BALSILLIE SCHOOL
OF INTERNATIONAL AFFAIRS

Discord and Disruption

2019 Global Trends Report

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

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Global Affairs   Affaires mondiales
Canada   Canada

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Introduction

The theme of this year's Global Trends Report is "Discord and Disruption." Given events in the world, we thought this is an appropriate title. Indeed, all signs suggest that the global environment in 2019 will be no different from the substantial discord and upheaval experienced in 2018. The civil conflicts in Yemen and Syria continued unabated, placing tremendous stress on the global humanitarian system. On a positive note, in August, rivals in South Sudan signed a long-anticipated peace accord to bring about an end to the fighting that has plagued the country for nearly half a decade; however, the foundations for this progress remain fragile. Hundreds of thousands remain at risk of malnutrition in South Sudan as both parties continue to violate the peace agreements. Also in August, Zimbabwe experienced violent protests and widespread unrest during the first national elections to succeed Robert Mugabe, who finally left office after 30 years as president.

Politics around the world continued to become more polarized. In the Americas, leftist populist governments were elected and re-elected in Mexico and Venezuela, respectively. In contrast, in Europe, conservative populist parties were elected and re-elected in Italy and Hungary, respectively, and German Chancellor Angela Merkel faced a crisis of confidence from within her own coalition government over what those on the right considered lax migration and border control policies. On the trade front, US President Donald Trump unilaterally imposed tariffs on Canada, Europe and China, prompting all to respond in turn with retaliatory measures of their own, thereby throwing the future of the international trade regime — and, more fundamentally, the liberal international order, into question. Diplomatic relations among nations — including among long-standing allies — were strained. In June, President Trump refused to sign the G7 communiqué coming out of the meeting in Charlevoix, Québec, and a few weeks later he chastised members of the NATO alliance over a lack of responsibility sharing.

Meanwhile, Russia's relations with the west deteriorated even further following the emergence of new revelations of both interference via social media in the upcoming US mid-term elections and the poisoning of President Vladimir Putin's political opponents in the United Kingdom, the latter of which prompted a new round of economic sanctions. Closer to home, the Trudeau government got into a diplomatic dispute with Saudi Arabia following a tweet calling for the release of four women's human rights activists, which prompted the Kingdom to expel the Canadian ambassador, suspend trade and prohibit Saudi students from studying at Canadian universities. Chaos, it seems, is the new normal.

In this unsettled context, we are pleased that this report offers some realistic proposals to advance global governance. *Discord and Disruption: 2019 Global Trends Report* is the final output of the 2017-2018 Graduate Fellowship Program, a professional development program that cultivates and develops our students' research and policy analysis skills. It is the third anthology in our series of trends reports, and follows on the 2017 and 2018 reports, *Turbulent Present, Uncertain Future: 2017 Global Trends Report*, and *Cracks in the Liberal International Order: 2018 Global Trends Report*.

The anthology is the product of a very successful collaboration the Balsillie School established in 2015 with the Foresight Division of the Foreign Policy Bureau of Global Affairs Canada. This year, the partnership was expanded to include other units within Global Affairs, and we are truly grateful for the support of the many officials throughout the department that we had the great fortune of working with for their guidance, mentorship and willingness to push our students to come up with new ideas and fresh thinking on issues that are of importance to Canada.

The briefs in this collection — which were presented to more than 60 officials in Ottawa in June 2018 — offer new policy insights on a wide range of issues that are relevant to Canada.

Section 1: Asia-Pacific, Progress Trade, and Global Financial Imbalance focuses on the growing pressures on the global economy, and explores ways in which Canada can continue to be a prosperous country in a world of shifting economic power, growing inequality and financial uncertainty. *Section 2: Development and Migration* looks at the challenges associated with advancing gender equality in conflict and post-conflict settings, advancing the sexual reproductive and health rights of youth, and managing irregular migration flows in a matter that is consistent with the country's human rights obligations. *Section 3: Artificial Intelligence and Human Rights* imagines how new AI technologies might be leveraged to advance the rights of refugees, combat online extremism, as well as how governments might respond when these systems go awry. Finally, *Section 4: Environment* proposes novel ways in which Canada might advance sustainable solutions to the problems of end energy poverty and growing water scarcity.

Some thanks are in order.

We are deeply indebted Martin Roy and Manual Mulas in the Foreign Policy Bureau at Global Affairs Canada for their many contributions to the BSIA-GAC collaboration, as well as to their colleagues — Jordan Guthrie of the Economic Relations and Strategy Division, Marketa Geislerova from the Digital Inclusion Lab, and Kerry Max of the International Assistance, Research and Knowledge Division — for coming to Waterloo in February to meet with students, and for participating in the day of briefings at the department.

Special thanks are in order to Carol Bonnett and Vivian Moser of the Publications Department at the Centre for International Governance Innovation for all of their work getting this anthology to press.

Thanks also go to the members of our "Artificial Intelligence and Human Rights" advisory board — Ben Armstrong, Maura Grossman, Hadi Hosseini, Kate Larson, Peter Suma and Roman Yampolskiy — for sharing their insights of the potential and limitations of artificial intelligence with us.

We would also like to thank the many BSIA faculty, mentors and staff who worked with the students throughout the year. The Graduate Fellowship Program is very much a "whole-of-school" project, and it could not happen without their dedication and commitment to the success of the program.

Last but not least, we would like to thank our graduate students for all of their hard work, dedication and commitment to making the world a better place.

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Asia-Pacific, Progressive Trade and Global Financial Imbalance

Canada-China Relations in the Age of Xi Jinping

Justin Dell, Paul Ruhamya, Alex Suen and Mohit Verma

Issue

How can Canada best approach diplomacy with China in the age of Xi Jinping?

Background

Politics

With the elevation of Xi Jinping to power, China is taking a more assertive stand on the global stage. While it may be too simplistic to speak of Chinese foreign policy as a monolithic entity, it seems clear that the rise of Xi Jinping will have wide-ranging implications for China's diplomatic posture. In 2012, Xi assumed the mantle of General Secretary of the Chinese Communist Party (CCP) at its 18th Congress, and later enshrined "Xi Jinping Thought" into the party constitution at the 19th Congress in autumn 2017 (Martina and Wen 2017). Furthermore, he has assumed the role of Chairman of the Central Military Commission — a marked concentration of power. Moreover, constitutional amendments passed by the National People's Congress in early 2018 removed Xi's presidential term limits, potentially allowing him to lead indefinitely (Bader 2018). As a consequence, he is expected to profoundly shape Chinese foreign and domestic policy.

A window into Xi's worldview can be found in a compendium of his speeches to the 18th CCP Congress, *The Governance of China*. The salient theme of Xi's writings is "national rejuvenation," China's re-emergence from the "Century of Humiliation," i.e., from the Opium Wars in the mid-19th century to the end of the Chinese Civil War in 1949 (Xi 2014). Xi appears to be spearheading a retrenchment of Marxist-Leninist orthodoxy in Chinese national life, alloyed by the pragmatic notion of "Socialism with Chinese characteristics" introduced by Deng Xiaoping. However, it is important not to overstate the impact of Xi's ascendancy on the continuity of China's foreign policy objectives. Chinese foreign policy is executed through a complex web of overlapping bodies, organizations and institutions (Shambaugh 2013). This makes it difficult to trace decision-making processes and predict future behaviour.

China is also seeking greater recognition as a global power. For example, it is attempting to lead the Paris Agreement on climate change. The withdrawal of the United States from this multilateral effort may result in Chinese efforts to supplant the US in certain international roles. However, at the same time, Beijing is clamping down on domestic feminist organizations and individuals promoting human rights. One incident in 2017 involved Guangzhou police searching the offices of a feminist organization that printed anti-harassment T-shirts (Fu 2017). These polices could potentially run at odds with Canada's core values and foreign policy objectives.

Trade and Investment

While there has been some alarm expressed regarding Chinese purchases of Canadian firms, these figures need to be placed in the global context. China has invested US$52 billion in foreign direct investment (FDI) in Canada over the past 20 years, however this does not place Canada within the top 10 recipient countries of Chinese FDI. The largest recipients are mostly China's neighbours. Moreover, China's economic interests in Canada are concentrated in the energy sector, which accounts for 78 percent of all Chinese investment in Canada (China Institute 2018). China's core strategic interest is self-sufficiency, and this includes the securing of energy resources (Shambaugh 2013). The Chinese government is expected to continue pursuing opportunities in the Canadian oil sector. However, this interest should not be considered a *fait accompli* for actual investment. The controversy over the Kinder Morgan pipeline continues to simmer, and Canada's climate goals may be incompatible with courting FDI in the oil sands (McCarthy 2018).

Overall, Chinese FDI is increasing at a rapid rate, but still forms a small percentage of inward FDI in Canada. The US proportion is still far greater, amounting to US$361 billion versus China's US$25 billion in 2014 (Statistics Canada 2015). The proximity of the US economy will continue to be the most important source of investment in relative and absolute terms for Canada.

However, China's trade is undeniably important for Canada. Due to mounting US protectionism, various trading partners have reacted by retaliating. There is a possibility that the United States may pressure Canada to withdraw from free trade negotiations with China. Canada has also received criticism for its decision to go ahead with the sale of Norsat to a Chinese firm, Hytera Communications (Fife and Chase 2017). None of the provinces are opposed to trade with China, and, indeed, some have independently explored the possibility of their own trade deals (Office of the Premier 2017). Furthermore, there is a risk for Canada now that it is signatory to the United States-Mexico-Canada Agreement (USMCA), article 32.10 of which restricts any member from entering into negotiations with a "non-market economy" (Massot 2018). According to some interpretations, in the event of Canadian trade talks with China, the United States could seize upon this clause to accuse Canada of breaching the agreement, forcing its punitive exclusion from the trilateral deal.

Military and Security

While Chinese military expenditures have recently increased, China's defence budget is still one-third the size of that of the United States. Moreover, despite having the world's largest land army, China lags behind the US in force projection and naval power (Acharya 2014). Unlike the US, which has two peaceful neighbours, China is ringed by 14 countries on land, along with several marine neighbours, putting it in a precarious geographic position. Many of these countries, such as Japan and South Korea, are stalwart allies of the United States. Overall, China finds itself in an unenviable strategic position, being described as a "partial power" rather than a full superpower (Shambaugh 2013).

Given this deficiency in "hard power," China compensates by exercising "soft power" to pursue its national interests. This can especially be seen in the form of generous foreign aid, which rivals the expenditures made by the US. However, China's diplomatic strength remains constrained by the lack of an integral role in multilateral institutions, which were largely formed, and are still dominated, by Western powers. The Chinese leadership views multilateralism as a tool to achieve specific goals of national interest, rather than participating in a system of impartial global governance (Shambaugh 2013).

One aspect of China's power projection lies in neither hard nor soft power, but what political scientist Joseph Nye calls "sharp power," including cyberwarfare, industrial espionage and intelligence operations intended to interfere with the political outcomes of foreign democracies (Nye 2018). Recently, Russia has been accused of exercising such power to influence the US election. However, given China's insecure position when it comes to both hard and soft power, it is unlikely that China will want to press on Western countries using the same tactics that Russia has been accused of using. Avoiding confrontation with the West is one of the key aims of China's military policy, even while simmering tensions in the Korean peninsula could erupt into a full-blown crisis in the East.

With regards to Chinese procurement of Canadian military technology, the recent purchase of Norsat has resulted in criticism from the United States (Fife and Chase 2017). Since similar technology was also sold to Chinese Taipei in 2017, greater governmental scrutiny over such deals may be warranted (Agence France-Presse 2017). This also applies to other areas of technology of a militarily sensitive nature such as artificial intelligence (AI), an industry in which Canada

has a leading edge (Teja 2018). It is probable that China will desire to appropriate Canadian AI technology for the purposes of domestic surveillance and the suppression of human rights.

Conclusion and Next Steps

While China is indisputably a rising power with mounting influence on global political and economic spheres, the levers of power are still firmly in the hands of Western countries. Canada should remain engaged in constructive bilateral and multilateral relations with China. However, the sale of sensitive military technologies, as in the case of Norsat, must be given greater scrutiny, as such moves can create unnecessary tensions between Canada and its NATO partners.

China is assuming a more forward posture under Xi Jinping under which it has become increasingly wealthy and powerful, shaking off the legacy of the "century of humiliation." As well, with American foreign policy on uncertain footing since the election of US President Donald Trump, Canada should diversify its interests while maintaining its core values and renewed commitment towards multilateralism. We further recommend that Global Affairs Canada develop improved capabilities to better serve Canadian interests. Expert advice from senior diplomats and skilled foreign policy analysts can contribute greatly towards navigating the new era of Chinese-Canadian relations. We recommend that a permanent interagency advisory group on Chinese-Canadian relations be established, utilizing a whole-of-government approach. Top China experts from Global Affairs Canada, Public Safety Canada, and the Department of National Defence should be recruited for this body. We further recommend the creation of a scholar-in-residence position that can advise the Canadian government with outside knowledge and expertise of the academic world.

Without taking a more proactive approach to diplomacy with China, Canada could run the risk of being trapped between two economic juggernauts: the first- and second-largest economies in the world, China and the United States. Furthermore, China and the US have competing security interests in the Asia-Pacific region, which could put Canada in a difficult position. Leveraging existing governmental expertise on China, as well as incorporating outside expertise, will be advantageous in navigating the next era of foreign policy for the Government of Canada.

Recommendations

- Meet with friends and allies in summit on trade, with the objective of forging a coordinated trade and investment policy in sensitive industries, including AI.

- Create a permanent inter-ministerial panel on Chinese affairs, including experts from Global Affairs Canada, Department of National Defence, and Public Service Commission.

- Create a scholar-in-residence position to serve as a liaison between the China panel and the government-in-power.

- Engage with international non-governmental organizations and Canadian NGOs on creating an action plan for a progressive trade agenda that encompasses labour protections, sustainability, and feminist policy.

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Canada's Progressive Trade Agenda and Global Health

Merran Eby, Kelsey Goodman and Stefan Hadad

Issue

Canada's progressive trade agenda champions Canadian values, including gender equality and environmental protection; however, the adoption of more stringent intellectual property (IP) rights in Canadian trade agreements has threatened domestic and global health.

Background

Canada's progressive trade agenda promotes "Canadian values," such as gender equality, environmental protection and Aboriginal rights. It is intended to counter growing resistance, both domestic and international, to free trade agreements. That being said, one crucial element is still lacking. This brief recommends a new dimension that is fundamental to a progressive trade agenda, and that could also be relatively easy to implement: promoting the value of the right to health. Canada's recent trade agreements have had a negative impact on health and restrict access to the latest advances in medicines, diagnostic tools and other life-saving medical technologies. These developments are hindering Canada's ability to fulfill its human rights obligation to provide access to essential medicines as part of the right to health.

Canada's most recent plurilateral trade agreements — the Canada-European Union Trade Agreement (CETA), Trans-Pacific Partnership (TPP) and the ongoing North American Free Trade Agreement (NAFTA) negotiations — have seen the attempt to incorporate provisions of stricter IP that arguably pose a threat to both the Canadian health care system and the accessibility of medicines in lower- and middle-income countries. Canada's capitulation to pressure from these trading partners poses a danger to the future of global health. Canada should shift gears towards leveraging the flexibilities built into World Trade Organization (WTO) rules on IP, instead of imposing enhanced protection of IP within its trade agenda.

The Evolution of Rules on IP Rights

Intellectual property provisions have featured prominently in trade agreements since the mid-1980s. In 1994, the WTO Uruguay Round saw the finalization of the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), thanks in part to concerted lobbying by the business network, which was alarmed by the extent to which new technologies were facilitating the appropriation of IPR (Sell and Prakash 2004). There was immediate backlash to TRIPS in civil society, where it was strongly criticized as generating clear gains for the developed world and its pharmaceutical industries to the detriment of global health, particularly in lower- and middle-income countries. The bulk of the criticism stemmed from the challenges of the HIV/AIDS crisis and the high prices of antiretroviral medicines. One notable example would be the price of certain antiretroviral drugs, where in one case, the patented version cost a full USD$30,000 per year, while an equivalent generic drug cost a mere $140 (Kerry and Lee 2007). Backlash against TRIPS led to the Doha Declaration of 2001, wherein the WTO reaffirmed guidelines for countries to employ certain flexibilities within the TRIPS agreement in

order to overcome patent barriers and promote access to medicines. The Doha Declaration was a significant sign of support for countries that were struggling to provide access to important medicine while still complying with WTO regulations.

