other Western creditors, which often involve partial debt forgiveness (Chen 2023). These divergent approaches have hindered consensus on comprehensive debt relief strategies. Nevertheless, innovative mechanisms such as debt-for-nature swaps and investments in sustainable development may offer common ground, especially given China's growing engagement in global climate governance (Lewis 2024). Canada should play a leading role in advancing pragmatic, inclusive debt governance solutions within the G20's Common Framework for Debt Treatments, which could also provide a constructive avenue for rebuilding mutual trust in Canada-China bilateral relations.

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Works Cited

Chen, Muyang. 2023. "China's Rise and the Reshaping of Sovereign Debt Relief." *International Affairs* 99(4), May: 1755–75. <https://doi.org/10.1093/ia/iiad108>.

Department of Finance Canada. 2024. "Debt Management Strategy 2024–25." <https://budget.canada.ca/2024/report-rapport/anx2-en.html>.

EDC. 2023. "Sustainable Bond Impact Annual Report." www.edc.ca/content/dam/edc/en/corporate/corporate-reports/annual-reports/edc-2023-sustainable-bond-impact-report.pdf.

European Network on Debt and Development . 2020. "The G20 Debt Service Suspension Initiative: Draining Out the Titanic with a Bucket?" July. <https://dette-developpement.org/IMG/pdf/dssishadowreport.pdf>.

Government of Canada, Environment and Climate Change. "Canada's International Climate Finance." *Canada.ca*, 5 Nov. 2024, www.canada.ca/en/services/environment/weather/climatechange/canada-international-action/climate-finance.html

IMF. 2024a. "Canada." IMF Country Report, vol. 2024, no. 228, July, <https://doi.org/10.5089/9798400279966.002>.

IMF. 2024b. "Resilience and Sustainability Trust." www.imf.org/en/Publications/Policy-Papers/Issues/2024/06/24/Interim-Review-of-The-Resilience-and-Sustainability-Trust-and-Review-of-Adequacy-550939.

IMF. 2025. "Debt Relief Under the Heavily Indebted Poor Countries Initiative." www.imf.org/en/About/Factsheets/Sheets/2023/Debt-relief-under-the-heavily-indebted-poor-countries-initiative-HIPC.

Lewis, Joanna I. 2024. "The Climate Risk of Green Industrial Policy." *Current History* 123 (849) December: 14–19. <https://doi.org/10.1525/curh.2024.123.849.14>.

ONE Campaign. 2023. "Canada's \$1.3 Billion Contribution of Special Drawing Rights to Accelerate Climate Finance and Poverty Reduction." September 20. www.one.org/ca/press/one-campaign-applauds-canadas-1-3-billion-contribution-of-special-drawing-rights-to-accelerate-climate-finance-and-poverty-reduction/.

UNCTAD. 2024a. "Financing for Sustainable Development Report 2024." https://desapublications.un.org/sites/default/files/publications/2024-04/2024_FSDR_ChIII_E.pdf.

UNCTAD. 2024b. "A World of Debt 2024: A Growing Burden to Global Prosperity." https://unctad.org/system/files/official-document/osgttinf2024d1_en.pdf

World Bank. 2024a. International Debt Report 2024. May 9. <https://www.worldbank.org/en/topic/debt/brief/hipc>.

World Bank. 2024b. Heavily Indebted Poor Countries (HIPC) Initiative 2024. November 20. <https://doi.org/10.1596/978-1-4648-2148-6>.

Canada's Role in Empowering Host Nations: A Responsibility-sharing Model for Forced Migration

Daniela Agostinho, Ishmael Philip Carrey and Grace Kargobai

Issue

The absence of a coordinated mechanism in Southeast Asia (and parts of South Asia) to manage large- scale refugee crises, exemplified by the Rohingya displacement, highlights the necessity for debt- focused incentives and expanded market access as tools for Canada to help tackle mass displacement in the region. Canada has engaged with the region through its Indo-Pacific strategy and feminist international assistance policy. However, the area still suffers from mass displacement crises, which means a continuous and unsustainable burden on the hosting countries.

Background

Mass Displacement

For many years, the Rohingya people have endured persecution and discrimination in Myanmar (Amnesty International 2025). The Muslim minority group has been denied the rights to nationality and freedom of movement, as well as access to essential services such as education, health care and employment (ibid.). In 2017, security forces in Myanmar launched an attack on the Rohingya minority in Rakhine State, burning villages, killing civilians and committing numerous human rights violations. This led to over 740,000 displaced individuals seeking refuge in Bangladesh and, subsequently, in

other neighbouring countries (UN Office of the High Commissioner for Refugees Operational Data Portal [UNHCR ODP] 2025).

