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Connectivity Consortium

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INDIGENOUS REGULATORY ADVOCACY IN CANADA'S FAR NORTH: MOBILIZING THE FIRST MILE CONNECTIVITY CONSORTIUM

BY ROB MCMAHON,* HEATHER E. HUDSON,[†] AND LYLE FABIAN[‡]

Marginalized groups such as Indigenous communities and residents of remote and rural areas face daunting challenges as they attempt to influence regulatory decision-making. Can these under-resourced groups hope to have their voices heard in regulatory proceedings, in the face of well-funded corporate interests? Applying a participatory research method to regulatory hearings regarding telecommunications services in Canada's far north, the authors argue that they can, and identify specific strategies and tactics that they can employ when doing so.

INTRODUCTION

On a warm summer day in Whitehorse, Yukon, outside an open window in a hearing room, a garbage truck drowned out the telephone testimony of a passionate advocate for broadband systems owned and operated by First Nations of Canada. The incident occurred in June 2013, during a regulatory hearing on digital infrastructure and services in Canada's far north. The Canadian Radio-Television and Telecommunications Commission (CRTC), holding its first public hearings in the north, initially stated that videoconferencing and teleconferencing links might be available for interveners at the hearings.¹ For the First Nations advocates and their partners, videoconferencing would enable representatives from remote communities to participate, test the services available to northern communities, and demonstrate services offered by Aboriginal providers. To this end, they had organized a panel of in-person and remote participants and arranged for a First Nations provider to manage the videoconference. However, citing costs and the unavailability of technical staff, the CRTC ultimately declined to provide the service, offering instead a telephone line. While the decision was disappointing, it ironically provided the Indigenous advocates with a striking example of the pricing and service constraints facing remote residents. This point was further driven home by the grinding gears and wheezing hydraulics that drowned out the voice of a panelist testifying by phone.

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¹ Canadian Radio-Television and Telecommunications Commission, *Telecom Notice of Consultation CRTC 2012-669: Review of Northwestel Inc.'s Regulatory Framework, Modernization Plan, and Related Matters*, Dec. 6, 2012, accessed May 6, 2014, <http://www.crtc.gc.ca/eng/archive/2012/2012-669.htm>.

The policy and regulatory frameworks shaping broadcasting, telecommunications, and digital infrastructure development are occasionally subject to the kind of public scrutiny and intervention described above. For example, citizen and consumer groups may submit testimony in regulatory proceedings, although these proceedings are often dominated by corporate elites with extensive financial resources and expertise.² Yet examples do exist of participation by relatively marginalized parties that contributed to significant and lasting change.³ This article addresses participation and consultation⁴ in telecommunications regulation through an analysis of Indigenous involvement in proceedings concerning telecommunications and broadband in the Canadian north. A case study of a recent regulatory intervention traces the strategies deployed and challenges faced by some of these groups. Specifically, we consider how Indigenous nonprofit service providers and their partners mobilized in 2013 during regulatory hearings concerning the modernization of telecommunications services and infrastructure in the Canadian north. Deploying a participatory research methodology, we showcase how under-resourced groups can work with academic partners to frame community-held knowledge and resources to inform the deliberations undertaken in a formal hearings process.

For Indigenous peoples, colonial policies of resettlement and containment, coupled with the high costs of serving small and isolated villages, have resulted in a lack of adequate transportation, utilities, and telecommunications infrastructures in many communities.⁵ However, the formation and implementation of policies and regulations designed to guide the diffusion of digital infrastructures provide new opportunities for these groups to redress this history of marginalization.⁶ Utilizing both formal and *ad hoc* strategies, and working with various partners, Indigenous parties secured support for their community media and telecommunication development projects.⁷ In recent years, these

² Des Freedman, *The Politics of Media Policy* (Cambridge, UK: Polity Press, 2008). See also Marita Moll and Leslie R. Shade, "From Information Highways to Digital Economies: Canadian Policy and the Public Interest," paper presented at the World Social Science Forum, Montreal, Oct. 13-15, 2013; Robin Mansell, "New Visions, Old Practices: Policy and Regulation in the Internet Era," *Continuum: Journal of Media & Cultural Studies* 25 (2011): 19-32.

³ See for example Nico Carpentier, Peter Dahlgren, and Francesca Pasquali, "Waves of Media Democratization: A Brief History of Contemporary Participatory Practices in the Media Sphere," *Convergence: The International Journal of Research into New Media Technologies* 19 (2013): 287-294.

⁴ For an excellent overview of the varieties of participation in community development initiatives, see Andrea Cornwall, "Unpacking 'Participation': Models, Meanings and Practices," *Community Development Journal* 43 (2008): 269-283.

⁵ Examples of works that situate digital divides in broader processes of colonialism include Marion Bredin, "Bridging Canada's Digital Divide: First Nations' Access to New Information Technologies," *The Canadian Journal of Native Studies* 21 (2001): 191-215; Christian Sandvig, "Connection at Ewiiapaayp Mountain: Indigenous Internet Infrastructure," in *Race After the Internet*, ed. Lisa Nakamura and Peter A. Chow-White (New York: Routledge, 2012), 168-200.

⁶ For example, Kevin Kemper provides a case study of the legal and economic factors associated with the Federal Communication Commission's extension of Eligible Telecommunication Carrier (ETC) status on the Standing Rock Sioux Tribe in the United States. His analysis argues that tribal sovereignty and competition are not antithetical. Kevin Kemper, "Tribal Sovereignty Means Competition, Broadband Access, and Economic Development for Indian Country: A Law and Economics Analysis of the Efficiency of the FCC's Standing Rock Sioux Case," *Journal of Information Policy* 3 (2013): 442-463.