From 2001 to 2016, there were 176 instances of the use of TRIPS flexibilities in cases of public health ('t Hoen et al. 2018). The most frequently used measures were compulsory licensing, public non-commercial use licensing and the least-developed countries pharmaceutical transition measure, a component of the TRIPS agreement that eliminated the obligation to enforce medicine patents and data protection in countries classified by the United Nations as least developed.

The most recent developments in IP have seen the United States and the European Union fighting for greater IP provisions in their bilateral and plurilateral trade agreements beyond what is required by TRIPS. These have been dubbed TRIPS Plus provisions. Canada is already committed to sufficient IP rights in its trade agreements, and instilling greater measures would cause more harm than good.

The Economic Debate surrounding TRIPS and Law: Have We Gone too Far?

In the ongoing debate on the benefits of IP protection versus the costs of barriers to the dissemination of knowledge, the general consensus among economists is that the current balance is tilted too far towards protective measures to the overall detriment of public well-being, and that proponents of enhanced IP protection paint a too-simplistic view of what is in truth a far more complicated issue (Dosi and Stiglitz 2013; Blit 2017).

The basic argument made by supporters of strong IP is one of market failure, in which the free availability of created knowledge leads to lowered incentives to invest in research and development (as everyone "free rides"), and by consequence leads to underproduction and underinvestment. By allowing creators to profit from their work through rents, the argument continues, IP rights provide an incentive to innovate. The problem with this argument, however, is that IP rights differ in one significant way from other types of property right: that is, knowledge is a non-rival resource, the value of which never diminishes in proportion to the number of people making use of it. The challenge of this issue is that the private

sector often tends to be the source of innovation for a product that is considered to be a public good.

When it comes to innovation, the greatest resource available is access to existing knowledge upon which to build. Every gain is based on what has been learned before; enhanced IP protection may stifle the sharing of research. Such knowledge as is produced and consequently patented by the private sector is kept out of the pool freely available to most researchers, in what has been called by some economists the tragedy of the anti-commons. This "fencing off" of access is an inefficient use of knowledge that could have otherwise contributed to the development of follow-on innovations by others. Furthermore, a strict IP regime creates monopolies on knowledge — by disincentivizing further innovation both for the firms holding the monopolies and for the smaller firms who know they will be outcompeted if they try — and by presenting a needless complication to technological advancement — as knowledge is divided and subdivided into many smaller separate claims, making the process of recombining them for further research an arduous one. The process of avoiding or searching out patent infringements has become its own industry, and sometimes researchers are given no choice but to spend their time finding ways to work around existing patents instead of using what has already been discovered.

Do Patents Lead to Greater Innovation?

Although there is no clear consensus on the question, the balance of studies suggests that there is not a direct causal relationship between enhanced IP protection and increased innovation. Proponents of strong IP rights maintain that the upsurge in patents filed in recent decades is the result of greater protective measures. On the other hand, it could be explained equally by the general uptick in new opportunities for technology, such as in the burgeoning fields of IT and biotechnology. The following section presents responses related to innovation from the Canadian Generic Pharmaceutical Association (CGPA) and Innovation Medicines Canada (IMC) to Bill C-30: "An Act to implement the Comprehensive Economic and Trade Agreement between Canada and the European Union and its Member States and to provide for certain other measures."

The CGPA compiled a report analysing Bill C-30 that would see CETA implemented into law. Before CETA negotiations, Canada already had very strong levels of IP

protection, exceeding levels seen in the US. The biggest and most controversial change came from a new form of intellectual property protection called certificates of supplementary protection (CSP), which would see protection extended for an additional two years (CGPA 2016). The CGPA predicts that this additional level of protection will cost Canadian taxpayers upwards of $200 million annually (ibid.). An important note made in the report is that Bill C-30 will still allow generic manufacturers the ability to export during this additional period of protection. This will be vital in attracting and competing in new and existing markets going forward.

IMC is the association that represents Canada's brand-name pharmaceutical companies. Overall, IMC has been highly supportive of CETA and its regime of enhanced IP protection (IMC 2018). In particular, IMC has outlined the importance of patent term restoration, offering an additional two years of monopoly and the right of appeal that sees companies more easily able to appeal decisions where patents have been ruled to be invalid (Douglas 2016).

The claims made that higher protections for IP lead to job growth and investment, and through these concepts new innovations, is unsubstantiated. The lack of investment is seen in Canadian brand-name pharmaceutical companies who pledged to the government to invest 10 percent of all revenue in R&D in exchange for substantive legislation in 1987 (Lexchin and Gagnon 2014). However, the 2016 annual report conducted by the Patented Medicine Prices Review Board showed that the R&D-to-sales ratio had fallen to 4.9 percent, marking the fourteenth consecutive year that companies had failed to live up this commitment (Levine 2017).

While enhanced IP protection has been producing gains for companies based in the industrialized world, it has imposed costs on Canadian taxpayers and created losses for the Global South, all while stifling innovation.

IP Law and Development

Developed and developing countries are separated by a gap in the knowledge to which they have access. A poorly designed IP regime may present a major barrier to addressing this gap, and by extension to the development of emerging economies. Limiting the access of lower-income countries to life-saving medicines, for example, is not only endangering the right to life of their citizens,

but also hampering knowledge that could have be used to contribute to their development, and even their capacity to build on that shared knowledge for further future innovations.

The strengthening of IP law in America has been followed by a drop in the rate of innovations by pharmaceutical companies. Part of this is that, as for-profit actors, the private sector is concerned not only with the genuine creation of new products, but also with marketing those products, asserting against infringements, finding similar products on which to capitalize ("me-too drugs") and the like — all of which divert resources away from innovation towards rent-seeking and weaken the overall social return. These concerns exert a considerable influence on the sorts of research and development projects that receive funding as well: in 2010, for example, the amount of money put towards finding a cure for male-pattern baldness was double that spent on HIV/AIDS research, and quadruple that spent on malaria. Given that most major pharmaceutical companies are located in the developed world, it seems unlikely that the social value of certain forms of medication — that, while they affect many times more people in the developing world, offer fewer potential returns on investment — will always be taken into consideration before deciding what research on which to expend resources.

While the TRIPS agreement contains crucial flexibilities to ensure access to medicines, many countries have failed to take advantage. This is often attributed to a lack of technical expertise and institutional capacity (Matthews 2005). Research has indicated that developed countries could play a greater role by implementing policies that promote technology transfers and strategic R&D spending. Therefore, the provisions allowing for the access to medicines among developing nations would be fully utilized (Hopkins 2006).

The Impact of Increased IP on Developing Countries

Millions of people across the world lack access to pharmaceuticals, and as a result many die every year from curable or treatable diseases like tuberculosis and AIDS. Additionally, non-communicable diseases are on the rise in all parts of the world, hitting hardest in the Global South. These trends pose grave threats to public health and have increased the need for pharmaceuticals to prevent and manage illness.

A strong IP regime such as that encompassed by TRIPS and TRIPS Plus — while it may be of benefit to private companies seeking to maximize the rents they receive — threatens to ignore or impede the most successful ways in which knowledge transfer enables the development of emerging economies. It is, moreover, a barrier to development that is being enforced by countries which themselves used those very same methods (such as reverse engineering, imitation and open source knowledge) to industrialize in their own right before IP law gained traction. Indeed, the US itself openly considered compulsory licensing in 2001 to reduce the price of a drug used to treat anthrax (Sell and Prakash 2004). By demanding high rents from developing countries for patented medications — some by a mark-up of up to 400 percent since TRIPS was introduced — we arrive at a situation where "to decrease the gap in knowledge, developing countries are being asked to increase the gap in resources…without evidence that these higher prices have led either to more drug innovation in general, let alone more innovation attempting to address the needs of those in developing countries" (Dosi and Stiglitz 2013).

The Impact of Increased IP Protection in Canada

At over $700 per person per year (USD purchasing power parity), Canada spends more per capita on pharmaceuticals than any other country in the world except the United States. CETA is estimated to exacerbate this problem, increasing drug costs from 6.2 percent to 12.9 percent starting in 2023 (Lexchin and Gagnon 2014). There are concerns that the future impact of CETA threatens the viability of the single-payer health care system, restricts the availability of affordable medicines that the provinces can offer, and shifts the burden of cost to everyday Canadians. Additionally, adopting higher IP provisions may negatively impact Canada's generic pharmaceutical industry, which exports generic medicines to over 115 different countries (CGPA 2016).

Scott Smith, the director of intellectual property and innovation policy at the Canadian Chamber of Commerce, is in favour of strengthening IP within CETA, claiming that the treaties have improved the IP regime: "With the CETA agreement, we're going to be improving some of our patent terms on the pharmaceutical side. There are some positives there" (INDU-66, June 8, 2017). The patent developments are considered beneficial for promoting innovation within Canada's technology sector.

Other parliamentary witnesses have expressed skepticism. Dr. Michael Geist, Canada Research Chair in Internet and E-commerce Law, was especially critical of CETA's innovation argument. He testified that Canada has become the "target of intense lobbying campaigns from large trading partners who see their national interests, and in a sense, try to take their rules and off-load them into Canada." (INDU-64, June 1, 2017). Additionally, the Canadian Federation of Nurses Unions (CFNU) submitted a response to the House of Commons Committee on International Trade. In the report, the group details that CETA will have damaging effects, and argues for public health to be exempted from future trade agreements (CFNU n.d.). The Federation argues that expansion of patent protection will see increased drug costs and could threaten policy sovereignty and public health.

The IP chapter in the first iteration of the CPTPP (the TPP) is another case in point. The chapter was particularly restricting to access to the latest advances in medicine and medical technologies. This version of the agreement drew criticism from global health agencies and advocacy groups. Further negotiation saw Canada suspend 11 of the original provisions, a move which indicates that Canadian government, in pursuing its progressive trade agenda recognizes the importance of protecting access to medicines.

Conclusion

The goal of Canada's progressive trade agenda should be to ensure that we "do no harm," meaning that the trade deals that Canada negotiates and commits itself to should not negatively impact on its partners. Canada should not commit itself to increased IP protections without a complete assessment of their impact on development, as employing more stringent IP laws would undoubtedly harm the world's most vulnerable peoples. Canada has threatened to compromise the viability of its own health care system, committing to terms of protection that will have significant impacts on health care costs and do not serve the national interest. As part of trade negotiations, Canada will be pressured to give way to enhanced IP protection in order to secure other interests. However, Canada should give priority to our recommendation if it is sincere in its promotion of progressive trade.

Global Affairs Canada currently spends roughly $625 million on health-based aid per year. This money should

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be directed to increasing the capacity of and providing technical assistance to our lower- and middle-income trading partners, for instance, through information-sharing, skills training or consulting services. Countries in the Global South often lack the institutional capacity and technical expertise to translate TRIPS flexibilities into policy and legislation. In line with the aims of the Sustainable Development Goals, Canada should focus its foreign aid strategy on building the capacity of these states so that they are better positioned to leverage the flexibilities within the TRIPS agreement.

The idealistic provisions of the progressive trade agenda venture into territory that may be interpreted as challenging the sovereignty of Canada's trading partners. Additionally, elements within the agenda are proving to be challenging in terms of enforcement. To collect pledges from our trading partners on gender equality standards and environmental protections sounds good on paper; what complicates the achievement of this objective, however, is how to hold these partners accountable. Instead, a focus on health accessibility would be seen as a universal and palatable goal, through resisting pressure to implement higher intellectual property rights and ensuring that TRIPS flexibilities are able to be fully utilized. As Canada continues to pursue the goals of the progressive trade agenda, the recommendations below are intended not only to benefit everyday Canadians, but also to uphold Canada's place as a recognized and valued leader in the field of global health.

Recommendations

- Incorporate IP considerations into the progressive trade agenda.

- Focus on capacity-building and technical assistance for lower- and middle- income countries so they are better able to leverage TRIPS flexibilities.

- Do not implement further barriers within Canada's trade agenda that prevent the production of generic drugs, thereby hindering the accessibility and affordability of medicine.

- Do not sign onto any agreements that enforce TRIPS Plus-level IP provisions with respect to pharmaceuticals.

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Financial Stability and Global Macroeconomic Cooperation

Financial Stability and Global Macroeconomic Cooperation: Canada's Role Amid the Removal of Monetary Policy Accommodation by Leading Central Banks

Melsen Babe

Issue

The withdrawal of current or expected monetary policy accommodation by large, systemically important economies has the potential to create adverse global spillovers in the form of financial risks. The trade-off between asserting sovereignty over matters of domestic policy making and the benefits accrued from international cooperation lie at the forefront of the risks Canada faces, as well as the opportunities that are presented against this backdrop.

Background

The response to the 2007-2008 Global Financial Crisis has relied disproportionately on monetary policy accommodation in the large, systemically important economies — the United States, the euro zone, Japan and the United Kingdom — with China, where significant fiscal stimulus has been implemented, being the only exception. The setting of interest rates at the zero lower bound and even in negative territory in the euro area — and, more recently, Japan — as well as quantitative easing, have been employed by monetary authorities of the major central banks in an effort to spur growth. Renewed confidence in the strength of the global economy, coupled with a recent uptick in inflation expectations are prompting central bankers to wind down monetary policy accommodation.

The Concerted, Global Withdrawal of Monetary Policy Accommodation

The US Federal Reserve has embarked on an interest rate hiking cycle and is currently in the process of reducing its USD\$4.5 trillion balance sheet by incrementally ceasing the reinvestment of principal on the maturing bonds that it holds. The European Central Bank's (ECB) Governing Council has markedly curtailed purchases under the extended Asset Purchase Programme. Moreover, the council has hinted that a review of the language pertaining to its policy stance and forward guidance may be warranted, which constitutes a notable deviation from the long-held position of maintaining interest rates "at their present levels for an extended period of time, and well past the horizon of the net asset purchases" (ECB 2018).

Similarly, the Bank of Japan (BoJ) and the Bank of England (BoE) are also planning to participate in this global movement of monetary stimulus withdrawal. The BoJ, which has focused on yield curve control with an explicit zero percent target for 10-year Japanese government bonds since the second half of 2016 (BoJ 2017), has trimmed the amount of its purchases of longer-dated JGBs (Reuters 2018), which could potentially signal a willingness to raise the entire yield curve. Adding credence to this theory, is Governor Kuroda's (2017) mentioning of the restriction imposed by the "reversal

rate" on maintaining persistently low interest rates (Brunnermeier and Koby 2018). For its part, the BoE raised its bank rate in November 2017 for the first time in a decade, while its asset purchases remain fully tapered (BoE 2017).

Further, financial risks emanating from elevated leverage in virtually every sector — state, banking, corporate, and consumer debt (Study Group of China Finance Forum 2017) — are compelling Chinese officials to place particular emphasis on deleveraging. Although the People's Bank of China has yet to reduce the assets it holds on its balance sheet (Yardeni Research Inc. 2018), Chinese monetary authorities are tightening their monetary stance by hiking interest rates, although only marginally so as to prevent a liquidity crisis, in addition to increasing reserve requirements (Bloomberg 2017). Apart from deleveraging in order to fend off financial fragility risks, China's recent removal of accommodation is also driven by the tightening of monetary conditions by the Fed. Indeed, a tighter stance by the Fed possesses adverse spillover effects on emerging market economies that do not follow suit due to an arbitrage in rates and ensuing capital outflows, as demonstrated by the taper tantrums of 2013 and 2014 (Rajan 2014; Miyajima et al. 2014).

Figure 1: Liquidity Injections by Leading Central Banks
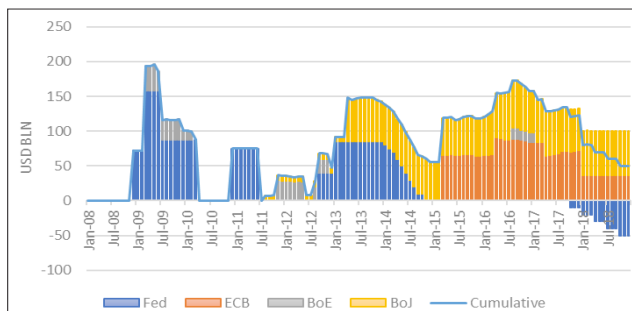
Note: The injections are anticipated to decrease dramatically over the next few months.

Source: Author, using data retrieved from the Fed, ECB, BoE and BoJ websites in 2018.