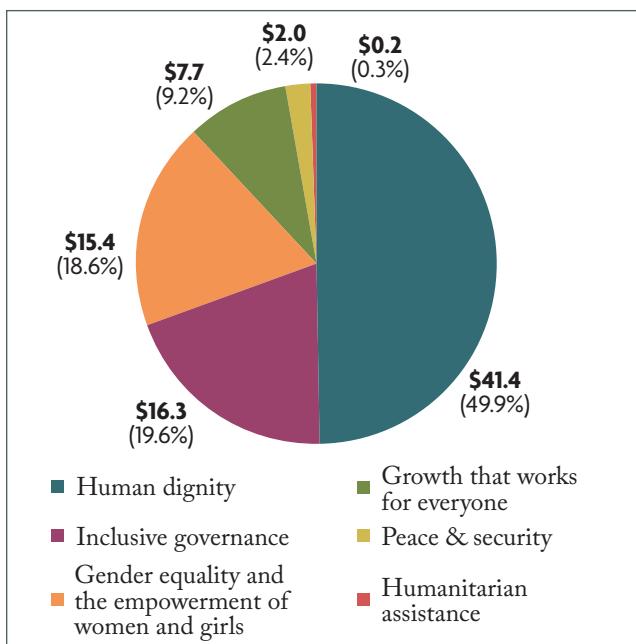
Conflicts and political instability, such as the Rohingya crisis, have led to large-scale population movements across South and Southeast Asia (ibid.). This poses a challenge for host countries and has direct implications for Canada's regional engagement under its Indo-Pacific Strategy and Feminist International Assistance Policy.

Canada's Response So Far

Canada established a three-year strategy to support at-risk and crisis-affected populations in Myanmar and Bangladesh, with a particular emphasis on Rohingya refugees, internally displaced persons, and the affected host communities (Global Affairs Canada [GAC] 2024). Additionally, Canada intensified its efforts to achieve inclusive and sustainable peace in Myanmar by enhancing international cooperation through the appointment of a special envoy for the crisis (ibid.).

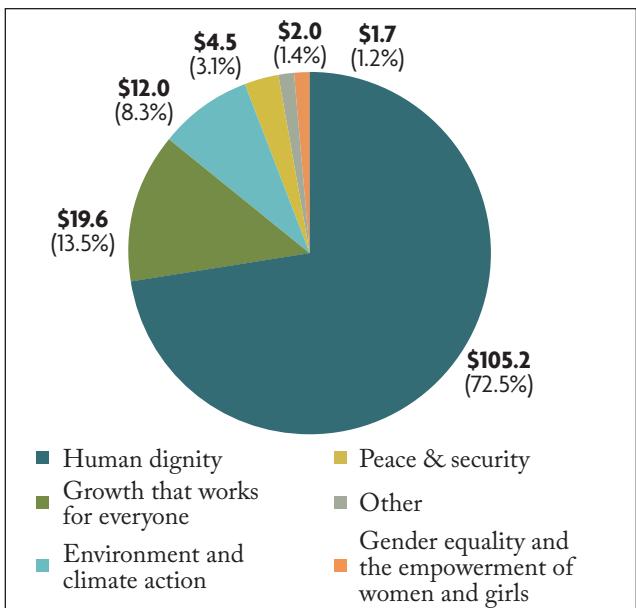
In Myanmar, medical cases for marginalized and conflict- affected persons were managed by primary health-care providers (ibid.). Sexual reproductive health and rights education were given to young people and women found in the same demographic (ibid.). Psychosocial support was made available to children affected by the conflict (ibid.).

Figure 1: Distribution of Phase 2 Budget (CDN\$83M) by Action Area for Myanmar



Source: Graph from the Government of Canada's strategy to respond to the Rohingya and Myanmar crises (2021 to 2024).

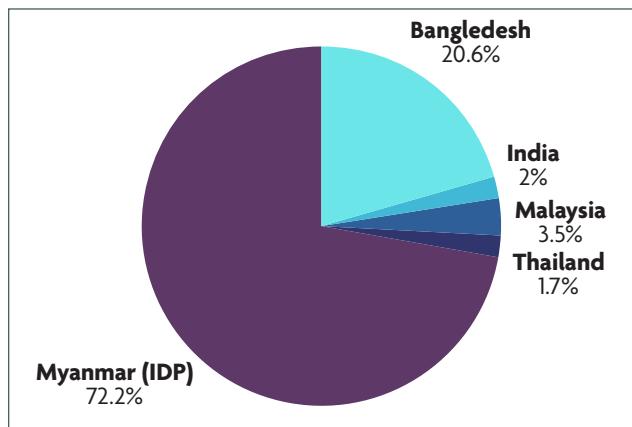
Figure 2: Distribution of Phase 2 Budget (CDN\$145M) by Action Area for Bangladesh



Source: Graph from the Government of Canada's strategy to respond to the Rohingya and Myanmar crises (2021 to 2024).

Figure 3: Rohingya Refugees, Asylum Seekers and Internally Displaced Persons

Source: Ishmael Carrey, data sourced from UNHCR Operational Data Portal (ODP) (2025).



In Bangladesh, Canada has supported 98 health facilities, 19 of which now provide 24/7 basic emergency obstetric and newborn care (GAC 2024a). Learning centres have been established for Rohingya refugees and host communities, with 112,000 Rohingya children being enrolled (ibid.). Infant care, prenatal care and information on sexual and gender-based violence were dispensed to Rohingya women (ibid.). Though some successes were achieved, challenges persist.