⁷ For a historical overview of these activities, see Rob McMahon, Heather E. Hudson, and Lyle Fabian, "Canada's Northern Communication Policies: The Role of Aboriginal Organizations," in *The Shifting Terrain: Public Policy Advocacy in Canada*, ed. Nick Mulé and Gloria DeSantis (Montreal: McGill-Queen's University Press, forthcoming, 2014). Scholars who have researched these issues in Canada include Heather E. Hudson, *Communications Satellites: Their Development and Impact* (New York: Free Press, 1990); Gail G. Valaskakis, "The Issue is Control: Northern Native Communications in Canada," paper presented at the Chugach Conference: Communication Issues of the '90s, Anchorage, AK, Oct. 5-6, 1990; Valerie Alia, *The New Media Nation: Indigenous Peoples and Global Communication* (New York: Berghahn Books, 2010);

groups have undertaken similar activities in the context of digital networks and technologies.⁸ Importantly, the characteristics of emergent technologies play a key role in both the process and the outcome of this work, because they enable small and dispersed groups to connect with one another and with policymakers quickly, cheaply, and over long distances.

Theorists of participatory democracy such as Fraser note the limited forms of participation available in the formation of much public policy; marginalized groups face challenges in communicating their will to state institutions, which in turn often fail to incorporate their suggestions in regulatory and policy outcomes.⁹ Cornwall similarly points out that putative opportunities for participation can in fact deepen inequalities, since policy outcomes can entrench the legitimacy of positions held by defined stakeholders that may not represent or include marginalized people among their memberships.¹⁰

In Canada, Indigenous peoples have had few formal opportunities to influence policies and regulations that affect their access to information and communications infrastructures, despite numerous community-led development initiatives to build these services themselves.¹¹ In addition, people living in remote communities often lack the financial, technical, institutional, and human resources that might support this activity.¹² The technical language and formal procedures associated with regulatory hearings can restrict the equitable participation of under-resourced groups. While Indigenous parties

Lorna Roth, *Something New in the Air: The Story of First Peoples Television Broadcasting in Canada* (Montreal: McGill-Queen's University Press, 2005).

⁸ A cluster of research in this area is associated with the First Nation Innovation project, based at the University of New Brunswick. See for example Susan O'Donnell, Sonja Perley, Brian Walmark, Kevin Burton, Brian Beaton, and Andrew Sark, "Community-Based Broadband Organizations and Video Communications for Remote and Rural First Nations in Canada," in *Communities in Action: Papers in Community Informatics*, ed. Larry Stillman, Graeme Johanson, and Rebecca French (Newcastle upon Tyne, UK: Cambridge Scholars Publishing, 2009), 107-119; Tim Whiteduck, Brian Beaton, Kevin Burton, and Susan O'Donnell, "Democratic Ideals Meet Reality: Developing Locally Owned and Managed Broadband Networks and ICT Services in Rural and Remote First Nations in Quebec and Canada," paper presented at the Community Informatics Research Network (CIRN) Conference, Prato, Italy, Nov. 2012, accessed May 6, 2014, <http://meeting.knet.ca/mp19/file.php/16/Publications/2012-CIRN-paper.pdf>.

⁹ Nancy Fraser, "Transnationalizing the Public Sphere: On the Legitimacy and Efficacy of Public Opinion in a Post-Westphalian World," *Theory, Culture & Society* 24 (2007): 7-30.

¹⁰ Cornwall, 279.

¹¹ There are some exceptions. For example, Indigenous advocacy regarding Canada's national broadcasting policy led to the formal recognition of Aboriginal rights in the 1982 Broadcasting Act. Along with Roth, a comprehensive history of this process is presented in Jennifer David, *Original People. Original Television: The Launching of the Aboriginal Peoples Television Network* (Ottawa: Debwe Communications Inc., 2012). In the context of digital infrastructure and services, an example is the Assembly of First Nations' e-Community Model. In 2005, Keewaytinook Okimakanak K-Net Services (KO-KNET), a First Nations technology organization based in northern Ontario, developed an "e-Community" proposal to create, operate, and manage a suite of e-applications for remote and rural First Nations. KO-KNET subsequently worked with other First Nations groups to move this proposal forward as a resolution at the 2008 national Chiefs' assembly. The approved e-Community ICT model was presented at the 2009 Aboriginal Policy Research Conference and re-affirmed in AFN Resolution 2011-09. See Judy Whiteduck, "Building the First Nation e-Community," in *Aboriginal Policy Research: Learning, Technology and Traditions*, ed. Jerry P. White, Julie Peters, Dan Beavon, and Peter Dinsdale (Toronto: Thompson Educational Publishing, 2010), 95-103. As of spring 2014, several First Nations have begun to implement the e-Community model (see: <http://e-community.knet.ca/>).

¹² Assembly of First Nations Chiefs Committee on Economic Development, "Overcoming the Digital Divide: An Historical Overview of First Nations Connectivity," draft white paper (2010).

do gain access to periodic funding for their projects,¹³ they are typically ignored in formal policy and regulatory deliberations dominated by government and corporate actors. The rise of deregulation and free market policies leaves even fewer opportunities for participation in this area.¹⁴

In Canada, the federal government has initiated broadband policy to address digital divides and provide economic development opportunities. Initiatives such as “Broadband Canada: Connecting Rural Canadians” operationalized these goals by providing subsidies for private sector entities to build and operate infrastructure, which critics argued undermined local network sustainability and service delivery in remote communities.¹⁵ Indigenous organizations also criticized these policy shifts, partly because they were not consulted during planning and implementation.¹⁶ For example, in June 2010, Industry Canada announced plans for a national digital economy strategy, supported by recommendations from the Senate Standing Committee on Transport and Communications in their “Plan for a Digital Canada.” A research project conducted at that time confirmed that many staff in First Nations and Inuit technology organizations felt they lacked substantive opportunities to contribute to digital policy.¹⁷ Nonetheless, some Indigenous groups did submit position papers regarding the digital economy consultations.¹⁸ Parallel to these developments, Aboriginal Affairs and Northern Development Canada (AANDC) was tasked with developing a national Aboriginal connectivity strategy. In April 2014, the federal government published a broad digital economy strategy (called “Digital Canada 150”), but has yet to publicly release its Aboriginal connectivity strategy. It remains unclear to what extent these initiatives will take into consideration the concerns raised by the Indigenous organizations.