Implications for Canada

While a lower-for-longer conventional and unconventional approach may possess adverse consequences — such as distorting the pricing mechanism of financial markets and leaving central banks with little room to manouever during the next downturn — the tightening cycle major central banks have embarked upon poses risks for Canada and the global financial community if commensurate measures are not taken to mitigate its effects. Adverse spillovers stemming from primarily the Fed's — and other leading central banks secondarily — tightening cycles affect small open economies such as Canada. To begin with, US short- and long-term interest rates not only impact corresponding rates in other emerging market and small open economies, but also policy rates, under both fixed and floating exchange rate regimes (Hofmann and Takáts 2015).

Furthermore, the cross-border spillover of liquidity conditions can amplify domestic imbalances to the point of instability. As a result, "the IMFS [International Monetary and Financial System] as we know it today not only does not constrain the build-up of financial imbalances, it also does not make it easy for national authorities to see these imbalances coming" (Caruana 2015). This phenomenon hinders the conduct of monetary policy in Canada. Most central banks target domestic inflation and let their currencies float or follow policies consistent with managed or fixed exchange rates in line with domestic policy goals, thereby interpreting their mandate exclusively in domestic terms.

Global liquidity conditions can spill over via four channels: through the conduct of monetary policy as easy monetary conditions spill over to the rest of the world in an attempt to resist currency appreciation and maintain competitiveness; through the international use of currencies, especially given the broad use of the USD and the Euro; through the integration of financial markets, which allows global common factors to move bond and equity prices, as well as uncertainty and risk aversion (as reflected in indicators such as the Volatility Index - VIX) to affect asset markets and credit flows everywhere; and the availability of cross-border capital flows, regardless of currency, which provide a source of funding that can amplify domestic credit booms and busts. Consequently, monetary and financial regimes reinforce each other through these channels by creating an easing bias in times

of monetary accommodation and by amplifying financial tightening when accommodation is withdrawn by major central banks, respectively (Caruana 2015).

Risk 1: Spillovers due to the withdrawal of accommodation by leading central banks may amplify the tightening of financial conditions in Canada.

When the major central banks lowered their policy rates to the zero lower bound, the Bank of Canada (BoC) acted in a similar fashion, guided by concerns over economic weakness and by the impetus to resist CAD appreciation, which would lead to a loss of competitiveness. When the BoC raised its policy rate in 2011 (while major central banks were easing) in response to a temporary uptick in inflation, the CAD appreciated markedly. In other words, the unconventional monetary policies utilized by the major central banks have heavily influenced liquidity and financial conditions in Canada. Characteristically, when major central banks engaged in domestic bond-buying sovereign debt programs, demand for similar alternatives boosted purchases of Canadian sovereign debt, thereby driving down Canadian long-term bond yields.

Likewise, tighter monetary conditions as a by-product of the withdrawal of monetary accommodation will also be imported in Canada via global financial markets. Specifically, the integration of financial markets possesses the potential to make matters worse, given the current historically low pricing of volatility, as reflected by the VIX. A sharp reversal of volatility to the upside could quickly trigger margin calls and further restrain liquidity in an environment already characterized by a withdrawal of accommodation, as was witnessed briefly in February 2018.

Risk 2: The BoC's independence is at risk from the influence of leading central banks' monetary policies.

The global spillovers emanating form monetary policies enacted by major central banks threaten the ability of small open economy central banks, like the BoC, to pursue independent monetary policy setting. Robert Mundell's "impossible trinity" dictates the open macroeconomic policy choice. Trilemma policy arrangements affect the sensitivity of peripheral countries to policy changes in the centre economies, consisting of the United States, Japan, the euro area, and China (Aizenman, Chinn and Ito 2016). Moreover, the type of exchange rate regime

a country implements affects the extent of sensitivity to changes in policies or financial conditions in the centre economies. The latter observation is especially important in the Canadian context given Canada's floating exchange rate regime, because the extent of pass-through from foreign interest rates to domestic interest rates is higher under floating exchange rate regimes than pegging regimes (Cerra and Saxena 2008).

Additionally, the performance of the BoC has implications for Canada's stature in the global arena. While the central bank conducts policy autonomously and independently *of* government, it is not independent *from* government. As such, the BoC's actions will continue to impact Canada's influence in international macroeconomic policy making. Further, the central bank governor plays an important supporting role in international fora such as the G20 and the International Monetary Fund (IMF).

Risk 3: The negative effects of tighter financial conditions on the Canadian housing market and the Canadian economy at large.

Extremely low interest rates, derived from global financial markets, have led to a credit boom and the buildup of excessive leverage in Canada. In turn, this credit boom has been reflected in heavy borrowing by Canadian consumers and, subsequently, in the housing market. Although the ability of Canadian consumers to continue to accumulate debt softened the blow of the 2007-2008 slump on the Canadian economy, domestic policy makers and international bodies are now explicitly expressing concern over Canadian household debt and the melt-up in the Canadian housing market (Bank for International Settlements [BIS] 2017; Schembri 2016). Notably, Governor Poloz (2017) has highlighted the financial stability risks associated with elevated housing prices and record household debt levels as a pressing matter of immediate concern to the BoC, while the BIS and the IMF have singled out housing as one sector where risks are highest, especially for Canada.

A rise in interest rates is already translating into higher mortgage payments, which is problematic because of stretched household debt levels. In addition to the negative consequences such a trend would entail for the affordability of debt service payments, an abrupt tightening of monetary conditions would also adversely impact the Canadian economy. Real estate related economic activity, the largest single contributing category, accounted for

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approximately 13 percent of the total Canadian GDP as of October 2017 (Statistics Canada 2018). Underlying the real estate sector's high level of contribution is the recent slump in commodity prices, particularly crude oil prices.

Risk 4: Interest rate increases possess negative implications for investment.

Interest rate hikes create a negative environment for investment due to two main reasons. First, and most explicitly, tighter financial conditions raise borrowing costs for businesses. Coupled with the appreciating effects on the Canadian dollar, higher interest rates discourage investment and consumption, thereby lowering spending, output, and employment. In turn, these conditions translate to lower wage growth and investment. The scenario sketched above is precisely one that unfolded in Canada during the 1990s, as a direct result of the contractionary policies of the late 1980s. In an effort to control the inflationary pressures during the late 1980s, the BoC tightened monetary conditions in the latter half of the decade and introduced inflation targets in 1991. However, the economy reacted more swiftly than had been predicted, and the 1990-1991 downturn was deeper than anticipated, as inflation came down faster than planned (Fortin 2001).

Further, the removal of monetary policy accommodation represents a reversal of the greatest monetary experiment to date. As such, uncertainty exists over the degree of success of this reversal while avoiding negative unintended consequences for the global economy and financial stability. Although Fed officials have communicated on numerous occasions that they expect the removal of policy accommodation to be quite uneventful, concerns over its materialization endure. Uncertainty undermines investment, as businesses become risk averse and choose a more conservative allocation of their capital. A failure to successfully uphold NAFTA would further exacerbate the latter problem, as cross-border investment across North America would be hampered.

Prospects for Cooperation: Why should Partners Care?

The standard argument in favour of macroeconomic cooperation is that cooperation is beneficial because of economic interdependence. Depending on relative size and the degree of openness, a development in any one

country may be transmitted rapidly to other countries. Significant international economic interdependence can therefore lead to spillover effects, which, for countries lacking effective policy levers to counteract them, leaves cooperation as the only alternative (Frankel 2016). Current account transactions of goods and services and capital account transactions of assets can serve as channels for the transmission of economic fluctuations across countries (Choudri and Kochin 1980; Cantor and Mark 1987; Cole and Obstfeld 1991). The prevailing rationale for macroeconomic cooperation then is that it is best seen as a facilitating mechanism for internalizing, or mitigating, these spillover effects. This rationale gains particular saliency in an environment where open capital accounts occupy a central role and are combined with the existence of asymmetries in the exchange-rate regime in systemically important economies (Lane and Milesi-Ferretti 2014). This is precisely the role that multilateral institutions such as the G7 and the G20 are supposed to facilitate, and the central role for which they were created within the rules-based international order.

Integrating the links between financial stability and monetary policy has been the source of widespread discussion within international economic and financial fora, especially after the Global Financial Crisis. For instance, former General Manager of the BIS, Jaime Caruana (2015), has highlighted the need to find a framework that can satisfactorily integrate the links between financial stability and monetary policy. The development and adoption of such a framework underlies an overarching consideration, namely the trade-off between sovereignty and international coordination. In this vein, the recommendations below fall within both the international and domestic domains and position Canada uniquely among its global partners.

Recommendations

Canada should make a renewed push — at minimum — for macroeconomic cooperation at the G20 Buenos Aires Summit to take place in late 2018.

It is in this environment that Canada can step up and guide efforts pertaining to macroeconomic cooperation. While some may argue that Canada, as a middle power, faces limitations in driving forward change within the scope of multilateral institutions such as the G7 and G20,

considerable room exists for Canada to continue to make a significant contribution on this front. Canada possesses substantial political capital and stature embedded in multilateral financial institutions due to the roles played by then-Finance Minister Paul Martin (along with then-US Treasury Secretary, Larry Summers) in creating the G20 and broadening its scope, as well as due to Mark Carney's role as chairman of the Financial Stability Board.

Moreover, Canada's proven record in emerging from the financial crisis relatively unscathed compared to a large number of G20 partners places Canada in a unique position to achieve this objective. As a result, Canadian policy makers are seen as credible on matters pertaining to macroeconomic policy and financial stability, and Canada punches above its weight internationally in this respect.

Still, there are those who argue that short of an economic or financial crisis, such discussions are relegated to a marginal capacity within the G7 and G20. On the contrary, placing this issue at front and centre is consistent with a turn to crisis prevention after the crisis, which is also reflected in the push for macroprudential regulation, and doing so would not break from convention. For instance, French President Macron has suggested that cryptocurrency regulation should be widely discussed at the upcoming G20 summit and his push was successful, as the regulation of cryptocurrencies has entered the agenda of this year's G20 summit. While cryptocurrencies have formed a buzz in the financial community due to their novelty, by comparison, the issue under discussion is more salient and possesses more far-reaching implications for the international monetary system.

Addressing this vital global issue falls well within the purview of priorities set by Global Affairs Canada in the latest two Departmental Plans, namely strengthening the rules-based international order, and reinforcing Canada's relations with the US and other key partners to advance Canadian interests (GAC 2017; 2018). In line with this recommendation, Canada should advocate that G20 partners:

- pledge to refrain from competitive currency devaluations; and

- implement fiscal strategies that are conducive to growth while enhancing resilience and ensuring debt as a share of GDP is on a sustainable path.

The BoC should resist keeping pace with major central banks in its tightening cycle in favour of an even more gradual approach.

The data-dependent BoC should not react too keenly to recent favourable economic data by raising interest rates prematurely. Instead, it should signal a preference to let inflation run above its two percent target, within its three percent upper bound, especially since inflation has been undershooting. Sustaining a slightly more accommodative policy amid a global tightening cycle would cushion the Canadian economy from the spillover effects of major central banks.

Two main risks could arise from this choice. First, an easier stance would weaken the CAD vis-à-vis the USD. However, some weakening of the currency may be warranted, as according to the 2017 IMF Article IV consultation, the CAD is overvalued by about two to 10 percent relative to medium-term fundamentals and desirable policies.

Additionally, adopting a lower-for-longer approach could restrict the BoC's room to act during the next economic shock. This concern can be overcome by the precedent that has already been set by major central banks in the form of unconventional monetary policies, namely implementing negative rates and engaging in asset purchases. The BoC's own research shows that it, too, could lower its policy rate below zero if necessary.

The implementation of this recommendation may aid in combating some of the adverse effects identified in my analysis of implications for Canada stemming from the withdrawal of current or expected monetary policy accommodation, especially that of reduced investment. Maintaining a looser stance would also signal that Canadian monetary authorities have learned from the challenges their peers face or have faced in the past: some Fed officials are deliberating whether the central bank is tightening too soon; the ECB did not ease soon enough at the outset of the crisis; and the BoJ never eased aggressively enough.

While the first two recommendations may seem contradictory with one another, that is not the case. To start with, Canada is not a systemically important economy in terms of the country's monetary policy possessing spillover effects for other countries. Furthermore, Canada's floating exchange rate means that

policy makers are not manipulating the CAD; indeed, market forces are responsible for its fluctuations. Lastly, historically, Canadian monetary policy has been cautious.

The Canadian federal government should stand ready to provide fiscal stimulus at the outset of the next downturn.

Central banks cannot effectively fight recessions by being the "only game in town" (El-Erian 2016). Given that extended leverage has prevented a contraction akin to that experienced by other advanced economies during the financial crisis, Canada might enter a recession with little room for monetary stimulus to be applied, especially if the second recommendation is followed. The federal government should step in by adopting policies appropriate to stimulate aggregate demand, since it certainly has room to run, as indicated repeatedly by the IMF's Managing Director, Christine Lagarde (2016).

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Acknowledgements

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Development and Migration

Agency, Voice, Choice: Empowering Women in Post-Conflict Situations

Devoniesh Aransevia, Abisoye Moody, Eric Tanguay and Karen Van Staveren

Issue

Canada's Feminist International Assistance Policy outlines a strategic vision for promoting gender equality in fragile and conflict-affected contexts. However, more guidance is needed before this vision can be made a reality. Canada should leverage its comparative advantage in policy dialogue and North-South partnerships in order to establish an operational definition of women's empowerment in post-conflict contexts that can be integrated across agencies. In line with this integrated approach, Canada should harness its relationships with local organizations in order to develop innovative programming responses to gendered inequality that are locally owned and establish conditions through which women and girls may empower themselves to act as agents of peace and development.

Background

An estimated two billion people around the world currently live in countries affected by fragility, conflict or violence (World Bank 2018). Women and girls suffer disproportionately in modern conflicts, from direct gender-based violence, economic marginalization and exploitation, and socio-political exclusion. Women are also severely underrepresented in local governance structures during transitional peace processes, which often prevent the gendered dimensions of conflict and insecurity from being recognized or addressed (Paffenholz et al. 2016). Because gendered inequalities, state fragility, and violent conflicts appear to be mutually reinforcing, women's social, economic and political equality is widely considered to be a key factor in long-term peace, equitable economic growth, and more transparent and accountable governance.

While myriad international agreements stress the importance of equality of rights and opportunities for women and girls, particularly in fragile and conflict-affected contexts, achieving the goal of global gender equality remains elusive. International progress in achieving Millennium Development Goal 3 to Promote Gender Equality and Empower Women was halting (Canadian International Development Agency [CIDA] 2011a), and the implementation of Sustainable Development Goal 5 for Gender Equality has proven similarly slow. The Organisation for Economic Co-operation and Development (OECD) recently concluded that, despite significant increases in funding in support of gender equality in fragile and conflict-affected countries over the past decade, gender inequalities "persist in all areas of social and economic life and across all countries" (2017b, 22). The implementation of United Nations (UN) Security Council Resolution 1325 on Women, Peace and Security has been equally challenging as more than 120 UN member states have yet to adopt National Action Plans in support of the resolution, and women's participation in formal peace processes remains disconcertingly low (Peacewomen 2017; Kumalo 2015). Ultimately there has been more rhetoric than progress, in large part because violent conflict often reinforces patriarchal systems and mindsets. The rapidly shifting landscapes of modern conflicts also render it difficult for peace-building and development agencies to respond to the basic needs of women and other marginalized groups, let alone address deep structural inequalities.

Canada's Commitments to Gender Equality

Since CIDA authored its first "Women in Development" guidelines in 1976, Canada has cultivated an international reputation as a champion of gender equality in development programming (Tiessen 2014). CIDA's 1999 Policy on Gender Equality outlined a sophisticated approach to promoting gender equality by acknowledging that the role of development organizations is to support processes through which women can challenge the deeply ingrained socio-cultural norms, beliefs, laws, and policies that perpetuate their disenfranchisement (CIDA 1999). Over the past 20 years, the promotion of gender equality has been a core priority cutting across all of Canada's international assistance policies and programs, which has resulted in significant support for the advancement of women's rights and participation across a wide range of thematic areas (Global Affairs Canada [GAC] 2017a; Bytown Consulting and C.A.C. International 2008).

Despite Canada's pioneering commitment to gender equality, the absence of an integrated strategic plan for operationalizing gender equality as a crosscutting development priority has limited the coherence and sustainability of Canada's support in this area. CIDA's inability to clarify specific targets and responsibilities led to a reliance on self-motivated staff to pursue gender initiatives, leading to diminished attention to gender as a thematic priority throughout project life cycles (Bytown 2008; CIDA 2011b; GAC 2017c). Excessive centralization also impeded CIDA's communication with local organizations, reducing Canadian responsiveness to the needs and experiences of women on the ground and limiting opportunities for dialogue and consultation with key implementing partners (CIDA 2011b). Finally, CIDA's gender equality programming remained largely blind to the gendered dynamics of conflict, and to the particular needs, interests, and agency of women in fragile and post-conflict settings.