Lack of Responsibility Sharing

Fifteen out of 19 South and Southeast Asian countries are not signatories to the 1951 Refugee Convention and its 1967 Protocol (UNHCR 2024; Abraham 2020). This is mainly due to Asia's narrative of its values and human rights exceptionalism (Yacoub 2023). They firmly believe that human rights are not universal and must be tailored to each country; in their case, it must align with traditional Asian values (ibid. 2020). However, although most of the countries are not bound by International Refugee Law (IRL), many still host refugee populations. Without formal commitments, these countries are not obligated under IRL, limiting refugee protection.

Currently, there are nearly five million Rohingya refugees, asylum seekers and internally displaced persons (UNHCR ODP 2025). Seventy-two percent are displaced within Myanmar, while 21 percent are hosted in Bangladesh, and the remainder are accommodated in Malaysia, India, Thailand and Indonesia (ibid.).

GAC seeks sustainable solutions that align humanitarian objectives, such as refugee protection and the reduction of the root causes of displacement, with broader foreign policy goals, including economic development and stability. This is significant, particularly given that the Trump administration has cut funding for the U.S. Agency for International Development (USAID) and plans to reduce further development programs that help combat poverty, promote democracy and enhance the US presence overseas (Beitsch 2025).

USAID partnered with the Association of Southeast Asian Nations (ASEAN) as part of its strategic approach to the Indo-Pacific to foster economic growth, strengthen public health security and reduce transboundary threats in the region (United States Agency for International Development [USAID] 2022). The UNHCR, through an internal email, has had to clamp down on spending due to the loss of funding. This creates an opportunity for countries such as Canada, which will need to step in and fill the void left by the United States, even if they cannot fully replace the funding of the United States (Borger and Roth 2025).

Alignment with Canada's Existing Frameworks

Canada can integrate debt-for-refugee mechanisms into GAC's Indo-Pacific Strategy and Feminist International Assistance Policy to enhance policy coherence and impact. GAC's Indo-Pacific Strategy can be leveraged to facilitate debt swaps that support refugee-hosting countries in the region (for example, Indonesia, Malaysia, Thailand). This aligns with Canada's objectives of promoting regional stability and fostering economic partnerships by alleviating the financial strain on host nations. Additionally, Canada can consider promoting climate-resilient refugee programs, considering its commitment to green initiatives in the Indo-Pacific. Canada can also organize regional forums involving the Association of Southeast Asian Nations (ASEAN), non-governmental organizations and the private sector to share best practices and scale effective solutions.

Table 1: Host Countries' Debt to the International Monetary Fund and the World Bank

DEBT (USD) (Debt not entirely due to managing crisis)

	2017	2023
Bangladesh	63.1 B	127.2 B
Malaysia	166.7 B	237.4 B
Thailand	140.4 B	248.8 B
India	1.1 T	1.8 T
Indonesia	279.3 B	460 B

Source: Ishmael Carrey, data sourced from the International Monetary Fund (IMF) (2023).

Debt Burdens and Humanitarian Impact

High Debt-to-GDP Ratios

According to the IMF (2023), several regional countries (for example, Bhutan, the Maldives, Laos and Singapore) have debt-to-GDP ratios exceeding 100 percent. Others, such as Bangladesh (39.34 percent) and Thailand (54.27 percent), are facing moderate yet significant debt challenges.