Advocates for improved communication infrastructures and services for northern Indigenous communities must also contend with the economic challenges of serving small settlements scattered

¹³ For an overview of First Nations work in this area, see Susan O'Donnell, Mary Milliken, Corinna Chong, and Brian Walmark, “Information and Communication Technologies (ICT) and Remote and Rural First Nations Communities: An Overview,” paper presented at the Canadian Communication Association Annual Conference, Montreal, June 2010. For an example of research on Inuit initiatives see Neil Blair Christensen, *Inuit in Cyberspace: Embedding Offline Identities Online* (Copenhagen: Museum Tusculanum Press, 2003).

¹⁴ Robert W. McChesney, *Digital Disconnect: How Capitalism Is Turning the Internet against Democracy* (New York: The New Press, 2013).

¹⁵ Marita Moll, “Appendix B: A Brief History of the Community Access Program: From Community Economic Development to Social Cohesion to Digital Divide,” in *Connecting Canadians: Investigations in Community Informatics*, ed. Andrew Clement, Michael Gurstein, Graham Longford, Marita Moll, and Leslie R. Shade (Edmonton, AB: Athabasca University Press, 2012), 485-490. See also Vanda Rideout, “Public Interest in Communications: Beyond Access to Needs,” *Global Media Journal: American Edition* 7 (2008): 1-11.

¹⁶ Assembly of First Nations Chiefs Committee on Economic Development.

¹⁷ Rob McMahon, Susan O'Donnell, Richard Smith, Jason Woodman Simmonds, and Brian Walmark, “Putting the ‘Last-Mile’ First: Re-Framing Broadband Development in First Nations and Inuit Communities,” white paper, Centre for Policy Research on Science and Technology at Simon Fraser University, Dec. 2010, accessed May 10, 2014, <http://meeting.knet.ca/mp19/file.php/106/Putting-the-Last-Mile-First-Dec-1-2010.pdf>.

¹⁸ See for example Nunavut Broadband Development Corporation, *Submission to the Digital Economy Consultations on Behalf of the Nunavut Broadband Development Corporation*, public comment document, Digital Canada 150, July 9, 2010, accessed May 10, 2014, https://www.ic.gc.ca/eic/site/028.nsf/eng/00413_3.html; Judy Whiteduck, Kevin Burton, Tim Whiteduck, and Brian Beaton, *A First Nations Perspective on a Digital Economy Strategy and an Aboriginal Connectivity Strategy*, public comment document, Digital Canada 150, July 10, 2009, accessed May 10, 2014, <https://www.ic.gc.ca/eic/site/028.nsf/eng/00397.html>.

over millions of square kilometers of wilderness. For example, the territory of Nunavut covers 2.1 million square kilometers (808,200 square miles) with a total population of 36,100 people living in 25 settlements -- none of which is accessible by road.¹⁹ The costs of serving such remote locations are high and exacerbated by the harsh climate and lack of road access. Several recent studies have examined technological options and costs for serving these northern communities.²⁰ The federal government (through CanNor, the Northern Economic Development Agency) has also recently announced funding to develop a strategic connectivity plan covering all three northern territories, and has provided support for community broadband projects.²¹

These studies suggest that government and private sector entities intend to build and upgrade infrastructure in Canada's far north, despite the high capital and operating costs. This article, therefore, does not focus on economic issues, but rather on aspects of participation and engagement by Northerners, and particularly Indigenous residents, in these developments. As Pickard points out, policy narratives are malleable and subject to public intervention.²² This article describes participation in one such intervention, and suggests that the lessons learned during this process may be useful to other community and minority representatives seeking to influence digital policy and regulation.

CANADA'S POLICY AND REGULATORY STRUCTURE FOR DIGITAL INFORMATION AND COMMUNICATION TECHNOLOGIES

In theory, a formal distinction exists between communications regulation and policy in Canada. The Canadian Radio-television and Telecommunications Commission (CRTC) is responsible for regulating telecommunications carriers and issuing and renewing broadcast licenses. The policy of information and communications technologies is the responsibility of federal departments, primarily Industry Canada, with a portfolio including telecommunications, trade and commerce, science and technology, and other industry-related fields. Along with the CRTC and Industry Canada, several other federal agencies play a role in northern communications investments and policies. Canadian Heritage is responsible for some aspects of broadcasting policy and digital media, while the Canadian Northern Economic Development Agency (CanNor) provides some infrastructure funding in the far north.

¹⁹ Nunavut Bureau of Statistics, "Nunavut Quick Facts," accessed May 10, 2014, <http://www.stats.gov.nu.ca/en/home.aspx>.

²⁰ See for example Nordicity, "Northern Connectivity: Ensuring Quality Communications," white paper, Northern Communications Information Systems Working Group c/o Government of Yukon, Jan. 2014, accessed May 10, 2014, http://northernconnectivity.ca/resources/ncis_wg_report.pdf; Imaituk Inc., "A Matter of Survival: Arctic Communications Infrastructure in the 21st Century," white paper, Northern Communications Information Systems Working Group, Apr. 2011, accessed May 10, 2014, http://www.aciareport.ca/resources/acia_full-v1.pdf; Adam Fiser and Anja Jeffrey, "Mapping the Long-Term Options for Canada's North: Telecommunications and Broadband Connectivity," white paper, Conference Board of Canada, July, 2013, accessed May 10, 2014, <http://www.conferenceboard.ca/e-library/abstract.aspx?did=5654>.

²¹ Canadian Northern Economic Development Agency, "CanNor Supports Northern Connectivity: Northern Territories Plan Improvements to Connectivity," news release, March 6, 2013, accessed May 10, 2014, <http://www.pr-inside.com/cannor-supports-northern-connectivity-northern-ter-r3605135.htm>.

²² Victor Pickard, "Social Democracy or Corporate Libertarianism? Conflicting Media Policy Narratives in the Wake of Market Failure," *Communication Theory* 23 (2013): 336-355.