Canada's recently unveiled Feminist International Assistance Policy (FIAP) has sent an important signal not only that "Canada is back" on the international stage, but that Canada is serious about identifying and addressing the interconnections between gendered inequality and global insecurity. The FIAP promises to increase the proportion of Canada's international development assistance directly targeting gender equality to 15 percent by 2021-2022, while at least 80 percent

of bilateral assistance will be devoted to initiatives that integrate gender equality as a thematic priority (Government of Canada 2017). However, in many cases, programming that is directed towards gender equality goals can be relatively short term, posing a problem for ensuring long-term viability. Rather than implementing a multitude of policies, measures need to be established that would ensure the longevity of existing programs. The FIAP specifically addresses several of the operational shortcomings of CIDA's gender equality programming by explicitly acknowledging the importance of adopting "integrated approaches" — encompassing the whole range of Canada's diplomatic, trade, development, and security agencies — in order to promote gender equality in fragile and conflict-affected contexts. The FIAP further articulates a commitment to taking "responsible risks" in order to improve the responsiveness of Canada's development assistance to the dynamic needs of vulnerable communities on the ground, a pledge that will be facilitated through the provision of $100 million to support Canadian civil society organizations in the development of innovative programming in partnership with local organizations, and an additional $150 million to support local women's rights organizations and movements in developing countries over the same period (ibid.). Although this language is encouraging, the specific steps Canada intends to take to meet these obligations remain unclear. The remainder of this brief outlines concrete policy options to assist Canada operationalize its recent commitments to ensure its gender equality programming will be conflict-sensitive, integrated, responsive and innovative. It highlights avenues to more effectively engage with, and support, grassroots women's organizations in fragile and conflict-affected contexts.

The Nature of Empowerment

Canada's gender equality policy states: "Empowerment is about people — both women and men — taking control over their lives: setting their own agendas, gaining skills, building self-confidence, solving problems, and developing self-reliance. It is not only a collective, social and political process, but an individual one as well — and it is not only a process but an outcome too" (GAC 2017b). While this definition's central focus on enabling women and girls to take control of their own lives is commendable, empowerment has been conceptualized here at too abstract a level to be particularly useful as concrete policy guidance. This definition of empowerment does not fully capture what empowerment looks like in the context of

conflict-affected societies, nor does it articulate how, or by whom, empowerment might best be achieved in such contexts. A central paradox of empowerment, which the current definition sidesteps, is that the narrative of outsiders empowering disempowered women from the top down can itself be disempowering. The core challenge is thus to create the conditions in which women can progressively empower themselves as agents of positive and sustainable social change. In order to foster these conditions, more thought must be devoted to the question of how Canada's current definition of empowerment can be rendered actionable at the field level. What is needed is more practical guidelines and policy guidance informed by on-the-ground experience, regarding not only what empowerment means to women and girls individually and collectively — and how it might be measured in specific sectors (economic, political, and social) — but, moreover, how gender equality programming can be both conflict- and culture-sensitive.

Innovative Programming Approaches to Empowering Women and Girls

In fragile and conflict-affected contexts, the capacity, credibility, and inclusivity of state institutions are typically low. Therefore, while long-term political goals in these contexts generally include establishing stability and fostering the development of legitimate and inclusive state institutions, smaller-scale efforts are needed to create opportunities for everyday women to empower themselves. Providing financial and technical support for locally legitimate women's organizations, over longer time-horizons than are typical in post-conflict programming, can help build channels through which local communities can constructively engage in dialogue with one another and with the state. Furthermore, promoting grassroots ownership of gender equality programming is crucial to creating platforms in which women and girls may empower themselves. Developing strong partnerships with local civil society organizations supports the agency of women and girls to contribute to and direct gender equality programming, and represents a more nuanced and sustainable mechanism for promoting women's empowerment, by ensuring programming is tailored to the needs of local, and often traditionally marginalized, women (OECD 2017a). Enhancing the capacity of local civil society organizations to collect and analyze data about women affected by conflict will also help solidify their role as sustainable vehicles for the long-term empowerment of women and girls.

While providing support for women's civil society organizations can help open up political space for women, in fragile and conflict-affected contexts, additional efforts are often needed to ensure the institutionalization of such inclusive platforms. In Bosnia and Herzegovina, for example, Local Action Plans (LAPs) have been developed with civil society organizations to promote the localization of the UN's Women, Peace and Security agenda. This has involved training led by civil society representatives and local officers, and creating safe spaces for economic empowerment (Babic-Svetlin et al. 2016). Significantly, inclusive local consultations and close collaboration among relevant actors increased the sense of local ownership in the initiative and resulted in active LAPs, while incorporating local civil society into monitoring and evaluation increased accountability in the short and long term. More municipalities are currently drafting LAPs to facilitate meaningful local participation in community-defined women's empowerment initiatives and increase community-based employment opportunities for women. Assisting other countries in developing and implementing LAPs can provide a means to improve in-country capacity to identify and respond to the fluid and context-specific connections between gender, conflict, and fragility at local levels by establishing institutional footholds for women to serve as active agents in shaping post-conflict peace building.

The empowerment of women and girls remains a major global challenge even in countries unaffected by conflict and political fragility, as reflected in the slow progress made thus far towards the achievement of SDG 5 on Gender Equality and the promotion of women's rights (United Nations 2017). In light of this halting progress, the United Nations Secretary-General has asserted that "more vigorous efforts" must be taken to "counter deeply rooted gender-based discrimination that often results from patriarchal attitudes" (ibid., 8). Critically, policy makers must increasingly realize that gender equality initiatives cannot focus solely on women if they are to be both successful and sustainable. Many of Canada's existing programs and policies on the empowerment of women and girls, including the FIAP, focus primarily on women, with little to no commitment to addressing male behaviour. Neglecting the male population runs the risk of leaving unchallenged hyper-masculine norms that continue to perpetuate gender discrimination (United Nations 2008). By encouraging male participation in female-centric programs, female empowerment and peace on a

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society-wide level is more likely to be sustained. In turn, the most sustainable way to promote male participation is through engagement with male youths, particularly during childhood and adolescence, and the educational system is one of the strongest institutions through which gender norms and stereotypes can be challenged and transformed (Fayoyin 2004). Curriculum reforms aimed at educating boys about appropriate social behaviours and shifting prevailing attitudes towards women will result, over time, in generational adaptations to existing norms. This can help to reduce violence against women, challenge traditional gender roles and eliminate harmful practices such as forced marriage and female genital mutilation.

Male participation in gender-empowerment initiatives could also be encouraged through advocacy campaigns and the sponsorship of healthy relationship programs. Such advocacy campaigns can draw on influential community members to promote changing gendered stereotypes towards women. Through healthy relationship programs, similarly, men can be encouraged to question traditional gender hierarchies and to approach issues such as family planning and violence against women from the perspective of male ally-ship.

Recommendations

GAC needs to work with its core stakeholders to create a clear definition of women's empowerment that can be effectively operationalized in fragile and conflict-affected contexts. By adapting and refining its current definition of empowerment to reflect the specific connections between fragility, gender inequality and conflict, GAC should develop an operational framework on the empowerment of women and girls that is sensitive to the dynamic social, political and economic realities of conflict and post-conflict situations. This definition needs to be actionable and transparent in order to be effective in the long term.

Canada should establish mechanisms, especially around accountability, to ensure that its commitment to women's empowerment is articulated coherently across all of its policy frameworks addressing gender, conflict and fragility, and is translated consistently down to the field level. All of Canada's policy frameworks — especially the Policy on Gender Equality — should be updated to reflect the government's commitment to empowering women in fragile and conflict affected contexts, and to include

specific accountability mechanisms to ensure that gender equality is prioritized across departments and down to the field level. This could include developing accountability mechanisms or periodic assessment requirements to ensure that country offices in fragile and conflict-affected contexts are responsible for comprehensively integrating gender equality indicators and gender-based analysis into all stages of development planning and implementation, as well as ensuring that grassroots consultations guide the policy development and implementation process. The development of such accountability and consultation requirements will help ensure that Canada's policy commitments to gender equality are prioritized and effectively translated into field level operations, especially in conflict-affected contexts.

GAC should work alongside relevant governments — and within the context of relevant international frameworks — to further elaborate quantitative and qualitative measures in order to assess progress towards gender equality goals. The tools and instruments Canada employs to assess the efficacy, responsiveness and cultural appropriateness of existing policies and programs need to be refined and elaborated. Operationalizing empowerment in meaningful ways is dependent on developing clearer indicators of what gender equality programming is designed to achieve within specific contexts of political fragility and conflict, and how to measure these objectives. The establishment of consistent yet flexible indicators, in collaboration with representatives of local women's civil society organizations, would help ensure that all programmatic interventions are designed not only with clear, measurable outcomes in mind, but also in ways that are sensitive to the value of inclusion in both the development and implementation of specific initiatives. It is essential that such measures be consistently monitored in consultation with local partners in order to allow for rigorous evaluation and ongoing evaluation of lessons learned.

GAC should encourage the localization of the Women, Peace and Security agenda and promote the development of LAPs through existing women's civil society organizations. GAC should harness existing civil society partnerships to develop participatory and consultative mechanisms through which local women are able to draw on their own institutional and cultural knowledge. This platform would be an avenue for local women at the community level to define and prioritize

their everyday security concerns and to exercise agency towards their own empowerment. This will enhance the capacity of locally legitimate civil society organizations to define their own priorities, thereby increasing the flexibility and sustainability of gender equality and peace-building programs, rendering them more responsive to local needs and promoting the inclusion of women in key decision-making roles. By building capacity at the grassroots level, LAPs help to establish locally owned and culturally sensitive advisory and programming mechanisms that are sustainable and not dependent on ongoing donor engagement.

Canada should support and engage with local communities (including men) and local education systems to promote advocacy and awareness of gender equality during post-conflict reconstruction processes. Through advocacy campaigns, the sponsorship of healthy relationship programs, and by supporting curricular reforms that aim to socialize school-age children in ways that challenge conventional gender hierarchies, the Canadian government can contribute to the long-term process of breaking down hyper-masculine social norms which often stand in the way of advancing women's interests in conflict-affected contexts.

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Technology. Education. Engagement. Non-judgmental Services (TEENs): How Canada Can Support the SRHR Needs of Adolescents

Sakshi Jain

Issue

More than half of the world's 1.2 billion adolescents do not have adequate knowledge of, or access to services relating to, their sexual and reproductive health and rights (SRHR) (United Nations Children's Fund [UNICEF] 2018a). Given that one in every six persons globally is an adolescent, investing in their health is an investment in a sustainable future. Through Canada's Feminist International Assistance Policy (FIAP), the SRHR priorities of adolescents can be more effectively addressed

Background

Key Terms

An adolescent is defined as a person between the ages of 10 and 19. Those aged 15 to 24 are defined as youth. Both adolescents and youth are subsets of young people who range from 10 to 24 years in age (UNICEF 2018b).

According to the United Nations Population Fund (2014), the SHRH of adolescents can be supported by "providing access to *comprehensive sexuality education; services to prevent, diagnose and treat STIs; and counselling on family planning*…it also means *empowering young people to know and exercise their rights — including the right to delay marriage and the right to refuse unwanted sexual advances.*"

Why Support Adolescents

Adolescents today have greater access to opportunities than previous generations, as is evidenced by their tendency to marry and bear children later in life, stay in school longer, and their wider access to internet and mobile devices. They are more likely to engage in sexual activity earlier, often before marriage (Lloyd et al. 2005). At this sensitive stage in their lives, they face significant risks to their SHRH. These risks are highly gendered in their nature, causes and consequences.

The United Nations Secretary-General recognizes that young people are at the heart of the sustainable development agenda, and are key to building inclusive and peaceful societies (Steiner 2017). Investing in the health of adolescents will not only improve their current quality of life but will lead to healthier lifestyle choices in their adult lives, and ultimately, enhanced health outcomes for future generations (Patton et al. 2016).

Scope

AIDS is the second most common cause of adolescent mortality in the world, with an adolescent between the ages of 15 and 19 becoming infected every minute (UNICEF 2016). An estimated 18 million adolescent girls give birth every year, mostly in low- and middle-income countries (World Health Organization 2014).

Approximately 60 percent of sexually active adolescent girls aged 15 to 19 do not have access to contraception, and meeting this need would reduce six million unintended pregnancies annually, thus avoiding 2.1 million unplanned births, 3.2 million abortions, and 5,600 maternal deaths (Darroch et al. 2016).

Alignment with Canada's Priorities

Canada supports the goal of ensuring that every pregnancy is wanted, every birth is safe, and every girl and woman is treated with the dignity and respect she deserves (Global Affairs Canada [GAC] 2017a).

In 2017, Minister of International Development and La Francophonie Marie-Claude Bibeau announced $241.5 million in funding for multiple SRHR projects. This allocation was a component of the $650 million that the federal government committed to spending over three years to address gaps in SRHR funding in the world, in order to better support the empowerment of women and girls (GAC 2017b). SHRH greatly contribute to gender equality and better maternal, child, and adolescent health. Thus, addressing SRHR funding gaps for adolescents will contribute to future development and stability. Supporting the SRHR of adolescents aligns with and reaffirms Canada's commitments to multiple international initiatives such as Every Woman Every Child, the Ouagaoudu Partnership and She Decides.

Additionally, Sustainable Development Goal 3.7 calls for universal access to sexual and reproductive health care services, and Goal 5.6 calls for universal access to sexual and reproductive health and reproductive rights (United Nations n.d). By investing in the SRHR needs of adolescents worldwide, Canada has the opportunity to become a global leader in the pursuit of these critical sustainable development targets.

Challenges

Intersectionality of SRHR: The barriers to SRHR services and knowledge faced by adolescents are intersectional in nature, characterized by geographic location, cultural and religious contexts, socially acceptable norms, and stigma surrounding sexual activity among young people. Additionally, a lack of data about these issues makes effective planning even more complicated. There is no "one size fits all" approach to providing SRHR support to adolescents in different regions. Any initiatives

that Canada supports must reflect the intersectional nature of SRHR issues in the local context.

Legal frameworks of states: Many countries are signatory to international agreements which affirm the non-discriminatory provision of SRHR services as a part of their national health care strategies. Despite these commitments, domestic laws often discriminate against members of marginalized communities, such as LGBTQI persons or unwed young mothers. Illuminating this trend is the fact that in many countries, adolescents are legally required to obtain their guardian's permission prior to accessing essential SRHR services. For example, in Zambia, homosexuality is a criminal offence. Thus, though the current National Aids Strategic Framework of the country calls for SRHR services to be provided to the LGBTQI community, many members of the community refrain from accessing these vital services due to a legitimate fear of being reported or arrested (Nenguke 2018). In such cases, the Canadian government should partner with grassroots organizations that provide judgement-free SRHR services to everyone.

Opportunities

Canada can effectively support the SRHR of adolescents through technology, education, engagement, and the provision of non-judgmental services (TEENs).

Technology

With the increased usage of mobile and internet technologies in recent decades, the use of digital delivery mechanisms for SRHR programming has shown promise. Digital platforms have the ability to overcome barriers to traditional health services such as long waiting times, a perceived or real absence of privacy or confidentiality, stigma, and provider biases (Starrs et al. 2018). Additionally, young people prefer to receive SRHR information via mobile phones and the internet as it is convenient, private, and popular among their peers. Digital media programs, especially text messaging, are quite cost effective (Ippoliti and L'Engle 2017). While this is a relatively new delivery mechanism that requires further research, many organizations have reported positive results from using digital SRHR programs. For example, Girl Effect is non-profit organization funded by multiple international entities such as the Bill and Melinda Gates Foundation, UNICEF, and the Government of Australia. It empowers adolescents through multiple platforms such

as television dramas, radio shows, music, storytelling, magazines, and community clubs in 66 countries, reaching 22 million users every year (Girl Effect n.d.). Such programs are an excellent medium to impact the lives of millions of adolescents, and Canada should make use of this opportunity by supporting the implementation of similar initiatives.

Education

There is increasing evidence that supports the argument that comprehensive sexuality education can help young people make informed, healthier choices. Comprehensive sexual education programs provide adolescents with age-appropriate, culturally relevant, and scientifically accurate information. They have also been shown to delay sexual debut, reduce the frequency of unprotected sexual activity, and decrease the number of sexual partners that an adolescent will have (United Nations Educational, Scientific and Cultural Organisation 2009).