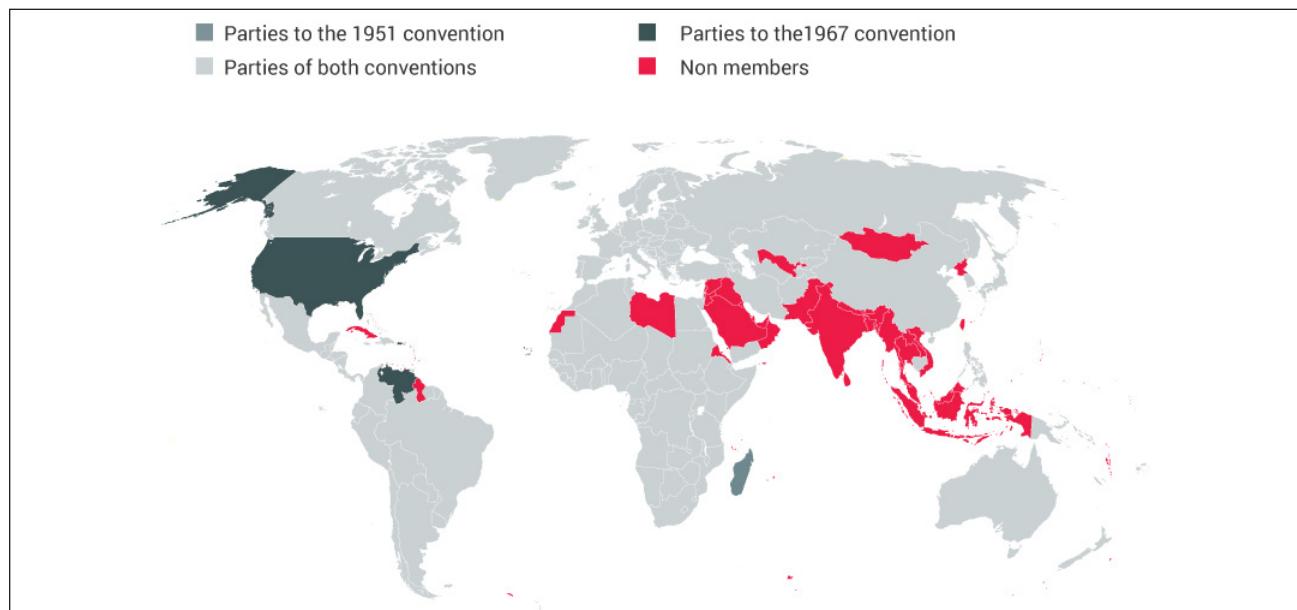
Impact on Refugee Hosting

Heavy debt burdens limit a government's capacity to provide basic services and infrastructure for refugee populations. Debt relief or restructuring can unlock fiscal space for humanitarian and developmental needs.

The Bangladesh public debt-to-GDP ratio has surged from 28.7 percent in 2014 to 42.1 percent in 2023, with foreign debt increasing sharply (Mahmood 2023). These pressures, combined with widening fiscal and current account deficits, have led the country to seek IMF assistance and loans from other multilateral donors (ibid.). Inflation erodes real wages and exacerbates poverty, particularly for informal workers (ibid.).

Arguments can arise that debt forgiveness and restructuring may lead to "moral hazard," meaning countries will be reckless with their expenditures because they know the international community will bail them out (Lane and Phillips 2002). Debt forgiveness and restructuring would also mean that lending countries absorb bad debt and incur a loss on their loans (ibid.). It is unavoidable that someone will bear the brunt of the fallout in the region due to the crisis (ibid.). However, the status quo, where countries like Bangladesh bear the burden of hosting refugees, is unsustainable and immoral.

Figure 4: Countries Party to the 1951 Refugee Convention and the 1967 Protocol



Source: Open Migration, data sourced from UNHCR.

The Rationale for a Debt-for-Refugee Model

Incentive Structure

Countries hosting refugees would receive debt relief in exchange for meeting clear, measurable benchmarks for refugee protection and integration. Benchmarks would include the integration of refugees into national education, health and labour policies; the securing of formal employment by working-age refugees within a specified timeframe; the enrollment of refugee children in both primary and secondary education; and the establishment of legal frameworks that enable refugees to obtain work permits without restrictive barriers.

Role for Canada

GAC, in partnership with international financial institutions, can lead or co-facilitate a regional framework that ties partial debt forgiveness to improved refugee policies and practices. This approach aligns with Canada's commitments to supporting vulnerable populations and promoting stability through economic development, as well as with current international negotiations surrounding debt relief.

Market Access to Complement Debt Relief

Trade and Investment

Providing preferential market terms or technical support (for example, streamlined licensing) to countries that show

tangible progress in refugee management can further promote regional cooperation.

For instance, it is worth noting that Canada has continued to support Bangladesh's apparel industry by granting duty-free access until 2034 under its General Preferential Tariff Plus scheme (Canada Border Services Agency 2024). Therefore, although the United States now threatens the world with imposing tariffs, Canada maintains an enabling trade market for South and Southeast Asian countries to thrive (Mirdha 2025).

Leverage Canada's Market-access Tools

Canada can offer preferential trade or investment facilitation as an additional incentive for countries meeting refugee protection benchmarks. Since there is an existing model of this approach in the Generalized System of Preferences (GSP), it stands to reason that this approach would not hurt Canadian industries. Canada can extend or modify its own GSP framework. For example, it can advocate for refugee-inclusive trade policies within international agreements, such as the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP). GAC can partner with refugee-led businesses to promote impact investing. This approach provides a sustainable and long-term alternative to traditional short-term humanitarian aid.

Non-Traditional Partnerships and Opportunities: Examples of Success

Debt-for-nature swaps and other conditional debt instruments have shown promise in different contexts; these can be adapted into a “debt-for-refugee” mechanism. Debt-for-nature swaps are financial agreements in which a creditor country agrees to cancel a portion of a developing country’s debt in exchange for the debtor committing to invest an agreed amount in local environmental conservation efforts (Whiting 2024).

Conditional debt instruments are financial tools that link debt relief or debt service conditions to specific policy reforms or development investments, such as improvements in public health, education or climate resilience (Steele et al. 2021). These instruments are termed “conditional” because the financial terms (for example, debt relief or better rates) depend on the debtor country fulfilling those specified development targets.

There are, however, potential challenges. These include: political reluctance or sovereignty concerns in some host countries; monitoring and enforcement of conditions tied to debt relief; and ensuring long-term sustainability beyond the initial debt restructuring.

Next Steps

- **Short term:** Identify priority countries (for example, Bangladesh, Malaysia, Thailand) for pilot programs under GAC’s leadership.
- **Medium term:** Engage with the IMF, World Bank and Asian Development Bank to formalize debt restructuring terms and oversight mechanisms.
- **Long term:** Scale the model across South and Southeast Asia, reinforcing Canada’s Indo-Pacific strategic objectives while addressing the root causes of mass displacement. Scaling the model will involve expanding and replicating the debt-for-refugee model beyond the initial pilot countries (such as Bangladesh, Malaysia and Thailand) to other countries across the South and Southeast Asian regions.