Aboriginal Affairs and Northern Development Canada (AANDC) is responsible for most policies affecting Aboriginal peoples, and is developing a national Aboriginal connectivity strategy. AANDC also administers the First Nations Infrastructure Fund (FNIF), which has been available to First Nations (but not Inuit) applicants since 2009. AANDC also monitors broadband deployment in northern Indigenous communities, with data collected and validated by multiple stakeholders, including federal departments, provincial ministries, the private sector, and First Nations organizations.²³

Despite this apparent separation of policy and regulation, regulatory decisions may sometimes result in *de facto* policies in telecommunications, where rapid technological change presents challenges that regulators must address when raised by stakeholders. For example, it was not until spring 2014 that the federal government announced its official national digital strategy, Digital Canada 150.²⁴ However, a 2011 regulatory decision by the CRTC established a target for broadband access to all Canadian homes of a minimum of 5 Mbps download and 1 Mbps upload speed “not currently available to most Canadians in rural and remote areas” by the end of 2015.²⁵ The recent Digital Canada 150 strategy states that 98 percent of Canadians will have access to 5 mbps by 2017; it remains unclear which target will prevail. Such policy questions remain of major concern to stakeholders representing underserved communities.²⁶

While regulatory proceedings have the potential to inform policy, opportunities to engage in them tend to be formal, legalistic, and dauntingly complex. The Commission and well-resourced corporate stakeholders utilize technical and legal language that can be challenging for citizens and consumer groups. Yet regulatory interventions do have the advantage of resulting in binding and enforceable decisions (although these decisions may be appealed). Public hearings also provide an opportunity for stakeholders to address policymakers directly, and to include their concerns and evidence in the public record. Furthermore, they offer a means to obtain information from incumbent carriers about matters such as quality of service, costs of providing services, and plans for service expansion or upgrades that companies may not otherwise release. For these reasons, civil society groups can use these proceedings to gain important information, learn the “rules of the game”, and advocate on behalf of their constituents.

²³ Aboriginal Affairs and Northern Development Canada, “Connectivity and Partnerships,” accessed May 10, 2014, <http://www.aadnc-aandc.gc.ca/eng/1343229993175/1343230038242>.

²⁴ In April 2014, the federal government released a broad overview of its digital economy strategy in an online slideshow. Government of Canada, “Digital Canada 150,” accessed May 10, 2014, <http://www.ic.gc.ca/eic/site/028.nsf/eng/home>.

²⁵ Canadian Radio-Television and Telecommunications Commission, *Obligation to Serve and Other Matters*, Telecom Regulatory Policy CRTC 2011-291, May 3, 2011, accessed May 12, 2014, <http://www.crtc.gc.ca/eng/archive/2011/2011-291.htm>, ¶ 76.

²⁶ Heather E. Hudson, *Testimony on Behalf of Public Interest Advocacy Centre*, Telecom Regulatory Policy CRTC 2011-291: *Obligation to Serve and Other Matters*, public testimony, Canadian Radio-Television and Telecommunications Commission, Oct. 26-28, 2010.

MOBILIZING THE FIRST MILE CONNECTIVITY CONSORTIUM

Resource mobilization theories demonstrate how collective actors – organized as social movements around an issue or constellation of issues – pursue various strategies to influence political, policy, and regulatory change.²⁷ This article explores one articulation of such mobilization activity through an analysis of a participatory research and advocacy initiative organized around the “First Mile” concept – a term used to describe locally-driven digital infrastructure projects, in contrast to “Last Mile” links from service providers to subscribers in telecommunications networks.²⁸ First Mile initiatives encourage rural and remote user communities to generate and operate their own digital networks and applications. This model contributes to digital divide theory and research in several ways. By foregrounding the role of user communities in conceptualizing, building, and operating their own networking projects, it adds a participatory dimension to digital divide solutions. This includes a role for academics and researchers, who act as partners in these initiatives. Utilizing a participatory research methodology, community-based and academic researchers work together to identify the reasons for the uneven diffusion of digital networks and ICTs, as well as potential solutions that emphasize digital inclusion.²⁹ Applied to the context of Indigenous communities, proponents of the First Mile look for ways to reframe digital policies and regulations to recognize diverse customs, values, and institutional arrangements.³⁰

This article documents one such First Mile initiative, using a participatory research methodology to describe the approach, motives, discourses, and strategies of the players involved. In 2010, a coalition of university-based researchers, First Nations regional technology organizations, and individual First Nations collaborated to advocate for changes in digital policies and regulations to address the needs of remote and northern residents for affordable and reliable ICT services. Calling themselves the First Mile Connectivity Consortium (FMCC), the group’s membership extended across Canada but was concentrated in rural and remote regions of several provinces and the Northwest Territories. Despite their diversity, members shared a common interest in using broadband policies and regulations to support community development, highlight local innovation, and overcome digital divides. The FMCC builds on past and ongoing partnerships between Indigenous communities and university-based researchers.³¹ As a public outreach project, it began with a partnership between Simon Fraser University, the University of New Brunswick, and four First Nations organizations supported through

²⁷ Robert A. Hackett and William K. Carroll, *Remaking Media: The Struggle to Democratize Public Communication* (New York: Routledge, 2006).

²⁸ For discussions of the “First Mile” concept, see Lynnita Paisley and Don Richardson, “Why the First Mile and Not the Last?” white paper, United Nations Food and Agriculture Organization (1998), accessed May 10, 2014, <http://www.fao.org/docrep/x0295e/x0295e03.htm>; Sharon Strover, “The First Mile,” *The Information Society* 16 (2000): 151-154.

²⁹ For a discussion of the concept of “digital inclusion,” see Heather E. Hudson, “Digital Diversity: Broadband and Indigenous Populations in Alaska,” *Journal of Information Policy* 1 (2011): 378-393.

³⁰ Rob McMahon, Susan O'Donnell, Richard Smith, Brian Walmark, Brian Beaton, and Jason Woodman Simmonds, “Digital Divides and the ‘First Mile’: Framing First Nations Broadband Development in Canada,” *The International Indigenous Policy Journal* 2, no. 2 (2011): article 2.