By partnering with organizations that facilitate the implementation of sexuality education programs at the community level, Canada can effectively support the SRHR of adolescents both in and out of school. Thus, Canada must continue to support organizations such as Women Deliver, who train and provide young leaders with opportunities to promote sexuality education locally.

Engagement

Adolescent engagement in SRHR programming: As adolescents become aware of their sexual and reproductive health needs, they rely on their families, friends, and health service providers for affirmation, information, and advice. To ensure that they make informed choices, they must have access to correct SRHR information. Adolescents have unique health needs, and engaging adolescents as stakeholders in policy making and program design is the best way to understand their SRHR needs and ensure that the policies reflect their lived realities.

Including adolescents and young people in program delivery provides them with a sense of ownership and increases their sense of responsibility, thus enhancing their engagement with the program. Adolescents have a unique perspective on societal issues and can greatly improve the scope, attractiveness and relevance of SRHR advocacy (Evelo 2018). With this in mind, Canada must invest in the leadership skills of adolescents by ensuring their

engagement as stakeholders in SRHR initiatives. This investment will effectively support the SRHR of adolescents by allowing them to become advocates for their own SRHR as well as the SRHR of their peers.

Engaging adolescent boys: The FIAP reflects the importance of engaging boys to become advocates for gender equality. The Canadian government should support organizations that engage and educate adolescent boys about SRHR as the benefits elicited will be threefold. First, the health of adolescent boys will improve. Second, the health of their partners will improve. Finally, since most societies are patriarchal in nature, engaging adolescent boys to become advocates for gender equality will ensure that they make well-informed decisions for the next generation of daughters and wives in their roles as fathers, husbands, and community and religious leaders.

In many countries, boys are conditioned to believe that dominance towards girls and women is part of being a man. Due to ill-informed notions of masculinity, adolescent boys are:

- less likely to get tested for AIDS;

- less likely to use condoms;

- less likely to reduce their number of sexual partners; and

- More likely to infect other sexual partners, especially girls, as they represent 75 percent of the current cohort of adolescents living with AIDS (The Joint United Nations Programme on HIV and AIDS 2015).

Through various interventions, boys and young men can be encouraged to reflect upon and discuss issues surrounding masculinity, relationships, and sexuality. Such engagement has the potential to contribute to the deconstruction of the hyper-masculine norm from a young age.

For example, MenCare+ is an initiative that aims to engage men aged 15 to 35 as equitable partners in maternal, newborn and child health, SRHR, caregiving, and violence prevention (Rutgers International and Promundo 2016). The program has achieved positive results in changing the attitudes and behaviours of boys and men in many countries.

Similarly, the Indian Parivartan Program, which ran between 2008 and 2012, trained cricket coaches and community mentors to be role models and introduce

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messages against gender-based violence into their normal contact with young male cricket players (both in and out of school) ages 10 to 16. At the end of the program, participants demonstrated a greater positive shift in gender attitudes compared to non-participants (Das et al. 2012).

Based on the aforementioned evidence and the goals of the FIAP, Canada should invest in SRHR programming for adolescent boys, thereby enabling them to care for their own health, and to become advocates for the health of girls.

Judgement-free SRHR services

Well-designed SRHR programs may fail to produce expected outcomes if the delivery mechanisms do not meet the adolescents' needs. The stigma associated with utilizing these services, especially for young unmarried adolescents, often prevents them from accessing these services altogether. Adolescents are more likely to access services that are provided in a non-judgmental and confidential manner (Chandra-Mouli, Lane and Wong 2015). Thus, it is imperative that any SRHR programs that Canada invests in provide services in a confidential and non-judgmental fashion.

Funding

While some proposed initiatives have the potential to be funded through the current three-year funding package, Canada should consider implementing a long-term funding plan to more substantially address the SRHR needs of adolescents around the world.

The 2018 Federal budget allocated $1.8 million to explore engagement opportunities domestically for boys and men to become advocates for gender equality (Omar 2018). Canada should employ a similar strategy in international assistance. Canada should allocate a separate funding package to support adolescents specifically. For example, in 2017, a group of Canadian organizations collaborated to create the Future Planning Initiative, which proposes a 10-year, $4.25 billion plan to support the SRHR of 18 million adolescents and women globally. Supporting this initiative would position Canada as an international leader in the empowerment of women through SRHR (The Canadian Association of Parliamentarians on Population and Development 2017).

Recommendations

Canada should expand the eligibility requirements for the next call for proposals associated with the current SRHR funding package to include that partner organizations:

- Adopt a "Nothing About Adolescents Without Adolescents" policy. Partner organizations must engage adolescents as key stakeholders in program design and implementation. Adolescents best know what they need, and therefore programming that includes their opinions and caters to their needs will have a greater likelihood of achieving positive results.

- Train SRHR service providers to deliver stigma-free, non-judgmental and confidential services. When adolescents trust their service providers, they are more likely to access these services, thus enabling them to make informed decisions.

Canada should support organizations that utilize mobile and digital media technology to engage millions of adolescents, including out of school and vulnerable populations. Canada should continue to partner with organizations that provide sexuality education at the community level to ensure that adolescents have access to age-appropriate, scientifically correct information.

Canada should partner with organizations that provide SRHR programming to adolescent boys. Adolescent boys need targeted SRHR programs that deal with issues of toxic masculinity and what it means to be a man. This would lead to better SRHR of all adolescents, as boys will take charge of their partners', sisters' and daughters' health, and become advocates for gender equality.

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Canada as a Frontline State? Populist Discourse, New Population Movements and the Canada-US Border Relationship

Michala Jansa, Amanda Klassen, David Meinen and Cortney Steinwand

Issue

Increased populist rhetoric combined with overt hostility towards asylum seekers in the United States has complicated the nature of the Canada-US border relationship, necessitating a critical re-evaluation of existing practices and agreements.

Background

Canada and the United States share a productive history of collaboration on border security issues, encompassing strategies ranging from information-sharing for law enforcement to the formalization of joint patrols through Canada-US Shiprider operations. The Safe Third Country Agreement (STCA), signed by Canada and the United States in 2002, arguably represents one of the most controversial components of this ongoing bilateral cooperation. Although criticisms have been levelled against the agreement for years, opposition to the STCA has gained traction in the wake of disruptive policy shifts within the United States and the subsequent impact at Canadian borders.

Under the Trump administration, policy changes and growing hostility towards migration have increasingly pushed foreign nationals and migrants into precarious circumstances. Thousands of individuals must now choose between repatriation to unsafe countries, continued "illegal" residence in the US, or relocation towards perceived safe

havens such as Canada. Many have chosen the latter, overwhelming border personnel and communities in the process.

American Populism and Policy Shifts

While collaborative border practices between Canada and the United States remain firmly in place, the domestic political context within the United States has undergone a dramatic shift. The Trump administration has substantially revised American policy towards migrants and asylum seekers through the introduction of new executive orders and the alteration of existing domestic programs. Three examples are worth examining for the purpose of demonstrating the impact of this shift on Canadian borders.

First, the introduction of the executive order Border Security and Immigration Enforcement Improvements expands the use of expedited removals, a practice in which Homeland Security deports individuals within 24 hours and without allowing time for a full immigration hearing (Harvard Law School 2017a). When asylum seekers are intercepted, they undergo a "credible fear" test to determine whether their claim should proceed to a judge. Asylum seekers are not guaranteed access to legal counsel or translation services during this process. The expansion of expedited removals thus places asylum seekers with genuine protection claims at greater risk of deportation. Section 7 of the order additionally calls for intercepted asylum seekers to be "returned to the territory from which

they came pending a formal removal proceeding" (Exec. Order No. 13767). One example of where this is occurring is in the deportation of asylum-seekers of any nationality to Mexico following their interception. This could qualify as refoulement under the terms of the 1951 Refugee Convention, given the "significant likelihood that Mexico would send those asylum seekers back to their countries of origin" (Harvard Law School 2017a, 7).

Second, the executive order Enhancing Public Safety in the Interior of the United States ramps up the removal of undocumented migrants living in the United States (Exec. Order No. 13768). Although the order was presented as a safety measure targeting immigrants with criminal records, in practice the order's interpretation of "criminality" is such that migrants with traffic tickets or other administrative offences may also be prioritized for deportation (Harvard Law School 2017a; American Immigration Council 2018). Criticism levelled towards the order has highlighted the risk that vulnerable populations will be pushed "further underground" out of fear (Alboim and Aken 2017).

Third, the United States has announced its intention to rescind Temporary Protected Status (TPS) for Haiti, El Salvador, Liberia, Nepal, Nicaragua, Sudan and Honduras. As of January 2018, 437,000 foreign nationals living in the United States possess TPS status (Wilson 2018, 4). In addition to the countries whose nationals will no longer benefit from TPS renewal, the program also encompasses individuals from Somalia, South Sudan, Syria, and Yemen. Although protection has been renewed for Syrians and South Sudanese, the ongoing wave of TPS cancellations coupled with the overarching hawkish stance of the Trump administration towards migrants and asylum seekers casts doubt on the long-term future of the program. This unpredictability could prompt even TPS holders with fully renewed status to proactively seek alternatives to their residence in the United States.

Immediate Consequences for Canada

A climate of fear has accordingly emerged within communities of migrants and asylum seekers living in the United States. Executive orders targeting undocumented migrants have magnified anti-immigrant sentiment and fuelled fears of deportation, while the cancellation of TPS for multiple nationalities has pushed thousands to leave the country. Increased precarity of status in the United States has prompted migrants and asylum seekers to view relocation to Canada as a viable strategy. The number of

border crossings per month in 2018 remains consistently higher than average, compared to previous years (Government of Canada 2018b). While it was predicted that the combination of warmer weather with a new wave of TPS revocations would push irregular crossing numbers back up, RCMP interceptions of asylum seekers remained consistent with an average of 1622 per month between May and September (ibid.).

RCMP interceptions of asylum seekers already rose steadily from 1,517 in January to 2,560 in April (ibid.).

Responding to Irregular Migration

Canada has responded to this rise in irregular border crossings in a largely coordinated and humanitarian fashion. However, this influx has created significant challenges for the federal government as it remains tasked with protecting border integrity and upholding the rules-based immigration system while also acting in accordance with international obligations. The government has faced criticism from opposition parties, provincial governments, and Canadian citizens centred on the lack of a clear and coherent plan to address the surge in irregular border crossings. Recent statistics indicate that 48 percent of Canadians believe that the federal government should send irregular border crossers back to the United States, while 46 percent disapprove of the federal government's handling of the situation (Colledge 2017). These figures are congruent with research that shows a rise in populist sentiments among Canadians (Ekos Politics 2018). In order to formulate an effective response to irregular border crossings that will resonate with the Canadian public, the anxieties and assumptions of citizens must be addressed. While community organizations across Canada are working to quell populist and anti-immigrant sentiments through education and community engagement, a comprehensive government response to this trend is lacking.

Budgetary Implications and Considerations

The federal government allocated $173.2 million in the 2018 Budget to strengthen border security and accelerate asylum claim processing. The processing of work permits for asylum claimants has already been expedited, and the Immigration and Refugee Board has altered its hearings schedule in order to accommodate the higher numbers of asylum claims. The government has committed to providing new, short-term accommodation facilities

for asylum seekers and is additionally establishing a triage system for asylum claimants seeking to relocate to alternate provinces (Government of Canada 2018c).

While promising initiatives have been proposed, funds allocated within the budget to agencies directed to handle irregular border crossing may be only partially implemented due to imprecise cost estimates. Due to its inherent rigidity, the current funding model may lack the adaptive capacity required to respond to the fluidity of this ongoing issue. An alternative funding model could provide the government with greater financial flexibility in its response to irregular border crossings, thus alleviating some financial pressures that currently burden provincial and municipal governments.

Initiatives on Collaboration

At the domestic level, Public Safety Canada has implemented the Asylum Seeker Influx National Strategic Response Plan in order to construct and coordinate regional response plans across Canada. As a key initiative of this plan, mobile asylum processing units helped to facilitate high volume processing of asylum seekers between November 2017 and February 2018 (Canadian Government 2018a). Two means of bilateral collaboration are currently in place. The first is the Canada-United States Inter-Parliamentary Group, which seeks to find points of convergence in national policies and to facilitate dialogue and the exchange of information. Notably, irregular migration has not been on the agenda at recent meetings (Parliament of Canada 2018). The absence of dialogue on irregular migration within this group represents a lost opportunity for bilateral coordination. The second is the Ad Hoc Intergovernmental Task Force on Irregular Migration, which has enabled the communication of Canadian immigration law and the correction of misinformation through partnerships with US diplomats and community organizations (Government of Canada 2017). The task force has worked closely with Haitian communities in Miami, and recently conducted high-level meetings with Nigerian and US diplomats to address the spike in Nigerian nationals transiting through the United States to claim asylum in Canada.

While these initiatives demonstrate success in their promotion of collaboration, their utility may be diminished as a consequence of their ad hoc nature or inconsistent use. Moreover, existing strategies offer few formalized channels of participation for municipal leaders within Canada to

link up with higher levels of government, despite the fact that municipalities bear many of the immediate responsibilities associated with hosting irregular migrants and asylum seekers. Limiting the inclusion of local voices in the broader dialogue on irregular migration may impede the federal government's ability to effectively direct resources towards impacted areas, and may also increase public disaffection at the community level. Federally organized collaborative initiatives would therefore do well to incorporate stronger and more consistent municipal representation.

Legal Challenges of the STCA

The STCA poses an additional set of challenges for the government to consider in responding to irregular migration while maintaining a strong relationship with the United States. In 2007, the Federal Court of Canada ruled that the US was not a safe third country by reason of non-compliance with its obligations under international law to prevent non-refoulement (Canadian Council for Refugees v. R, 2007). While the decision was overturned on appeal, the case re-opened in May 2017 (Canadian Council of Refugees 2017). In July 2017, three Canadian advocacy organizations launched a second legal challenge, calling for the revocation of the STCA in light of recent developments in the US (Harvard Law School 2017b).

The issue of irregular migration across the border is itself a recipe for politicization against welcoming refugees. Right-wing groups like Storm Alliance and La Meute have used the "illegality" argument to argue against not only accepting more refugees, but also an open immigration system altogether (The Atlantic 2018). In this way, the STCA inadvertently serves as a tool for the promotion of divisive politics on both sides of the border. That being said, policy changes around the STCA must be approached mindfully to avoid damaging Canada-US bilateral relations.

If large-scale irregular migration across the border is a new reality for Canada, policies and practices created today must be designed in a manner that balances border security goals with Canada's tradition of leadership in embracing diversity. This stance is grounded not only in moral considerations, but also in pragmatic objectives of avoiding future litigation while simultaneously maintaining strong domestic support in favour of welcoming refugees and immigrants.

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Domestic Recommendations

Allow for increased budget flexibility to respond to the fluidity of the situation. The federal government should increase flexibility in the assignment of funds currently dedicated to irregular migration management. Regular evaluation should be undertaken to identify where funds are most needed, with funds subsequently allocated on the basis of these evaluations. Currently, the Treasury Board's 2015 Expenditure Management framework calls on government departments to regularly measure performance against projected results, anchor spending in the priorities of Canadians, and perform ongoing assessments of their own performance (Government of Canada 2015). This recommendation would make room for increased internal assessments and, when necessary, allow for the redirection of funding to other departments that have demonstrated greater success in the targeted area.

Foster balanced public dialogue and engagement. The Government of Canada should promote more balanced and informed public discussion on migration in order to counteract rising populist sentiments. This dialogue could take shape in town hall meetings and social media campaigns. A recent town hall meeting in Toronto, facilitated by world-renowned political philosopher Michael Sandel, offers a useful template for structuring such discussions (Sandel 2017). We additionally recommend that more consistent opportunities be created for municipal government leaders to engage with federal officials on migration issues, potentially through the Ad Hoc Intergovernmental Task Force on Irregular Migration.

Bilateral Recommendations

Enhance existing partnerships. There should be a continuation and expansion of cooperative strategies such as the Ad Hoc Intergovernmental Task Force on Irregular Migration. More sustained discourse on irregular migration should also be undertaken via the Canadian-US Inter-Parliamentary Group. More broadly, the government should commit to longer-term, proactive approaches as opposed to ad hoc measures.

Suspend the STCA. The government should closely investigate its criteria for designating a country as "safe" and suspend the STCA for 90 days. Suspending the STCA would offer a means to process claims in a more orderly manner while allowing for a thorough examination of the agreement's utility. During this suspension, Immigration, Refugees and Citizenship Canada should adopt a fluid approach to claims processing, focusing more specifically on individual circumstance as the primary basis for protection. At the end of the 90-day period, the suspension should be lifted or extended based on a combined assessment of border crossing statistics, capacity in border communities, and a clearer articulation of what constitutes a "safe third country."