Recommendations

Launch a pilot debt-for-refugee initiative. Coordinate with international financial institutions to provide partial debt forgiveness for select host countries that commit to improving refugee rights and services. The debt burden on

countries hosting refugees continues to rise, threatening their ability to support refugees sustainably. Through partnerships with institutions such as the World Bank and the IMF, Canada can lead efforts to establish a debt relief mechanism, advocating for debts to be reduced or forgiven in proportion to the refugee hosting undertaken by these countries. Canada could also mobilize donor countries and institutions to create funding pools that offset the costs of hosting refugees, ensuring host nations remain economically stable.

Implement preferential market access. This means offering tariff reductions or exemptions for goods produced in regions hosting large numbers of refugees. This strategy provides crucial economic incentives to stimulate local economies, generate employment opportunities for refugees and support host communities. An existing and successful model for this approach is the GSP. Under the GSP, developed countries offer preferential trade terms to developing nations, facilitating market access and economic growth. Canada can extend or modify its own GSP framework. For example, it can advocate for refugee-inclusive trade policies within international agreements, such as the CPTPP. GAC can partner with refugee-led businesses to promote impact investing. This approach provides a sustainable and long-term alternative to traditional short-term humanitarian aid.

Strengthen monitoring and accountability. Partner with neutral bodies (for example, the UNHCR) and civil society organizations to ensure that debt relief translates into tangible improvements for refugee populations. Canada can support regional cooperation by strengthening ASEAN. It is a regional intergovernmental organization comprising 10 Southeast Asian countries that promotes political, economic and social cooperation among its members.

Canada can focus on two key areas:

- **technical support:** Canada can offer technical expertise to assist ASEAN in establishing a responsibility-sharing mechanism within the Indo-Pacific region; and
- **diplomatic leadership:** Canada can serve as a champion country, raising international awareness and prioritizing refugee-related concerns within the Indo-Pacific region.

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Works Cited

Abraham, Itty. 2020. "Host Communities and Refugees in Southeast Asia." <https://www.jstor.org/stable/26883625>

Amnesty International. 2025. "Rohingya: The deadly situation in Myanmar explained." www.amnesty.org.uk/rohingya-deadly-situation-and-what-do-about-it.

Beitsch, Rebecca. 2025. "Trump budget would eliminate numerous development agencies." *The Hill*, February 5. <https://thehill.com/homenews/administration/5280130-trump-budget-development-agencies/>.

Borger, Julian and Andrew Roth. 2025. "UN aid agencies cut back operations after Trump's 90- day funding suspension." *The Guardian*, January 29, Available at www.theguardian.com/world/ 2025/jan/28/un-aid-cuts-trump-funding

Canada Border Services Agency. 2024. "Customs Notice 24-41: Canada's unilateral tariff preference programs for imports from developing countries." www.cbsa-asfc.gc.ca/publications/cn-ad/cn24-41-eng.html.

GAC. 2024. Tell them we're human" What Canada and the world can do about the Rohingya crisis. / www.international.gc.ca/world-monde/issues_development-enjeux_developpement/response_conflict-reponse_conflits/crisis-crises/rep_sem-rap-esm.aspx?lang=eng#a2_1.

———. 2024a. Canada's strategy to respond to the Rohingya and Myanmar crises (2021 to 2024). www.international.gc.ca/world-monde/issues_development-enjeux_developpement/response_conflict-reponse_conflits/crisis-crises/myanmar-phase2.aspx?lang=eng

Government of Canada. 2024. "Canada's strategy to respond to the Rohingya and Myanmar crises (2021 to 2024)" https://www.international.gc.ca/world-monde/ issues_development-enjeux_developpement/response_conflict-reponse_conflits/crisis-crises/myanmar- phase2.aspx?lang=eng

IMF. 2023. "Central Government Debt." www.imf.org/external/datamapper/ CG_DEBT_GDP@GDD/CHN/FRA/DEU/ITA/JPN/GBR/USA/BGD.

Lane, Timothy and Steven Philips. 2002. "Moral Hazard: Does IMF Financing Encourage Imprudence by Borrowers and Lenders?" IMF, Economic Issues No. 2002/003.

Mahmood, Muhammad. 2023 "Rising debt levels and high inflation in Bangladesh." *The Financial Express*. August 19. <https://thefinancialexpress.com.bd/views/views/rising-debt- levels-and-high-inflation-in-bangladesh>.

Mirdha, Refayet. 2025. "Can Bangladesh ride out the wave of U.S. tariffs?" *The Daily Star*. www.thedailystar.net/business/news/can-bangladesh-ride-out-the-wave-us-tariffs-3874661.

Open Migration. 2024. "Countries Party to the 1951 Refugee Convention and the 1967 Protocol," <https://openmigration.org/en/infographic/countries-that-join-the-refugee-convention-of-1951/>

Steele, Paul, Sejal Patel, Laura Kelly, Jean-Paul Adam, Aniket Ghai and Dev Useree. 2021. "Financing an inclusive, green recovery in Least Developed Countries: Debt instruments for climate and nature." International Institute for Environment and Development. www.iied.org/20536iied.