³¹ Brian Walmark, Susan O'Donnell, and Brian Beaton, “Research on ICT with Aboriginal Communities: Report from RICTA 2005,” paper presented at the Community Informatics Research Network Conference, Cape Town, South Africa, Aug. 24-26, 2005.

the Social Sciences and Humanities Research Council of Canada. As of 2014, its work continues as part of the First Nations Innovation Project.³²

Over the past four years the FMCC has developed several resources to support advocacy initiatives associated with First Mile digital policy. A national report published in 2010 combined a literature review and interviews with 23 individuals involved in First Nations and Inuit broadband development. The report articulated a common desire among participants to reframe policy to support local and regional networking projects.³³ Following the report's release, the FMCC created a website with information on First Mile projects across Canada.³⁴ Through the First Nations Innovation Project, the FMCC team has also published more than 50 academic articles.³⁵ The conceptual framework of the First Mile, the FMCC's network of members, and the online platform and resources supported through the public outreach initiative provided the group with a foundation for intervening in a regulatory proceeding on digital services and infrastructure in Canada's far north in 2013.

THE FMCC AND CRTC CONSULTATION 2012-669: A STRATEGIC INTERVENTION FOR DIGITAL INCLUSION

In December 2012, the CRTC announced a review of the services and modernization plans of the incumbent telecommunications carrier, Northwestel, which serves the three northern territories (Yukon, Northwest Territories, and Nunavut) and the northern regions of British Columbia.³⁶ The CRTC was concerned that Northwestel (a Bell Canada subsidiary) had failed to fulfill its regulatory obligations to provide essential services in its territory. To address these issues, the Commission invited comments, with supporting evidence and rationale, on several issues:

- Whether Northwestel's modernization plan appropriately addresses concerns raised in a previous decision, *including the needs of northern residents*;
- Whether the existing subsidy regime for telecommunications services continues to be appropriate for Northwestel's operating territory or *whether any modifications to either amount of subsidy or the subsidy regime itself in the north are needed*;
- Whether there are other services that Northwestel should be providing to competitors in order to *facilitate the implementation of local competition*; and

³² Disclosure: some of the authors of this article are active members of the FMCC.

³³ McMahon, O'Donnell, Smith, Simmonds, and Walmark.

³⁴ See First Mile, accessed May 10, 2014, <http://firstmile.ca>.

³⁵ The articles are available for download at First Nations Innovation, accessed May 10, 2014, <http://meeting.knet.ca/mp19/course/view.php?id=16>.

³⁶ For a map of Northwestel's service territory, see: http://www.nwtel.ca/media/page_attachments/northwestel-operating-map.jpg.

- Whether any changes are required *for services used by Northwestel's competitors* to provide retail services to their customers.
- In addition, the Commission also “invites detailed comments, with supporting evidence and rationale, on other relevant issues associated with the matters identified in this notice.”³⁷

The FMCC decided to participate in this consultation to address the need for broadband services among Indigenous residents in the region (and other regions of Canada), alternative forms of subsidy and eligibility for subsidies, and requirements for Indigenous providers to compete in providing local services. The consultation consisted of written filings from interested parties, responses to these filings, and public hearings in Inuvik, Northwest Territories and Whitehorse, Yukon. In the months leading up to the hearings, the FMCC mobilized a large and dispersed constituency, posting information on their website and contacting Indigenous organizations to gather evidence on issues such as the availability, quality, and price of broadband services, and information on their experiences and challenges as service providers. Several Indigenous service providers and academic institutions expressed their support.³⁸ As a result of this outreach, the FMCC also received several letters of support from groups including Tamaani Internet Services (a division of the Kativik Regional Government of Nunavik, Quebec) and the Eeyou Communication Network in the James Bay region of Quebec. Although these organizations are located outside of Northwestel's service territory, they face similar conditions given their location in regions with small, isolated, and predominantly Indigenous communities, and sought to demonstrate to the Commission the potential for Indigenous organizations to act as service providers in the remote north.

Although the FMCC contacted Indigenous organizations based in the three northern territories, several groups already had plans regarding their intervention (or not) in the hearings. The Nunavut Broadband Development Corporation (NBDC), a non-profit association that advocates for Internet access, had already decided to intervene on behalf of the residents of Nunavut. Some other organizations had economic ties to Northwestel. For example, the Dakwakada Development Corporation, a privately-held investment firm linked to the Champagne and Aishihik First Nations, has a 30% equity stake in a joint venture with Northwestel called Latitude Wireless, Inc. A community-based organization located in Nunavut provided information about costs and service quality, which the FMCC reported during the public hearings process.³⁹

In its written filings the FMCC also drew on research from the First Nations Innovation Project and the First Mile website to demonstrate how Indigenous organizations operate their own local and regional networks. Members argued that Northwestel's proposed modernization plan failed to

³⁷ Canadian Radio-Television and Telecommunications Commission, *Telecom Notice of Consultation CRTC 2012-669-1: Review of Northwestel Inc.'s Regulatory Framework, Modernization Plan*. Emphasis added.

³⁸ For a list of these organizations, see First Mile, “Who Is Involved,” accessed May 10, 2014, <http://meeting.knet.ca/mp19/mod/resource/view.php?id=4077>.

³⁹ To read more about the FMCC's presentation of these issues, see Canadian Radio-Television and Telecommunications Commission, *Transcription of Proceedings before the Canadian Radio-Television and Telecommunications Commission: Review of Northwestel Inc.'s Regulatory Framework, Modernization Plan, and Related Matters*, public testimony, vol. 2, June 19, 2013, accessed May 22, 2014, <http://crtc.gc.ca/eng/transcripts/2013/tt0619.html>, ¶ 2636.

leverage the significant opportunities that a “first mile” approach to infrastructure offered for the long-term economic and social development of affected communities.⁴⁰ While the group did not oppose the modernization of infrastructure and services by Northwestel, its members found that the plan put forward by the incumbent ignored the need for consultation with northern communities and potential collaboration with “first mile” providers. The academics involved in the consultation helped to put forward these arguments and present relevant research on these issues from Canada and elsewhere that could provide a foundation for future actions to establish a regulatory framework to support non-profit broadband initiatives in remote and rural regions.