Multilateral Recommendations

Advocate for and engage in sustained international dialogue on migration. The federal government should leverage existing channels of dialogue with regional cooperative bodies including OAS, CARICOM and MERCOSUR to gather input and develop strategies with the states whose foreign nationals are directly impacted by shifting Canada-US border and migration policies.[1]

Showcase positive change in the international arena. While the US administration has demonstrated a strong rejection of multilateralism in recent months, Canada continues to maintain strong representation in multilateral forums, such as the Global Compacts on Refugees and Migration. It should therefore call bordering and migration issues to attention within the international community to mobilize meaningful dialogue and identify best practices on a global scale. In order to be seen as a credible advocate, Canada must strive to exemplify these best practices in the domestic context.

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1   OAS is the Organization of American States, CARCOM is the Caribbean Community regional integration, MECROSUR is the Southern Common Market a South American Trading Bloc.

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Artificial Intelligence and Human Rights

How Artificial Intelligence Can Support the Human Rights of Refugees

Sonya Ouertani, Christabel Polacco and Chloe Wynne

Issue

How can artificial intelligence (AI) technology be employed to support and protect the human rights of refugees as they transition from their home country to the host country?

Background

In the March 2018 draft of the Global Compact on Refugees, the UN High Commissioner for Refugees (UNHCR) acknowledged the importance of harnessing technology in support of refugees (UNHCR 2018). AI — which aims to simulate of human intelligence processes by machines, including machine learning and deep learning — offers innovative and creative opportunities to enhance the promotion and protection of human rights for refugees. Depending on its application, AI systems can be used to advance or obstruct the rights of those who have been forced to flee their homes, making it a dual-use technology with a potential positive and negative application. By partnering with its high-tech community, Canada has an opportunity to lead in the implementation, operationalization, and oversight of the Global Compact through the development of ethical AI-driven solutions that are designed to support the rights and dignity of people on the move.

There is significant potential for AI technology to advance the Compact during the three main stages of displacement: the period of initial flight; the journey to the host country; and the integration into the host country.

With respect to the first stage, AI can be used to help predict forced displacement by using algorithms to analyze big data and reveal new insights into the root causes of forced displacement. AI systems are currently being used to predict patterns and trends with respect to factors such as climate change, economic uncertainty, and political instability, and can be applied in the context of forced displacement in so far as it can help to track changes in the indicators that often cause people to leave their homes. More specifically, AI technology could be used to help identify when forced displacement is likely to occur so that receiving states and humanitarian actors led by the UNHCR can be better prepared to manage comprehensive responses to mass influxes of people (Nyoni 2017). In short, AI has tremendous potential as a tool to assist with scenario planning.

The journey refers to the time in which refugees are "on the move," or the period after the point of departure to arrival in the country of destination. Given the transnational nature of forced movement and the inherent vulnerabilities of those who are in transit, it is difficult to develop programs that support and protect the rights of refugees, let alone prevent human rights violations from happening in the first place or punish those who commit them. Most protective services are statically located in one place and are not designed with mobile populations in mind. AI has the potential to provide innovative, rapid, adaptive and mobile solutions, such as enabling the creation of digital identities for those without documentation (Mercy Corps 2018) that recognize the legitimate security concerns of host states, respect international refugee law and the

principle of non-refoulement, and facilitate international cooperation on behalf of refugees. An example of this is India's programme 'Aadhaar', which has not only pioneered AI-based identity management but has also been hailed as an SDG champion for putting so many people who were previously undocumented on the grid, and which could make the whole process of border crossing much simpler (Government of India, 2018).

Once refugees reach their destination, challenges evolve from remaining safe in transit to achieving more permanent resettlement and integrating into their new communities. Although the issues faced are highly individualized, integration namely involves the fulfilment of rudimentary needs, including finding housing, securing credit, gaining employment or education, and accessing services. AI technologies can assist these endeavours through its instant delivery of accurate and up-to-date information, its ability to connect people and networks, and in its elasticity in providing personalized responses. Indeed, many private and civil society technological developers are working to provide new uses for their AI technology in this area, creating 'chat bots', facial recognition systems, translators, banking platforms and enabling sharing economy networks (World Economic Forum 2018). In accordance with the Global Compact on Refugees, governments and developers have an obligation to ensure that any new technology is used to empower refugees, not exploit them.

Conclusion

Canada should take the lead on integrating AI technology into the human rights and refugee regimes. To mitigate the potential harmful effects of AI on refugees, Canada should press for language in the Global Compact that establishes and clarifies that ethical cooperation on AI is a form of refugee responsibility sharing. To help implement the Compact, it should lead in the negotiation of a shared, digital information protocol and identity management system, and call for the creation of a multi-stakeholder accountability and feedback mechanism, residing either within or independent of the UNHCR, to monitor the uses of AI within the refugee regime. Along with members of the high-tech sector, Canada can help to develop an accreditation scheme to certify applications of AI that support refugee rights and allocate funding for future innovation of needs-based tools. The scale and nature of recent forced displacements indicate that not one type of actor — governments, humanitarian organizations,

technological entrepreneurs, civil society groups/ organizations or individual people on the move — has a complete overview of the situation or the ability to develop innovative and comprehensive solutions to the complex set of problems on its own. In consonance with the Global Compact, Canada should take the lead on developing more effective intergovernmental agreements, responsibility sharing, and public-private partnerships for security and protection to effectively use AI to support human rights of refugees.

Recommendations

Lead on the development of ethical standards relating to the use of technology in support of the Global Compact on Refugees. Given the timeliness of the Global Compact negotiations and adoption, there is an opportunity for Canada to be an international standard-setter. Post-New York, Canada must be a strong and vigilant advocate of global ethical frameworks in dealing with refugee movements, and this advocacy must extend to the digital realm. Specifically, Canada must lead in the development of ethical standards that prioritize the rights of refugees, including but not limited to standards that protect the right to privacy and minimize biases that could undermine the human security of refugees. Ethical language should be written such that states that do not treat refugees according to international ethical standards (for example, in the provision of food, water, shelter, access to health care and employment) can be held accountable.

Negotiate a shared, digital information protocol and identity management system. The protection of individual privacy is a fundamental human right, in addition to national security considerations, that guides transnational cooperation on managing the movement of people. Nevertheless, this technology reveals gaps and ethical concerns relating to how data is used. Consequently, an integrated approach that protects refugees, emphasizes the civilian and humanitarian character of international protection, while at the same time safeguarding the national security of the involved states, is needed. These topics do go beyond AI; however, AI can play a significant supporting role, offering the opportunity to create shared, digital information protocols and identity management systems by respecting individual privacy, protection, and national security without compromising effectiveness. As a result, Canada could lead the negotiations on a globally shared identity management system and digital information protocol.

Create multi-stakeholder accountability and feedback mechanisms that include refugees. AI technology is a fast-evolving and generally uncontrolled industry with constant innovation and development. It is an overwhelming challenge to oversee this area as a single governmental actor. Therefore, the use and development of AI technology to protect and promote human rights for refugees is only effective if relevant stakeholders are involved in the decision-making process. These multi stakeholder accountability and feedback mechanisms based on AI systems offer the opportunity to develop appropriate, fair, safe, diverse and widely relevant input and responses, particularly for vulnerable groups such as women and youth. Accordingly, clear and safe multi stakeholder communication and information-sharing systems based on AI technology are important tools to support the human rights of refugees. These mechanisms can be incorporated into the refugee support platform, as conceived in the Global Compact. Although inaction as a result of multiple actors being involved in decision making may be a significant challenge to overcome, refugees also cannot be left out of the decisions that directly affect them. Feedback mechanisms composed of refugees along with other relevant actors, to evaluate the tools and resources provided to refugees and other displaced populations, are necessary.

Form an accreditation scheme to reward AI quality and accessibility. There is currently a plethora of AI systems and tools available that aim to assist refugees while in transit and in their resettlement. There are tools that provide services in family reunion, accessing credit, translation, and counselling, to name a few. The government's most appropriate role here is to connect these powerful tools with their intended target audience. By serving as a convener in this way, the government can ensure that refugees are technologically assisted and that the tools are used to their fullest extent.

One way of achieving this is to initiate an accreditation scheme that signposts refugees to the most trusted and effective AI tools on the market. In turn, this would promote future innovation in line with the principles that the accreditation scheme adheres to: accessibility and quality. In following this recommendation, the government must contemplate two key considerations. First, accreditation would involve some government oversight of the private sector. For the accreditation scheme to have legitimacy, the process for granting (or not granting) certification must be fair, transparent, and based on clear and objective criteria.

Second, the government must note that a government-led accreditation scheme is not necessarily the ideal "fix-all" solution, but rather a starting point. Research shows that refugees have considerable trust issues in lending their private information to government agencies (Benton and Glennie 2016, 8). Thus, refugees may also have those same trust issues with using a tool or system that is seen as endorsed by the government. The *ideal* is a peer-led system of accreditation. However, in the absence of such a system, this is the next best solution for the government to follow at this time. In doing so, it must consider the long-term strategy of supporting a peer-oriented system of accreditation.

Allocate funding for future innovation of needs-based tools. To ensure that AI is fulfilling its potential in this area, the government must procure specific tools according to refugee needs, as well as offering funding for generalized innovation. Importantly, funding must not be confined to "kick-starting" new tools, but also to sustaining existing ones that are of great benefit to its user base. Funding opportunities in this area must recognize that AI tools that have significant societal value may not be commercial in nature, and so require additional funding. This funding could derive from both the Pan-Canadian Artificial Intelligence Strategy and from Immigration, Refugees and Citizenship Canada given the cross-sectoral relevance of this fund (Canadian Institute for Advanced Research 2018).

In this vein, the Government of Canada can take inspiration from counterparts in Australia, where a "Match Lab" operates in order to provide project funding to tech developers, and to host a fundraising and business clinic on their behalf (Australia Match Lab 2017). Thus, developers benefit both from grant funding, and from skills training and networking convened by the government.

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The Role of Artificial Intelligence in Countering Online Violent Extremism

Rebecca Herbener, Sebastian Lacey and Matthew Markudis

Issue

This background note presents options to address the current and potential future threat posed to the rights and safety of the Canadian public by online extremist content and radicalization of vulnerable individuals.

Background

Challenges

The Internet allows domestic, foreign and state-sponsored extremists to widen their reach to Canadian citizens. However, online spaces are only one contributing factor to a person's decision to turn to violent extremism. Government has a key role to play in promoting national sovereignty and protecting the rights of citizens. In a globalized world where information transcends borders, the Internet is often exploited by radical groups to support their agendas, such as facilitating recruitment efforts, sustaining financial flows, logistics planning and contributing to the arms trade.

In the past few years, dominant technology firms such as Facebook, Twitter and YouTube have been used to spread propaganda and connect moderate users to extremists (Stevens and Neumann 2009). Following a series of terrorist attacks worldwide, this problem caught the attention of governments, who have put pressure on online platforms to address this issue. In response, these organizations have expanded and increased the sophistication of their artificial intelligence (AI) programs to identify and remove extremist content faster.

What Is AI?

AI is an area in computer science that emphasizes the creation of intelligent machines that work and react like humans (Grosz et al. 2016). It demonstrates many behaviours associated with human intelligence, including planning, learning, reasoning, problem solving, knowledge representation and social intelligence. Currently, most applications of AI are algorithms that are trained on datasets to recognize patterns and automate decision-making processes.

Increasingly, social media corporations are using AI to fight online extremism. While the effectiveness of these AI programs continues to increase and demonstrate their value, there have been many examples of false identification. For example, in the United States, face recognition programs have disproportionately flagged visible minorities as high-risk offenders in federal law enforcement systems (Goode 2018). These false positives are problematic, as they have the capacity to infringe on rights and hinder free speech. One high-profile instance of this was following Germany's adoption of a controversial new hate speech law in early 2018, which resulted in many cases of false positives, including a German satirical magazine's Twitter account being blocked after it parodied anti-Muslim comments (Bennett and Livingston 2018). These examples highlight the delicate balance that must be maintained between citizens' rights to free speech and national security.

While AI solutions to counter online extremism can be effective, lacking sufficiently comprehensive datasets can result in misidentification and bias. Despite progress, the

value added by AI remains in their capacity to automate repetitive tasks, rather than replace human analyst's expertise. As such, AI remains most effective when used in conjunction with humans to more accurately sort through the information and prevent false positives (Scott, Heumann and Lorenz 2017).

Legislation

Aggressive domestic legislation complements existing risk-adverse behaviour of dominant technology firms, which has led to over-policing of online platforms. These actions can have downstream consequences. An example of this is the flight of users away from major online platforms towards other online spaces that are unable or unwilling to adhere to commitments of corporate social responsibilities (Lomas 2017). Any future policy must be proactive by focusing on collaborating with the private sector instead of on regulations that restrict freedom of expression.

Private Sector Collaboration

The government could also support small and medium sized enterprises (SMEs) that often lack sufficient resources to fight extremist content on their platforms. Due to the increased allocation of resources from major tech companies towards countering violent extremism online, it is likely radical groups will turn to these smaller platforms and exploit their deficiencies. The United Nations Counter-Terrorism Committee Executive Directorate, in collaboration with the private sector, has created an initiative to support the tech industry to fight terrorist exploitation of their technologies called Tech Against Terrorism (Cohen 2017). Underneath its umbrella, it has launched the Knowledge Sharing Platform, which is a collection of tools that digital SMEs can use to better protect themselves. While this initiative is a step in the right direction, governments should further invest in these capacity-building initiatives to support SMEs so that they can defend their platforms against online extremism.

Unintended Consequences

There are three main potential consequences of using AI to counter online violent extremism. First, targeting specific groups such as Muslims or members of the alt-right, can unintentionally drive non-threatening members to extremism (Choudhury and Fenwick 2011). By creating a sense of surveillance and distrust of a specific community, it can foster suspicion leading to a perceived threat against

that community. Second, removing specific content or specific users can push users to more encrypted sites of the Internet (Wilson 2016). This makes it more difficult to monitor and information becomes less accessible to intelligence and law enforcement agencies. Third, removing dissenting opinions and views can lead to a lack of non-violent avenues for expressing political and social grievances. It can also create echo chambers online that lead dissenting opinions to become extreme (Khan 2018).

The private sector needs to be encouraged to discriminate between bots that engage in actions to spread and amplify extremist content and those that merely automate tasks that humans are capable of completing. Shifting the focus from the nature of the disseminator, and instead towards their actions ensures that users retain the capacity to maximize their freedom of expression online while simultaneously protecting Canadian's Charter rights and freedoms. As the use of bots becomes more widespread, various groups such as academics and artists will continue to experiment with the legitimate use of this technology. There have been attempts by researchers to use bots to gather large quantities of data using keywords from social media platforms such as Twitter and Reddit. However, these attempts have been rightfully criticized as having flawed research methodologies, as current technologies are unable to discern whether content is genuine, sarcastic, or indicative of trolling behaviour. Furthermore, artists have used bots in order to create computer-generated poetry. While these attempts at using bots legitimately are largely imperfect, users will likely continue to innovate and find novel applications for this technology.

Next Steps

One role the government can take is that of a funding body, not to social media platforms, but to private AI firms that engage in data scraping, which allows for the mass collection of text-based characters. This would entail government collaboration with private enterprise, which would include government financing through staged payments to the company as they progress with the project. By funding private AI companies, the government helps encourage innovation without stifling ingenuity. As well, as an active financier, the government maintains oversight in the company's handling of Canadians' data and privacy. Finally, the government as a financer furthers current policy to make Canada a leader in AI technology.

Contracts between government and private companies can pursue AI in three main ways. First, algorithms can be programmed to begin compiling big datasets on online extremism since there is a lack of big data in this area. With this, AI and datasets will simultaneously grow, allowing for more advanced applications in the future. Second, algorithms can be reverse engineered. Instead of using previous online activity to flag potential future extremists, this method would trace the process through which individuals become radicalized. That is, instead of using an algorithm to predict the likelihood an individual will act on violent extremism, the algorithm will instead trace the steps a known violent extremism took to their point of radicalization. Finally, AI can be programmed to collect data in a two-step process. The first step would be broad information gathering. Then, on an ongoing basis, experienced analysts sort through the noise and identify immediate and emerging threats. At this point AI can then be programmed based on more narrow parameters to gain more information.