UNHCR. 2024. "Rohingya Refugee Crisis Explained." www.unrefugees.org/news/rohingya-refugee-crisis-explained/. UNHCR Operational Data Portal. 2025. "Myanmar situation." <https://data.unhcr.org/en/situations/myanmar>.

USAID, 2022. "Partnering with the Association of Southeast Asian Nations." <https://asean.usmission.gov/wp-content/uploads/sites/62/2025/04/USAID-ASEAN-Fact-Sheet-Partnering-with-ASEAN-9.2022-1-1.pdf>

Whiting, Kate. 2024. "Climate finance: What are debt-for-nature swaps and how can they help countries?" World Economic Forum. April 26. www.weforum.org/stories/2024/04/climate-finance-debt-nature-swap/.

Yacoub, Natasha. 2023. "A New History of Refugee Protection in Post-World War Two Southeast Asia: Lessons from the Global South." *Asian Journal of International Law* 13(2): 220–43.

Centring Indigeneity in Canada's Indo-Pacific Engagement

Larissa Möckel and Finnegan Hunter O'Connor

Issue

Canada's Indo-Pacific Strategy (IPS) insufficiently centres indigeneity in its implementation to the detriment to the country's engagement with the region — an improvement could inform other areas of Canada's foreign policy as well.

Background

Indigeneity in Canada's IPS

Canada's IPS establishes the country's approach to the region along five key pillars that facilitate diplomacy, trade and people-to-people connections with regional partners (Global Affairs Canada [GAC] 2022). The IPS includes measures focused on Indigenous peoples, both in Canada and the Indo-Pacific. For example, Pillar 2 — “Expanding trade, investment and supply chain resilience” — highlights the economic empowerment of Indigenous Canadian-Indo-Pacific networks. The IPS also supports education and skills development programs to connect Indigenous communities in Pillar 3, “Investing in and connecting people.” Furthermore, GAC (2022, 20) emphasises Canada's own responsibility in “[supporting] the implementation of the UN Declaration on the Rights of Indigenous Peoples” and “[pursuing] the path of reconciliation with First Nations, Inuit and Métis Peoples through enhanced Indigenous exchanges with regional partners” in the IPS document.

Despite notable commitments in the IPS's text, Canada's foreign policy in the Indo-Pacific still lacks sufficient inclusion of Indigenous perspectives. The IPS does not clearly articulate how the interests of Canada's Indigenous peoples are to be addressed by the initiatives that the IPS

is intended to guide. Moreover, the IPS overlooks the potential benefits — for both domestic and foreign policy — of drawing upon Indigenous approaches to conflict management and environmental stewardship. GAC can reconcile these shortcomings by looking at Canada's obligations under the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), which the country endorsed in 2016 and adopted as domestic positive law (Supreme Court of Canada 2024, para. 15) in 2021. The legal obligations outlined in the UNDRIP Act should guide all actions involving Indigenous peoples, including foreign policy. The UNDRIP Act obliges the government to grant full cultural, economic and civil rights to Indigenous peoples, including equality and non-discrimination. Moreover, UNDRIP reinforces these rights by securing the self-determination and self-government of Indigenous peoples by setting up their own institutions or by protecting their rights to land ownership and usage. UNDRIP also ensures the legal recognition of treaties and agreements with Indigenous peoples, as well as their right to redress and compensation for historic harms. Finally, signatories to UNDRIP are encouraged to uphold both inclusive decision-making processes and to grant Indigenous peoples access to participate in existing systems, including forums of conflict resolution.

The commitments that Canada has made through UNDRIP and the accompanying UNDRIP Act not only require GAC to align its practices with their obligations but also provide guidance for how to integrate Indigenous interests and approaches into the IPS in ways that strengthen it and potentially other areas of Canada's foreign policy too.

Putting Indigeneity at the Centre

In the three years since its creation, the IPS has seen significant changes in the international system, which not only heightens the importance of Canada's engagement in the Indo-Pacific, but also creates new opportunities to address challenges in climate change and international trade. While, under these circumstances, it may be even easier to overlook Indigenous voices, this brief argues that their inclusion in Canada's foreign policy is now more important than ever to live up to Canada's democratic values. Elevating Indigenous interests and approaches in the IPS is, rather than a constraint on action, a means to empower the Strategy to succeed in an evolving geopolitical landscape.

Domestic Benefits

First, strengthening Canada's domestic commitments to its Indigenous peoples is integral for being a progressive, liberal democracy and a defender of human rights. Canada's Truth and Reconciliation Commission (TRC) has deemed its colonial past a physical, biological and cultural genocide (TRC 2015, 1). In recognition of this history, Canada has committed to addressing and redressing the harm through efforts such as the TRC's investigation of the Indian Residential School System's legacy, and the establishment of a National Inquiry into Missing and Murdered Indigenous Women and Girls. These are steps in the right direction and should be commended as being far ahead of many other post-colonial states in reconciling with historical inequities. However, legitimate critiques point out that they remain Western-centric by insufficiently drawing upon Indigenous approaches to reconciliation (Ansloos 2017) and reinforcing victim-perpetrator categories over promoting constructive relationships (Arnold 2023; MacDonald 2021).