The FMCC’s panel for the CRTC’s public hearings in the north included three interveners who spoke via audio conference, and three who testified in person. Those appearing in Whitehorse included a representative of the FMCC, an expert witness, and the IT Manager of K’at’odeeche First Nation, which is located in Northwestel’s service territory. Three representatives from First Nations service providers located in regions facing many similar conditions as in the northern territories also joined the hearings by phone. In addition to the difficult communication logistics described at the start of this article, the interveners faced two major procedural challenges. First, they had to frame their arguments within the specific parameters of the hearings (which were limited to Northwestel’s operating territory). Organizations from northern Quebec and northern Ontario stressed that the conditions in their regions were very similar to those in Northwestel’s service area, and therefore their evidence on subsidies and competition was relevant to the case. The second challenge was to provide rationales for the CRTC to act on the FMCC’s recommendations during that consultation, rather than deferring consideration to future proceedings or determining that the issue of subsidies for telecommunications in the northern territories was too broad to be the responsibility of the CRTC alone.

The CRTC scheduled the Eeyou Communication Network/Réseau de Communications Eeyou (ECN) to testify by audio conference during the first day of the hearings, in Inuvik. Established in 2012, the nonprofit network interconnects 14 communities in Northern Quebec (including the nine Cree communities of Eeyou Istchee) through a 1,500 kilometer optical fiber network. It provides services for health, education, and IP telecommunications, and is also a wholesaler of data and Internet transit services to regional organizations. In addition to expressing its support for the FMCC’s positions, the ECN suggested that the CRTC consider establishing a fund for First Nations Community Networks (FNCNs) and an entity to disburse the funds. The group also called on the regulator to enforce open access to transport infrastructure, which would allow them to interconnect to southern networks operated by incumbent providers, but could also allow other providers in Northwestel’s territory such as the KFN Community Network (see below) to interconnect with

⁴⁰ First Mile Connectivity Consortium and K’at’odeeche First Nation, *Review of Northwestel Inc.’s Regulatory Framework, Modernization Plan, and Related Matters*, public comment document, Consultation CRTC 2012-669, Feb. 6, 2013, accessed May 22, 2014, <https://services.crtc.gc.ca/pub/DocWebBroker/OpenDocument.aspx?DMID=1836313>. Related documents can be found at <https://services.crtc.gc.ca/pub/ListeInterventionList/Documents.aspx?ID=179039&Lang=e>.

Northwestel.⁴¹ As the first group from FMCC to testify, ECN's presentation preceded the FMCC's oral testimony scheduled two days later in Whitehorse, which set the context for their intervention. When questioned by some Commissioners about the relevance of their arguments to the scope of the proceedings, the ECN responded that their region faces similar challenges, and stated that organizations like theirs could provide examples of First Nations providing broadband infrastructure and services in high-cost service areas.

During the second phase of the hearings in Whitehorse, the FMCC representative opened by stating that the group was generally in favor of modernization by Northwestel but expressed concerns about the details of the publicly available version of the modernization plan, such as the commitment of speeds of "up to" 1.5 Mbps up/384 Kbps down in the 38 satellite-served communities, and the affordability of 4G mobile wireless proposed as a means of broadband access.⁴² The FMCC then articulated three main arguments: first, that First Nations can offer competitive services through First Nation Community Networks (FNCNs), which could help to achieve the CRTC's goals of universal broadband access, affordable service, and competition. The group provided evidence from existing FNCN initiatives across Canada, and suggested the Commission mandate open access to incumbent facilities to allow community networks to interconnect to backhaul and transport links. Second, the FMCC argued that the CRTC should establish a subsidy mechanism to support FNCNs. Eligible funding might include (but not be limited to) entities that are owned and/or operated by a community-based entity; employ local residents; and provide telecommunications, Internet, and other services to residents and local institutions. The subsidy mechanism could be based on modifications to the existing regulatory framework, and include a portion of the National Contribution Fund (currently available only to incumbents like Northwestel). Finally, the FMCC submitted that "the development of any modernization plan in the north must engage with affected individuals and communities," particularly in light of the ongoing lack of adequate consultation with Aboriginal representatives. The FMCC pointed out that even at the public hearings, several factors restricted the ability of remote interveners to participate, such as the cost and limited availability of videoconferencing.

Next, the expert witness from Alaska testified on the need for broadband for northern social and economic development, and the importance of affordability as well as availability of broadband services. She summarized the results of a recent study on Internet and broadband in 65 Native villages in southwestern Alaska that are similar to remote northern Canadian communities.⁴³ She then addressed the issue of subsidies, stating that "competition coupled with new approaches to subsidies can result in modernized facilities and services that are both available and affordable throughout the

⁴¹ Hyman Glustein, Cedric Melançon, and Alfred Loon, *Intervention 273 for CRTC 2012:669*, public testimony, Canadian Radio-Television and Telecommunications Commission, June 17, 2013.

⁴² Northwestel, *File 8663-C12-201215302: Telecom Notice of Consultation CRTC 2012-669-2 – Review and Vary Telecom Decision CRTC 2013-93, Wholesale Connect Service: Northwestel Response to Requests for Information*, public comment document, Consultation CRTC 2012-669, document #1882098, June 6, 2013.

⁴³ Heather E. Hudson, Virgene Hanna, Alexandra Hill, Khristy Parker, Suzanne Sharp, Kent Spiers, and Kyle Wark, "Toward Universal Broadband in Rural Alaska," white paper, Institute of Social and Economic Research, Nov. 2012, accessed May 12, 2014, http://www.iser.uaa.alaska.edu/Publications/2012_11-TERRA.pdf.

North.”⁴⁴ Finally, she provided an overview of recent policies introduced by the U.S. Federal Communications Commission (FCC), which established an Office of Native Affairs and Policy to work with federally-recognized tribal governments and Native organizations through regulatory action, consumer information, and community outreach. She noted that the FCC has undertaken several recent initiatives to expand broadband in remote and tribal areas, and that it encourages tribal entities to become certified as carriers eligible to receive investment funds and subsidies.⁴⁵ She pointed out that the U.S. regulator has also implemented a requirement that providers who receive subsidies to serve tribal lands must “meaningfully engage” with tribal governments. These funding programs, efforts to support Indigenous providers, and requirements to consult with tribal governments addressed many of the concerns raised by the FMCC.