While a subsidy regime has many benefits, there exist several limitations. First, it has the capacity to incentivize digital SMEs, but its effectiveness with respect to the dominant technology firms with large operating budgets dedicated to AI development is questionable. Second, there is a potential for negative media coverage as Canada may be seen as picking winners and losers by providing capital to certain actors within this sphere. However, the Government of Canada in respect to contracts or procurement, routinely discriminates between firms. Ultimately, this is a challenge of communicating a future policy clearly to the Canadian public. Third, without sufficient public buy-in the policy may have a poor social reception, as there may exist a perception that Canada is engaging in corporate welfare to large technology firms for the development of technologies that remains suspect. Various government departments, including but not limited to the Department of National Defence, are recognizing the importance of AI. If Canada is to shape the future of AI, it needs to be an active stakeholder as opposed to a passive observer.

Recognizing that this issue is transnational, it would be beneficial to establish an international standard on online extremism among Canadian allies. Lacking such a standard, individual governments addressing this issue through different policies and regulations increases the operating cost required by companies to comply. An example of an attempt at creating an integrated digital regulation union is the European Union's General Data Protection Regulation (GDPR). Thus, negotiating a simplified set of standards would foster progress and efficiency, and provide the opportunity for governments to collaborate and share best practices. Despite these benefits, there are concerns that requiring digital companies to adhere to the GDPR reinforces norms of data protection and security that are unique to the European context.

Recommendations

- Government must be proactive and collaborate with private sector companies to invest in technology to counter violent extremism.

- The tools created with government support must be fully transparent in providing the public information on the purpose, scope, and results of these tools.

- Government should enact policy that protects citizens' data and digital rights while allowing private enterprise to innovate and flourish.

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Governing Artificial Intelligence: Preventing and Preparing Should It Go Awry

Ruxandra Badea, Kristen Myers and Sulamita Romanchik

Issue

Given that artificial intelligence (AI) is a moving target, governance measures have been outpaced by AI technological growth, thus posing potential threats to human rights and global peace and security. The current lack of AI governance calls for a robust governance framework to prevent and prepare for AI going awry — one that aligns with Canada's feminist foreign policy and its history and reputation for upholding human rights around the world.

Background

The growth and expansion of AI has progressed rapidly domestically and internationally, creating transformations in every aspect of our lives. As these systems have become more powerful and independent, concerns surrounding AI "accidents" have grown, thus calling for the need for greater understanding and preparedness for these technological advancements.

Many academics, policy makers, private sector leaders, and others have voiced concerns over AI's ability to reproduce human bias. The probability of automating inequality and perpetuating human rights abuses creates an increased and urgent need for determining what Canadian values can be used to emulate a "value-by-design" approach, starting with the AI design process. The discussion of guiding principles has been at the forefront of many high-level meetings on AI in order to confront the issues surrounding bias, human values, and ethics. For this reason, the importance of informed decision-making has been brought up in conjunction with ethics and bias.

Additionally, the Global Summit on Human Rights in the Digital Age (RightsCon 2018) revealed two primary concerns currently surrounding AI systems, which amplify the likelihood of AI systems going awry: first, the commercialization and ownership of data hinders transparency and auditability, particularly of corporations, and the question of governments holding greater access to the data that is inputted into AI systems is at the forefront of halting the black box problem of AI; and second, the value of maintaining human auditing and supervising of any AI system at any time and continuously. There is ample consideration of establishing a threshold as to when human judgement should be used, hence limiting an AI system from becoming entirely autonomous; should AI systems become fully autonomous, there are growing concerns that humans would be entirely removed from the loop. As these systems begin to evolve on their own, the ability to find an explanation for, or to pinpoint at which moment exactly and for what reason an AI system goes awry will become nearly impossible. Designing AI with auditability in mind is something that cannot be disregarded as the global community delves into its complexities.

Finally, over a handful of international treaties and agreements exist that address technologies, arms, and weapons similar in the magnitude of their impact as, but less sophisticated than, AI. Innovation, however, is moving in the direction where such technologies and arms are evolving into more complex and advanced products — AI products that the treaties and agreements do not explicitly cover. The first of such treaties is the

Arms Trade Treaty, which outlines national export and import controls of countries in alignment with human rights and international humanitarian law considerations, including those contained in the Geneva Conventions of 1949, and additional protocols (United Nations Office for Disarmament Affairs n.d.a). Second, the Wassenaar Arrangement promotes both transparency and greater responsibility in transfers of conventional arms and dual-use goods and technologies, taking into account the dual-use nature of AI (Wassenaar Arrangement Secretariat 2017).

The Biological Weapons Convention is the first multilateral disarmament treaty banning the development, production, and stockpiling of an entire category of weapons of mass destruction, as well as weapons, equipment or means of delivery designed to use such agents or toxins for hostile purposes or in armed conflict (United Nations Office for Disarmament Affairs n.d.b). Similarly, the Chemical Weapons Convention prohibits the large-scale use, development, production, stockpiling, and transfer of chemical weapons (Organisation for the Prohibition of Chemical Weapons n.d.). Both these treaties also augment the 1925 Geneva Protocol, banning the use of such weapons in international armed conflict. Biological and chemical weapons can reach AI capabilities but the aforementioned conventions do not include any provisions on AI, as AI advancements were not yet foreseen.

Likewise, the Nuclear Non-Proliferation Treaty aims to prevent the spread of nuclear weapons and weapons technology, to promote cooperation in the peaceful uses of nuclear energy, and to further the goal of achieving nuclear disarmament and general and complete disarmament (International Atomic Energy Agency n.d.). As such, the exclusion of AI in the aforementioned treaties, conventions, and agreements inadvertently allows for the exploitation of loopholes and/or the production of AI weapons for mass destruction and its combination with existing weapons.

How should Canada Respond?

The recommendations proposed in this brief contain concrete measures that Canada can take to promote the ethical development of AI at home and abroad in the immediate and near future, and are in line with existing government initiatives and internationally agreed upon

arrangements, conventions, and treaties. Moreover, Canada cannot claim to be an international leader if it does not reflect what it advocates for internationally. Thus, by leading by example at home, Canada can successfully position itself globally, while contributing to its international role as a convenor on international issues. This requires the consideration and examination of current AI governance initiatives and other government approaches to AI governance, enabling Canada to create its own governance mechanism that draws on the strengths of existing mechanisms and fills any gaps that other initiatives or states have missed.

Considerations for Global Affairs Canada

When implementing these policy recommendations below, it is important to consider the following: investing in education and training on ethics will require a restructuring of the educational program within universities and colleges, as well as looking into certification programs or skills upgrading courses for all individuals already working in AI careers. Establishing ethical literacy training will require the federal government to collaborate with the provincial governments across Canada and the Ministries of Education and to either increase, or reallocate, educational funds. It will also require Global Affairs Canada (GAC) to collaborate with other departments within the federal government to ensure that all public service workers are informed and trained on AI; its governors cannot be unaware of the implications of the emergent technology.

Scrutiny surrounding the growing use of, investment in, and governance of AI and the potentially harmful effects it may pose is expected to continue. Informed and comprehensive media outputs of the proposed strategy would reassure all stakeholders involved. Transparency will serve to give the public and stakeholders involved peace of mind in terms of what is being done to govern AI and the potential harm it may pose. It is pertinent that Canada take a proactive stance towards implementing measures and mechanisms to govern AI while providing the public with reliable and accurate information in order to ease discontent. A strategic comprehensive communications strategy consisting of multi-department and multi-source release of information is the best way to achieve this goal.

It is important to note that AI's integration into existing international agreements and treaties may entail a large political process. However, there is current political will and appetite, demonstrated through the various current national and international initiatives, in pursuing the governance of AI. Its integration into existing agreements, rather than the creation of new mechanisms, would be more politically feasible and would ensure existing players signed onto these agreements would be more empathetic towards these additional protocols. Further, by integrating AI into existing security agreements, the probability of states continuing to ignore the treaties is less likely, and formerly reluctant states may be more incentivized to sign and ratify the aforementioned agreements. Given the accessibility of AI to a greater number of states and actors, the question of inclusion and the importance of a variety of perspectives is necessary in order to minimize the risk of a global AI arms race. Inadvertently, these governance initiatives also contribute towards building a more inclusionary global platform within which a language can emerge that crosses diverse voices.

Existing Programs, Partnerships, and Initiatives

There are existing governance programs, partnerships, and initiatives in which the policy recommendations below fit well. This includes the government's $125 million Pan-Canadian Artificial Intelligence Strategy, led in partnership with the Canadian Institute for Advanced Research (CIFAR), which embodies the priority to develop global thought leadership on the economic, ethical, policy, and legal implications of advances in AI (CIFAR 2018). This also includes the government's procurement and job creation strategies, including the Innovation Superclusters Initiative, centred in the government's Innovation and Skills Plan, and the Innovative Solutions Canada program, part of the Innovative Skills Program (Government of Canada 2018).

Other private/academic sector governance initiatives include The Montreal Declaration for a Responsible Development of Artificial Intelligence, which sets out ethical guidelines for the socially responsible development of AI (Université de Montréal 2017). Drafted through a co-construction process, wherein individuals from all fields were involved, the final draft of the declaration was completed near the end of winter 2018 and is a living document that is revisable and amendable. Likewise, the

Toronto Declaration on Protecting the Rights to Equality and Non-discrimination in Machine Learning Systems by AccessNow and Amnesty International focuses on discrimination in machine learning and is open for endorsement by different companies and corporations (AccessNow n.d.). Looking ahead, GAC can find the declaration to be another ideal platform within which to incorporate the policies this brief proposes.

Lastly, international governance domains include government commitments towards sound AI and robotics governance — including the EU's recent adoption of the General Data Protection Regulation and China's emerging data privacy system, the Personal Information Security Specification. Of particular importance is the EU's recent Declaration of Cooperation on Artificial Intelligence, signed in April 2018. The declaration is a commitment between 25-member states to *collectively* deal with the challenges of AI, while preventing states from engaging in an AI "arms race" (European Commission 2018). Keeping this in mind, Canada should explore the creation of its own governance mechanisms that draw on the strengths of these existing mechanisms, while filling gaps that these governance frameworks have overlooked.

Recommendations for GAC

Create guidelines to ensure development agencies abide by the five-point platform for AI development. A 2016 report, "Concrete Problems in AI" (published in conjunction with Google Brain, Stanford University, UC Berkeley and Open AI), sets out five practical points of accident risk prevention in terms of AI: avoiding negative side effects, avoiding reward hacking, scalable oversight, safe exploration, and robustness to distributional shift (Amodei et al. 2016). Implementing these into policy to be observed by developers, researchers, and corporations both domestically and internationally would provide Canada with a robust forward-looking safety plan.

Establish a multi-stakeholder advisory board comprised of industry, education, research, civil society and government personnel to update policy according to advancements in AI and to ensure that domestic industries abide by these guidelines. Involving multiple stakeholders in the ongoing discussion and governance process of AI is the ideal way to balance innovation and control. Simultaneously, the board can provide an ideal forum for building partnerships, addressing issues

surrounding AI and trade-offs between stakeholders, and for increasing trust and transparency between all stakeholders and the public. As Canada pursues a leadership role in AI, an advisory board provides the space for the Canadian government to take a greater role in the oversight of AI, which can redirect or instigate innovation of its own, and thus should not be seen as a threat to innovation.

Push for investment into ethics education and training for AI developers and associated stakeholders. Without a sound ethical background, all stakeholders involved risk violating Canada's human rights stance. The United States has already solidified its commitment to ethical education through the introduction of several bills in 2017, such as bill 4625 in the House and bill 2217 in the Senate (GovTrack 2017; JDSUPRA 2018), which Canada should also pursue. Ethical education should include the training of current public servants and diplomats, as these are the individuals directly formulating and negotiating treaties and agreements impacting AI governance.

Develop a code of conduct for AI engineers and others associated with its use and development. Drawing upon the EU's Code of Ethical Conduct for Robotics Engineers (Castel and Castel 2017), the Canadian government should establish a similar framework for all stakeholders involved in AI's use and development. By referencing this code, Canada can exert its leadership by including its world-respected values into its own code and then promulgate it world-wide. It is important to note that the EU's ethical code of conduct is voluntary. As Canada pursues a global, ethical AI leadership position, it should call for a more ambitious, mandatory ethical code of conduct. The task of developing the code of ethical conduct could be delegated to the proposed advisory board, whose multi-stakeholder constituency would ensure more inclusive standards.

Call for the incorporation, through the means of protocol(s), of AI-related policies into international treaties and agreements. As several AI applications can be used for both peaceful and non-peaceful means, and are thus dual-use, integrating AI provisions into the Wassenaar Arrangement would ensure that these transfers are not diverted to support unpeaceful means. Further, as concerns about autonomous weapons rise, incorporating AI provisions into the Arms Trade Treaty, Biological Weapons and Chemical Weapons conventions, and the

Treaty on the Non-Proliferation of Nuclear Weapons, all of which do not take into account the possible or potential integration of AI systems, would prevent the unethical integration of AI into technologies that pose a threat to global peace and security. Not only does the integration of AI into these existing global agreements help to uphold global peace and security, but it also aligns with Canada's feminist foreign policy stance by prohibiting any potential AI weapons that could facilitate or promote violence against women and other vulnerable populations.

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Environment

Ending Energy Poverty: Canada as a Global Leader

Meghan Entz, Curtis Jenken and Anthony Kubursy

Issue

Universal access to clean energy remains a protracted problem that has detrimental impacts for both developing countries and rural or remote communities in Canada. Through leadership on the world stage, and within forums such as Mission Innovation (MI), Canada has the opportunity to improve rates of energy access in the most energy impoverished regions of the world, while advancing overarching governmental priorities.

Background

Energy Access Context

Energy access is defined by the International Energy Agency (IEA) as "a household having reliable and affordable access to both clean cooking facilities, and to electricity, which is enough to supply a bundle of energy services initially, and then an increasing level of electricity overtime to reach the regional average" (IEA 2017). The "bundle of energy services" comprises a level of minimal energy requirements necessary for lighting and communication. Households without access to clean cooking facilities or the defined minimal level of energy services are living in energy poverty.

Globally, approximately one to 1.3 billion people are without electricity (World Bank 2018). Lack of energy access is felt most acutely in regions of Sub-Saharan Africa (SSA) where 62.5 percent of the population are without electricity, and Southeast Asia where 20 percent of the population are without electricity (World Bank

2017a). Within these energy-impoverished regions, a stark energy divide exists between urban and rural areas, with urban electrification at 97 percent compared to rural electrification at 76 percent (World Bank 2018). Despite recent progress, mainly in developing Asia, population growth continues to outpace electrification rates, and future projections by the IEA suggest that by 2030 an estimated 674 million will still be without electricity (ibid.). Within Canada, approximately 280 rural and remote northern communities are not connected to the grid. Two-thirds of these communities are home to Indigenous peoples and are reliant on expensive fossil fuels transported over long distances, resulting in constrained levels of energy access (Brooks and Moore 2017).

Global Drivers for Universal Clean Energy Access

SDG 7 and the Multiplier Effect

Energy access has been recognized as a universal priority through Sustainable Development Goal 7 (SDG 7), which seeks to "ensure universal access to affordable, reliable and modern energy services" by 2030, along with improving the efficiency and technology of energy services (United Nations Development Programme 2016). Also considered to be a critical enabler, SDG 7 has many positive spillover effects associated with its linkages to other SDGs, including poverty reduction (SDG 1), education (SDG 4), gender equality (SDG 5), and climate action (SDG 13).

Climate Change

Dominated by fossil fuels, global energy production and consumption accounts for two-thirds of total GHG emissions and 80 percent of CO_2 emitted in 2017 (IEA 2018). A recent International Renewable Energy Agency (IRENA) report projects that energy transformation powered by modern sources of renewable energy can provide over 90 percent of the reduction in energy-related CO_2 emissions by 2050 (IRENA 2018b). As development remains linked to an increase in energy consumption, prioritizing clean energy access in the world's most energy-impoverished regions enables developing countries to "leapfrog" past harmful carbon-emitting sources of energy, while limiting the increase of global fossil fuel consumption.

Gender

Today, women and girls disproportionately bear the burden of energy poverty. In regions of SSA and developing Asia women and girls face increased security risks travelling alone at night in unlit areas, and spend hours each day collecting biomass for cooking and heating, suffering from the health effects of cooking indoors in unventilated spaces (Global Alliance for Clean Cookstoves 2017). Indoor cooking using fuelwood and coal represents the largest environmental cause of death annually, exceeding the toll of tuberculosis, malaria, and AIDS combined (Brooks and Moore 2017). Lack of electricity in clinics and households also contributes to complications in childbirth (We Care Solar 2017). Enabling consistent access to energy services supports women in escaping the poverty trap through time freed from traditional duties collecting fuel wood, creating safe forms of lighting after-hours, and electrifying women's small and medium enterprises (ENERGIA, World Bank Group/ESMA, and UN Women 2018).