Similarly, acknowledging Indigenous peoples' centrality to the IPS sends a strong signal, but is not enough. It is crucial for the Canadian government to engage with various Indigenous groups to determine what the role of Indigenous peoples in the IPS should look like instead of fitting them into an existing foreign-policy framework. The Canadian government must also double-down on its domestic reconciliation efforts with Indigenous communities (Simon 2022), while opening them up for more holistic approaches of peace building and reconciliation (Ansloos 2017). This requires that both Canada's IPS and its TRC are properly understood as

whole-of-government approaches. Thus, its foreign policy must reflect Canada's domestic commitments to Indigenous peoples by making these commitments central to the IPS. Only then can the IPS achieve its stated "whole-of-society approach" (GAC 2022, 5f).

As noted above, by leveraging the IPS as a platform for Indigenous self-representation, Canada can draw upon the general provisions of UNDRIP. These include Article 36, which secures the "right to maintain and develop contacts, relations and cooperation, including activities for spiritual, cultural, political, economic, and social purposes, with their own members as well as other peoples across borders" (UN General Assembly 2007). Relatedly, Article 20 establishes Indigenous peoples' right to set up their own institutions for social and economic activities (*ibid.*). These international commitments already align with Pillars 2 and 3 of the IPS through the economic empowerment of Indigenous trade networks and enhancing the connection of Indigenous people through education and skill development respectively (GAC 2022). However, Indigenous peoples' access to trade can be better fostered by putting the stewardship of existing fora and programs into the hands of Indigenous peoples themselves.

Moreover, UNDRIP Article 19 obligates states to seek consent with Indigenous peoples for adopting legislative and administrative measures that affect them (UN General Assembly 2007). The measures under the IPS affect both Indigenous peoples in Canada and in the Indo-Pacific. Thus, they should be involved in the specification and implementation of these measures in an inclusive manner.

UNDRIP Article 40 affords Indigenous peoples the right to access conflict resolution procedures with states or other parties by respecting both Indigenous peoples' own customs and (legal) rules on top of their rights granted by international law (*ibid.*). Here, Canada has experience through its involvement of the Inuit during its 2022 Hans Island dispute settlement with Denmark. This is an exemplary demonstration of a government obtaining the free, prior and informed consent (FPIC) in the design of an inter-state agreement, which ensures Indigenous peoples' free movement on the island. The settlement is thus consistent with Article 32, which establishes the obligation to obtain FPIC and the freedom of movement of Indigenous peoples on their land granted through Article 36 (*ibid.*). However, there is room for improvement in the Hans Island model, which provided Indigenous groups

limited stewardship (Macneill 2023). Canada should make greater efforts to ensure conflict resolutions that are not only consultative, but comprehensively inclusive.

Foreign Policy Benefits

Centring indigeneity in its IPS also presents an opportunity to leverage a unique value of Canadian foreign policy to Western engagement with the Indo-Pacific. Strong relationships with its Indigenous peoples help to form a distinct Canadian identity abroad, setting it apart from other countries engaging in the region. Canada's existing efforts to reconcile with Indigenous peoples and its adoption of UNDRIP into domestic law make it a valuable partner. The ability to inclusively approach issues affecting Indigenous peoples in the Indo-Pacific will enhance the IPS' effectiveness. Moreover, Canada has experience in bringing people together and a good understanding of the position of states in the region (see Hardie 2024). Together, these capacities can fill the gap that Hugh Stephens, the vice-chair of the Canadian Committee on Pacific Economic Cooperation, identified when he testified before the House of Commons' Special Committee on the Sino-Canada relationship, saying: "Canada must prove that it has something unique to offer to states in the region" (*ibid.*, 33). It is crucial, however, that Indigenous peoples from both Canada and the Indo-Pacific are directly involved in the issues affecting them.

Centring indigeneity into Canada's IPS may also create other strategic opportunities in the region. Promoting Indigenous business will draw investment into domestic economies, especially in rural areas. Supporting the inclusion of Indigenous peoples into the international market can help ease the productivity gap between Indigenous and non-Indigenous communities, potentially increasing Canada's GDP by CDN\$26.7 billion (National Indigenous Economic Development Board 2024).

Ensuring that firms adhere to FPIC in their foreign investment will make them more appealing to Indo-Pacific countries. Representation of both Indigenous voices and interests in the region can be expanded into leadership on climate change and sustainability, strengthening Canada's diplomatic footprint. As Stephens (2023) argues, aligning the values and aspirations of Canada with Indo-Pacific countries might not always be easy. But Canadian values, including the reconciliation with Indigenous peoples, are a central part of the IPS. In both living up to its UNDRIP commitments and bolstering the IPS, this brief makes the following recommendations.

Recommendations

Facilitate Indigenous participation and incorporate indigeneity into its IPS in a way that improves Canada's "brand" to both the domestic and the international audiences.