The Commission then heard from two First Nations technology organizations from regions outside Northwestel’s service area. KO-KNET (the Kuh-ke-nah Network) provides access and services to remote Cree and Ojibway communities in northern Ontario and other communities across northern Canada.⁴⁶ It contracts with Health Canada to provide tele-health networks, and with the Ontario Ministry of Education to support an online high school for students in remote communities. KO-KNET also provides computer training and skills development for community members. In addition, it manages a not-for-profit, satellite-based, carrier-class network to communities in the northern regions of Ontario, Quebec, and Manitoba, and provides videoconferencing, Internet telephony (VoIP), and mobile telephone services.

KO-KNET has a history of involvement in public hearings organized by the CRTC; in fact, the network’s regional expansion came about in part due to the group’s intervention in the CRTC inquiry that created the regulatory conditions for incumbent carriers to extend digital infrastructure to communities in high-cost service areas.⁴⁷ At the Whitehorse hearings, the KO-KNET representative testified on the organization’s experiences providing services to rural and remote communities, and supporting them in developing and managing their own local networks. He described two examples of FNCNs – one community that set up a locally-owned cellular phone service⁴⁸ and another that

⁴⁴ Heather E. Hudson, *Testimony Submitted on Behalf of the First Mile Community Consortium: CRTC 2012-669-1*, public testimony, Canadian Radio-Television and Telecommunications Commission, June 18, 2013.

⁴⁵ Ibid.

⁴⁶ Penny Carpenter, “The Kuhkenah Network (K-Net),” in *Aboriginal Policy Research: Learning, Technology and Traditions*, eds. Jerry P. White, Julie Peters, Dan Beavon, and Peter Dinsdale (Toronto: Thompson Educational Publishing, 2010), 119-127; Adam Fiser and Andrew Clement, “A Historical Account of the Kuh-Ke-Nah Network: Broadband Deployment in a Remote Canadian Aboriginal Telecommunications Context,” in *Connecting Canadians: Investigations in Community Informatics*, ed. Andrew Clement, Michael Gurstein, Graham Longford, Marita Moll, and Leslie R. Shade (Edmonton, AB: Athabasca University Press, 2012), 255-282.

⁴⁷ KO-KNET was able to leverage CRTC Decision 99-16 to develop its overlay Ku-Ke-Nah (K-NET) network on Bell Canada’s digital infrastructure. See Canadian Radio-Television and Telecommunications Commission, *Telephone Service to High-Cost Serving Areas*, Telecom Decision CRTC 99-16, Oct. 19, 1999, accessed May 12, 2014, <http://www.crtc.gc.ca/eng/archive/1999/dt99-16.htm>.

⁴⁸ Susan O’Donnell, George Kakekaskan, Brian Beaton, Brian Walmark, Raymond Mason, and Michael Mak, “A New Remote Community-Owned Wireless Communication Service: Fort Severn First Nation Builds Their Local Cellular System with Keewaytinook Mobile,” *Canadian Journal of Communication* 36 (2011): 663-673.

operates its own VoIP local telephone network. These services are located in isolated communities shunned by major wireless and wireline providers as too small and too expensive to serve.⁴⁹

The next presenter, the First Nations Technology Council (FNTC), was created by and for the 203 First Nations in British Columbia, some of which are located in Northwestel's service area. FNTC provides connectivity, capacity building, information systems, and other technology services and support functions. It also promotes the use of technology as a means for First Nations to improve quality of life for their citizens. The FNTC representative emphasized that First Nations have more than a right to be customers, clients, and end-users of technology; they also have a right to become service providers that support long-lasting and sustainable benefits for their communities.⁵⁰ The FNTC participated in the hearings in part to stress that First Nations in British Columbia hold jurisdiction over their territories, including over the development of digital infrastructures.

The FMCC panel concluded with a presentation from a representative of the KFN Community Network, which serves the K'at'l'odeeche First Nation (KFN), a community of approximately 325 people living near Hay River in the Northwest Territories. In 2007, KFN began utilizing wireless and server technology to establish a local network on top of existing copper infrastructure installed by Northwestel in the early 1980s. The new system connected to the Internet by DSL links provided by the incumbent. In 2009, KFN's IT project manager convinced local leadership to draft a proposal to CanNor that focused on three objectives: fiber technology, a fiber optic feasibility study on Aboriginal ownership, and cost savings through shared network services. Increased bandwidth enabled KFN to provide local services and reduce travel costs, while lowering expenses for individual administrative Internet accounts. The band received funding from CanNor to build a community-owned, 48-strand dark fiber network, which now interconnects facilities including the First Nation Band administration office, school, health clinic, adult education center, day care center, and elder care facility. KFN also hired and trained community members so that local technicians could install and operate the network.

KFN concluded that their Wi-Fi and fiber infrastructure still faced reliability problems and speed constraints because of bottlenecks caused by the DSL and aging copper infrastructure that connects their network to backhaul transport networks. In 2010, KFN had submitted an additional funding proposal to address this connection problem through a 12 kilometer fiber link. The proposal included additional training and certification for local technicians, and funded a feasibility study on leasing infrastructures to incumbent carriers, other backbone providers, or cellular operators. KFN suggested that CRTC-licensed FNCNs could be a cost-effective means of providing local broadband.⁵¹ For KFN, participation in the hearings was an opportunity to showcase these initiatives, and state that,

⁴⁹ Brian Beaton, *Oral Testimony Submitted on Behalf of the First Mile Consortium and the First Nations Innovation Research Project: CRTC 2012-669*, public testimony, Canadian Radio-Television and Telecommunications Commission, June 19, 2013.

⁵⁰ Norm Leech, *Oral Testimony Submitted on Behalf of the First Nations Technology Council: CRTC 2012-669-1*, public testimony, Canadian Radio-Television and Telecommunications Commission, June 19, 2013.

⁵¹ Lyle Fabian, *Oral Testimony Submitted on Behalf of K'at'l'odeeche First Nation: CRTC 2012-669-1*, public testimony, Canadian Radio-Television and Telecommunications Commission, June 18, 2013.

given an appropriate regulatory framework, other community-owned and -operated networks could provide local broadband in the north.