Falling Costs of Renewable Technologies: The Case of Solar

From 2010 to 2017, costs of solar electricity have fallen by over 75 percent (IRENA and CPI 2018). This dramatic price decrease creates an opportunity for low-cost, sustainable energy production for energy-impoverished areas that receive high levels of solar radiation such as SSA (Quanesh, Adaramola and Mensah 2016). A recent IEA report estimates over 60 percent of new electricity access from 2018 to 2030 will be provided by low-cost, off-grid solar battery systems connected to high-efficiency appliances and mobile pay-as-you-go networks (IEA

2017). As more technological innovations for clean energy access continue to emerge, policies designed to harness these opportunities must be tuned to reflect differences in local contexts.

Barriers to Universal Energy Access Initiatives

Not accounting for diverse local context and resources has posed barriers to the success of some clean energy initiatives in the past. One of the most prominent cases of this was the promotion of solar-powered irrigation pumps, which were found to have significant disparities in environmental impacts based on levels of regional water scarcity (IRENA 2015). Relatedly, another barrier is rooted in the deficiencies of current technology transfer. Research shows that enabling social and economic environments that include the presence of skilled technicians, access to credit and flexible financing, and cultural appropriateness, are all required for successful clean energy technology adoption (Miller, Iles and Jones 2013; Urmee, Harries and Holtorf 2016). Components are often missing from one-off or short-term development initiatives (ibid.).

Barriers can also arise from new initiatives themselves. Incorporating universal clean energy access in the 2015 SDG framework gave rise to a plethora of new international initiatives. However, some multilateral efforts such as the UN's Sustainable Energy for All (SE4ALL) initiative, exist parallel to, and often in competition with local small-scale energy start-ups as well as traditional bilateral forms of official development assistance designed for universal clean energy access development (European Union Energy Initiative Partnership Dialogue Facility 2016).

Canada's Role in the Clean Energy Access Movement

Domestically, Canada has already taken measures to improve clean energy access. Federal initiatives such as the Pan-Canadian Framework on Clean Growth and Climate Change and the Canadian Energy Strategy recommend clean energy transitions as a way to work towards achieving mitigation targets outlined in the Paris Agreement. In particular, energy access in off-grid, rural and remote communities is stressed as a transitional challenge for Canada to overcome. So far, Canada has pledged $220 million over six years in addition to the $400 million already pledged to the Arctic Energy Fund,

and a previous $21.4 million commitment to support the deployment of renewable energy projects in diesel-reliant communities (Government of Canada 2018).

Internationally, Canada has also championed clean energy access through its inclusion in the Feminist International Assistance Policy (Global Affairs Canada 2017). At the One Planet Summit in December 2017, Canada and the World Bank also announced a partnership to support effective climate action including supporting the acceleration of developing countries' transition away from coal-fired electricity towards clean energy and supporting small island states in expanding their renewable energy infrastructure (World Bank 2017b).

Why Improving Universal Energy Access Is in Canada's Interest

Universal energy access can help to realize three overarching objectives of the Canadian government. First, by leapfrogging over high-emitting energy sources in energy-impoverished areas, clean energy sources will help to prevent future emissions and work to realize the Paris goal of limiting global average temperatures to well below 2°C. Second, increased access to clean energy technologies has the potential to significantly impact female health and women's empowerment, which are two priorities identified in Canada's feminist policy (Global Affairs Canada 2017). As demonstrated through initiatives such as the Barefoot Women's Colleges and Kenya's Upesi Rural Stoves Project, by targeting women as agents of change within clean energy development and service provision, there is an opportunity to mainstream women's empowerment within the clean energy access movement (African Development Group Bank 2016). Finally, clean energy solutions can dramatically improve livelihoods in rural and remote Indigenous communities at home, thereby having the potential to contribute to reconciliation efforts.

Canada's Role in Championing Universal Energy Access

Individually, Canada lacks the resources to solve the complex challenge of universal energy access, but through harnessing its strength as an international collaborator, Canada has the potential to develop contextually appropriate solutions for the most energy-impoverished areas of the world. Previous and current global initiatives led by Canada, such as the G20 Child and Maternal Health Initiative or the recently introduced Powering

Past Coal Alliance, support this notion and demonstrate Canada's expertise in bridging together a diversity of multi-stakeholder interests to pursue a common goal.

There is now an opportunity for Canada to spearhead a new universal energy access initiative. Through MI, a multilateral forum that brings together 22 countries and the EU to "dramatically accelerate global clean energy innovation," Canada has the opportunity to leverage its leadership role as a member of the MI steering committee and channel resources into developing research hubs focused on context-specific energy access solutions (Mission Innovation n.d.a).

Recommendations for Canada

MI should pursue the creation of six Energy Access Information Centres (EAICs) in the most energy-impoverished regions of the world. This includes three in Africa, one in South-East Asia, and one in Latin America. The final centre is to be located in Canada's North, with the goal of improving energy access in remote and Indigenous off-grid communities. The EAICs — based on Affordable Energy for Humanity's 2017 concept — will provide three main functions (Brooks and Moore 2017). First, the EAICs will provide a collaborative center for research, development, and deployment of scalable, context-appropriate clean energy technologies. Second, the EAICs will enable capacity building through new partnerships between state and non-state actors, local entrepreneurs and international private sector investors. Third, the EAICs will host a program that trains a new generation of clean energy entrepreneurs, or "change agents," that will be challenged with ensuring long-term sustainability for clean energy access through extension services, suited to meet the needs of local contexts.

MI funding should be leveraged with other existing public and private sector commitments to finance the proposed EAICs. As co-leader of the MI Steering Committee Analysis and Joint Research Sub-group, Canada is uniquely positioned to leverage MI funds to build and maintain the proposed EAICs. MI members have already committed USD$31 billion to identify clean energy opportunities that drive transformational change (Mission Innovation, n.d.b). In addition to state funding, MI also has developed partnerships with private investors, such as the recent collaboration between five MI members, including Canada, and the Breakthrough

Energy Coalition, a group of 28 high net worth investors who have created a USD$1 billion fund to finance clean energy initiatives (ibid.). Moreover, additional financing can be secured through international development banks, many of which have made new commitments to clean energy initiatives, such as the African Development Bank, German bank KfW and the World Bank, which offer partial risk guarantees for clean energy access funding (IRENA 2018a). An estimated breakdown of total annual costs for the EAICs is included in Appendix I of this brief.

Emphasize EAICs as collaboration centres that prioritize the engagement of local actors. As demonstrated through regional centres established by the Consultative Group of International Agricultural Research, tangible centres for collaborative research and development have benefited local populations and offered returns on international investments for decades. However, it is essential that partnerships with three groups of local stakeholders — researchers, entrepreneurs, and end-users — be at the forefront of EAIC mandates. First, in addition to acting as sites of international research collaboration, EAICs will include a granting mechanism for funding local research projects, carried out in partnership with local universities. Second, the EAICs will engage in partnerships with local clean energy enterprises and existing development projects, including regional partnerships such as donors and SE4All hubs, with a special focus on those that support women's engagement. Third, EAICs will also focus on capacity building for local youth through academic exchanges between partner universities and, most importantly, through the recruitment and training of local change agents to operate regionally as extension workers. Within this role, individuals — supported by EAICs — will receive the training necessary to ensure that maintenance, education and support is available for clean energy enterprises and end-users.

The final EAIC should be built in Northern Canada. Building on the ongoing work being done through the Canadian High Arctic Research Station in Cambridge Bay, Nunavut, Canada's own EAIC department can work together with Indigenous communities to develop clean energy technologies and services for Canada's most remote communities. The centre could serve as a networking platform between existing provincial and territorial initiatives, and those funded under Natural Resources Canada's Clean Energy for Rural and Remote Communities program, as well as provide access to the international network of EAICs.

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Appendix I: Cost Breakdown of EAICs

Expenses	Cost/Year in CAD
Global Operations and Administration	$917,525
Annual EAIC Administrative	$1,913,695
Annual Program Budget per EAIC	$5,636,225
Total Annual Expenses per EAIC	$7,549,920
Annual Expenses x 6 EAICs	$40,241,073.60**
Total Annual Expenses	$41,158,598.60

**Accounting for a smaller budget in the Canadian EAIC

Source: authors, based on information from Nathwani, Jatin, Joachim Knebel, Daniel M. Kamman, Robert Stoner, Fred McBagonluri, Malcolm McCulloch, and Ortwin Renn. (2017).

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Canada's Leadership Role in MENA

Roger Boyd, David Caughey and Shahene Patel

Issue

Canada's role in advancing international law to support the achievement of the Sustainable Development Goals (SDGs) and Canada's efforts to implement the Paris Agreement in the Middle East and North Africa (MENA) is potentially in jeopardy due to the increasing risks that climate change will have on this region in particular.

Background

The three recommendations below help to address larger issues relating to biodiversity, water justice, and Climate Risk and Early Warning Systems (CREWS) within the MENA region. Canada has a strong reputation globally, but can improve its image by considering these recommendations as a way to meet the SDGs and the Paris Agreement. Canada's continued effort in the fight against climate change and for social justice around the world will only be made clearer through the implementation of these recommendations, allowing Canada to have a more effective presence in the region.

Convention on Biological Diversity (CBD) in MENA

Humans are likely contributing to, if not causing, the Earth's sixth mass extinction (a loss of at least 75 percent of species within a geologically short period of time). Current species extinction rates are 10 to 100 times higher than previous mass extinction events. Canada is no exception, with 23 percent of species ranked sensitive or at risk in Environment Canada's most recent wild species report (Environment and Climate Change Canada 2018).

The CBD is the most comprehensive international treaty that addresses the conservation of biodiversity. Especially through addendums like the Nagoya Protocol and the Aichi Targets, it recognizes the importance of law and good governance in achieving biodiversity conservation, as well as cooperation with Indigenous communities, where much of Earth's remaining biodiversity is found.

Canada was the first developed country to ratify the CBD in 1992 and is host to the CBD's Secretariat in Montreal. Canadian leadership is greatly respected in these areas, due especially to recent advances in federal law and policy, and diverse and innovative regulatory experiences across Canada's provinces and territories.

In November 2018, during the CBD's Conference of Parties, the CBD Secretariat convened a day-long special event on biodiversity law and governance in conjunction with the Centre for International Sustainable Development Law, following on the success of the inaugural 2016 Biodiversity Law and Governance Day in Cancun. Co-hosts of this BLGD included a consortium of government, university, business and international organization partners. It brought together representatives from governments, academia, civil society and the private sector to exchange legal and institutional good practices in mainstreaming biodiversity into, and across, economic sectors. While Canada contributed to the inaugural 2016 event with expertise, it was not yet a core partner.

Water and Gender in MENA

Water governance in MENA is a deeply complex issue as growing disparity in equitable access to water continues. With this region in particular, the problem is not due to

a lack of willingness through science or development, but rather of conflict. The MENA consists of six percent of the world's population, but less than two percent of its renewable water supply — "in fact, it is the world's driest region with 12 of the world's most water scarce countries: Algeria, Bahrain, Kuwait, Jordan, Libya, Oman, the Palestinian Territories, Qatar, Saudi Arabia, Tunisia, the UAE, and Yemen" (Ghanimah 2015). During a single day during 2012, women spend 16 million hours, collectively collecting water in this region—an issue that is only getting worse (Global Affairs Canada 2018). Women and girls are particularly at risk when it comes to threats on access to water (ibid.). Since Canada is largely perceived as an "honest broker," there is significant room for Canada to assist local grassroots women's organizations for water equality.

As Canada is a leader in equitable water governance with the United States through multiple bilateral agreements, including shared governance over the Great Lakes, there are clear lessons to be learned where Canada can provide our expertise on water management by supporting the MENA region's efforts to reach equitable water governance.

CREWS in MENA

MENA is a hotspot for the impacts of global climate change and is already the most water-stressed region of the world. As well as increasing aridity and higher maximum daily temperatures, ironically the region will also be impacted by more extreme rainfall and flooding events (Tabari & Willems 2018). The population of the region has increased rapidly in the past few decades, and has also become increasingly urbanized. Both of these trends will increase the impacts of intensified climate change-related events. The need for better short- and longer-term weather forecasting is evident.

The CREWS initiative was launched in 2015 in Paris as part of the UN Secretary-General's Initiative on Climate Resilience and it "aims to significantly increase the capacity for Multi-Hazard Early Warning Systems" (United Nations Framework Convention on Climate Change 2015) in the Least Developed Countries and Small Island Developing States. Canada's Earth Sciences Sector has "successfully developed a strong reputation in many areas of the developing world," (Natural Resources Canada 2015) a reputation that an active role in CREWS would serve to enhance.

Canada has committed USD$10 million through the World Meteorological Organization (WMO), but has not taken a direct role in CREWS, as it currently only has observer status. Also, investments in the MENA are heavily underweighted within the CREWS portfolio. This provides the possibility for Canada to take a much more active role focused on the MENA region, while not challenging the French chairmanship.

Recommendations

As a signatory of the CBD and host of the secretariat, Canada should support the Biodiversity Law and Governance Day in Sharm El Sheikh on Saturday, November 17, 2018. With Canada's 2016–2019 Federal Sustainable Development Strategy, Canadian Biodiversity Strategy, and with the recent federal budget's CAD$1.3 billion commitment to biodiversity and species at risk, it is possible for Canada to contribute political and policy leadership as well as substantive funds. Engagement as a sponsor offers several important advantages, including:

- a dedicated seat on the Advisory Committee for the day, helping to decide on the shape of the forum, selecting the best proposals for themes and roundtables, and guiding development of the forum;

- the opportunity to keynote or chair the plenary meeting on the aspects of mainstreaming biodiversity that are most pressing for the country, profiling their country's initiatives; and

- a special session in which to share Canadian approaches and experiences in the thematic sessions and roundtables, as a dedicated and collaborative platform for co-generation of new knowledge on law and governance innovation to mainstream biodiversity

Canada should use its technological expertise in water infrastructure and water remediation technologies to ensure the sustainable access to clean water, adequate sanitation and proper hygiene, and integrated water resource management to meet the challenges of gender-based imbalances. Canada's Feminist International Assistance Policy (FIAP) is an excellent opportunity for Canada to use its expertise in water governance to inform, through aid and support, the MENA on developing a strategy for equitable water governance, especially with respect to women. Canada will also be able to use the principles set out in the Ramsar Convention on Wetlands,

to implement not only SDG 6 on water, but also Canada's FIAP in the MENA. This convention encourages parties to achieve SDG 6 by reducing pollution, encouraging sustainable water use, implementing protective measures on water, and mobilizing international support on local, regional and national levels to create a framework to achieve SDG 5 (United Nations Environment Programme 2016). It also encourages regional cooperation efforts, which can prove useful for local grassroots women's organizations, to prevent adverse health or socioeconomic impacts from damage to transboundary rivers specifically local organizations serving remote communities in MENA (ibid.).

Canada should also join the Helsinki Convention: Transboundary Watercourses and International Lakes and New York Convention: Law of Non-navigational Uses of International Watercourses. It is especially concerning that Canada is not party to these two conventions given its history with successful water management. Canada can share lessons learned through water governance, but also provide a unique perspective on the nexus between women and water that will help it to achieve its commitments to SDGs 5 and 6.

Canada should take a leadership position in a MENA-focused part of CREWS, utilizing the $10 million already provided through the WMO and an additional $5 million invested directly into the CREWS trust fund. This more active involvement in CREWS will further both SDG 11 (sustainable cities and communities) and also SDG 5, as CREWS "recognizes that women's empowerment is fundamental for building resilience and that men and women access, process, interpret and respond to information and warnings in different ways" (Climate Risk & Early Warning Systems 2017). Canada, and the Canadian Earth Sciences Sector, will both improve their international reputation with respect to climate change action and extend their social, political, and economic network within the developing world, which will be extremely useful in developing new business opportunities and diplomatic initiatives. With the possibility of "abrupt" climate change, the ongoing collection of climatological and ecological time series, such as local rainfall and soil aridity measurements, could provide warnings of tipping points, which is an important objective. Canada can also help extend the CREWS initiative to utilize its implementations for such data gathering and aggregation, and for use in longer-range analysis and planning.

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