Establishing a joint working group between GAC and Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) to facilitate communication between the two Ministries. The working group should have an emphasis on informing CIRNAC of how international partners perceive Canada's reconciliation efforts and areas where more attention would improve the perception of its relationship with its Indigenous peoples. CIRNAC should also use this communication to share more information on Canada's reconciliation programs, providing GAC personnel with the tools to share specifics on the country's efforts to help align partner governments' perceptions with the reality.

Foster Indigenous peoples' access to trade to enable the expansion of their trade networks.

A good starting point would be to strengthen the already existing cross-connections with domestic programs to support the foundation and operation of Indigenous-led businesses as the CanExport program does for export-oriented trade. A further improvement would be the inclusion of official bodies as GAC's trade-focused Indigenous Working Group also in other formalization processes besides those for international free trade agreements and the Indigenous Peoples Economic and Trade Cooperation Arrangement. Their advisory role could be expanded to future refinements of the IPS and the design of trade-related, follow-up measures and projects. Crucially, Canada must support fully Indigenous-led exchanges, in which the leadership of the process is put in the hand of Indigenous delegates from Canada and Indo-Pacific countries.

Promote Indigenous-led conflict resolution models that improve the sustainability of peace to support regional security without imposing on Indo-Pacific partners.

Echoing recommendation 17 of the House of Commons' Special Committee — to "establish a knowledge exchange program on Indigenous issues with the governments and Indigenous Peoples from Canada or the Indo Pacific in the Indo-Pacific region" (Hardie 2024, 66) — GAC should support similar exchanges focused on Indigenous conflict resolution, led by Indigenous peoples themselves, to foster more enduring peace (Autessere 2021). When Canada engages in or supports such efforts, it should adopt "an

Indo-Pacific-style approach to dispute resolution, one that is based on cooperation between equals and respect for the history and culture of the nations in the region” (ibid., 7). In alignment with UNDRIP Article 40, GAC must ensure these approaches are fully inclusive, not merely consultative.

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Works Cited

Ansloos, Jeffrey. 2017. “Chapter 6: Peace like a Red River: Indigenous Human Rights for Decolonising Reconciliation.” In *Peacebuilding and the Rights of Indigenous Peoples*, edited by Heather Devere, Kelli Te Maihāroa and John P. Synott, 65–75. New York, NY: Springer Berlin Heidelberg.

Arnold, Jobb Dixon. 2023. “Conflict and Reconciliation in Canada: Antagonism and Agonistic Peacemaking.” *Journal of Transdisciplinary Peace Praxis* 5 (2): 32–62. <https://doi.org/10.1080/01436597.2021.2006054>.

Autesserre, Séverine. 2021. *The Frontlines of Peace: An Insider’s Guide to Changing the World*. New York: Oxford University Press. <https://doi.org/10.1093/oso/9780197530351.001.0001>.

GAC. 2022. “Canada’s Indo-Pacific Strategy.” Strategy paper. www.international.gc.ca/transparency-transparence/indo-pacific-indo-pacifique/index.aspx?lang=eng.

Hardie, Ken. 2024. *Canada’s Indo-Pacific Strategy: Two Years Later: Interim Report of the Special Committee on the Canada–People’s Republic of China Relationship*. 1st sess., 44th Parliament. www.ourcommons.ca/Content/Committee/441/CACN/Reports/RP13512303/cacnrp09/cacnrp09-e.pdf&ved=2ahUKEwi-mK3YxYWNAXzi_0HHAxflA8QFnoECDEQAQ&usg=A0Vaw1Heit4wYnyEUKFTDIVLMxk.

MacDonald, David B. 2021. “Canada’s Truth and Reconciliation Commission: Assessing Context, Process, and Critiques”. *Griffith Law Review* 29 (1): 150–74. <https://doi.org/10.1080/10383441.2020.1868282>.

Macneill, Christopher Mark. 2023. “UNCLOS, UNDRIP & TARTUPALUK: The Grim Tale of Hans Isle and Graense.” *Sustainable Development Law & Policy* 23 (2): 18–21. <https://digitalcommons.wcl.american.edu/sdlp/vol23/iss2/4>.

National Indigenous Economic Development Board. 2024. “Economic Reconciliation: Growing Canada’s Economy.” www.niedb-cndea.ca/latest-news/economic-reconciliation-growing-canadas-economy-2/.

Simon, Scott. 2022. “What the Indo-Pacific Strategy Means for Indigenous Peoples.” Centre for International Policy Studies. *CIPS* (blog), December 8. www.cips-cepi.ca/2022/12/08/what-the-indo-pacific-strategy-means-for-indigenous-peoples/.

Stephens, Hugh. 2023. “Canada’s New Indo-Pacific Strategy: A Critical Assessment.” *The School of Public Policy Publications* 16 (1): 1–11. <https://doi.org/10.11575/SPPP.V16I1.76860>.

Supreme Court of Canada. 2024. “An Act respecting First Nations, Inuit and Métis children, youth and families.” SCC 5.

TRC. 2015. “Honouring the Truth, Reconciling for the Future: Summary of the Final Report of the Truth and Reconciliation Commission of Canada.” Winnipeg, Manitoba: Truth and Reconciliation Commission of Canada.

UN General Assembly. 2007. *United Nations Declaration on the Rights of Indigenous Peoples*. A/RES/61/295. September 13.