Following these presentations, the commissioners questioned the FMCC participants. They did not challenge the relevance of KO-KNET's testimony – although, like ECN, that organization serves remote communities outside Northwestel's territory. The expert witness responded to several questions on that issue, and was subsequently asked to submit an undertaking (additional written testimony) on affordability. The undertaking included data on incomes and the cost of living in remote Indigenous communities, and on the pricing of services in Northwestel's service area compared with elsewhere in Canada. It also noted American telecommunications policies that address affordability, and metrics developed by the Organisation for Economic Co-operation and Development, International Telecommunication Union, and others to establish benchmarks.⁵²

During the hearings, FMCC also met with other parties representing remote and Indigenous groups, including the Nunavut Broadband Development Corporation (NBDC) and the Government of Yukon. They discussed common strategies and challenges, including how to frame their interventions to support one another while avoiding unnecessary duplication and respecting their different contexts and requirements.

The FMCC made a final submission in July 2013 summarizing their key points and recommendations. More than once during the hearing, commissioners had asked whether they were being asked to adopt regulations to address social policies rather than telecommunications policies. In its submission, the FMCC rejected this arbitrary distinction, stating that the CRTC was simply being asked to fulfill its mandate under the Telecommunications Act by implementing regulations that would contribute to its statutory objectives in Northwestel's service area.⁵³

The FMCC also challenged the assertion by some other interveners that action, or perhaps even discussion, of changes to subsidy schemes and requirements for broadband services should be deferred to a national policy review, and that any changes could delay or derail implementation of Northwestel's modernization plan. The group also challenged some commissioners' suggestions that they could not act on subsidies because other federal agencies needed to be involved in any long-term strategy. The FMCC stated that it did not expect the CRTC alone to solve all of the funding problems, but rather that the Commission had a mandate and opportunity to tackle some of these issues by

⁵² Hudson, "Digital Diversity: Broadband and Indigenous Populations in Alaska." The CRTC at present has no metrics or regulatory requirements concerning affordability. In contrast, in the United States, the Telecommunications Act of 1996 and the National Broadband Plan of 2010 make specific reference to "affordable" services, although affordability is not defined.

⁵³ Section 7 of Canada's Telecommunications Act (1993) states several policy objectives associated with the regulation of telecommunications in the country. Among other objectives, the Commission is mandated to facilitate the development of a telecommunications system that serves to:

- a) safeguard, enrich, and strengthen the social and economic fabric of Canada and its regions;
- b) render reliable and affordable telecommunications services of high quality accessible to Canadians in both urban and rural areas in all regions of Canada;
- c) enhance the efficiency and competitiveness...of Canadian telecommunications; [...] and
- h) respond to the economic and social requirements of users of telecommunications services.

implementing incentives for investment, efficiency, and innovation, and instituting competitive subsidy programs available to all qualified providers.⁵⁴

OUTCOME OF THE HEARINGS

In December 2013, the CRTC released its decision on CRTC Consultation 2012-669,⁵⁵ framing its comments in a developmental context: “The Commission recognizes that broadband Internet access is, more than ever, an important means of communication for northern Canadians, and that it is needed to achieve a number of social, economic, and cultural objectives.”⁵⁶ It also addressed several other issues raised by the FMCC.

The Commission agreed with the FMCC about the lack of a competitive market in the north, stating that it recognized the special conditions and challenges of telecommunications there, and that market forces alone are not meeting the needs for investment. Two specific elements of the decision addressed the lack of competitive markets. The CRTC recognized that retail terrestrial Internet in the north is now virtually a Northwestel monopoly. It also noted the lack of competition in mobile wireless data services, while noting that there is insufficient data to determine whether mobile data is a substitute for terrestrial retail Internet – a point raised by the FMCC as a challenge for northerners. The Commission therefore decided to reinstate regulation of retail Internet, a service that is considered competitive and therefore unregulated in other parts of Canada.

The Commission also highlighted a “digital divide” between communities served by satellite and those served terrestrially in terms of speed, quality of service, and price, recognizing that Telesat operates a wholesale monopoly in regions served only by satellite. It noted that this divide extends beyond Northwestel’s service area to include other communities in Canada. To examine this issue, the Commission stated that it would launch an inquiry on satellite transport services offered in Canada in 2014, including an examination of Telesat’s pricing – the first time it has examined satellite services since 1999.⁵⁷

Concerning open access, the Commission recognized the position of FMCC that “a regulatory framework that encourages open access to publicly subsidized transport facilities is in the best interest of local communities that can leverage this infrastructure in various ways.”⁵⁸ While not adopting the

⁵⁴ First Mile Connectivity Consortium, *Final Comments Submitted on Behalf of the First Mile Connectivity Consortium*, public comment document, Canadian Radio-Television and Telecommunications Commission, July 8, 2013, accessed May 12, 2013, http://meeting.knet.ca/mp19/file.php/106/CRTC_Northwestel_Hearings/2013-CRTC-FinalcommentsFirstMileConsortium.pdf.

⁵⁵ Canadian Radio-Television and Telecommunications Commission, *Northwestel Inc. – Regulatory Framework, Modernization Plan, and Related Matters*, Telecom Regulatory Policy CRTC 2013-711, Dec. 28, 2013, accessed May 12, 2014, <http://www.crtc.gc.ca/eng/archive/2013/2013-711.htm>.

⁵⁶ *Ibid.*, ¶ 121.

⁵⁷ Canadian Radio-Television and Telecommunications Commission, *Appointment of an Inquiry Officer to Review Matters Related to Transport Services Provided by Satellite*, Telecom Notice of Consultation CRTC 2014-44, Feb. 6, 2014, accessed May 12, 2014, <http://www.crtc.gc.ca/eng/archive/2014/2014-44.htm>.

⁵⁸ *Ibid.*, ¶ 113.

FMCC's recommendation to open the National Contribution Fund to other qualified providers in addition to incumbents, the CRTC did recognize the need for subsidies to serve remote northern communities, stating that it will launch "a proceeding in which, among other things, it intends to establish a mechanism to fund infrastructure investment in transport facilities in Northwestel's operating territory. This mechanism would complement other investments from the private sector and governments, including public-private partnerships."⁵⁹

Reflecting some Commissioners' concerns about affordability, as demonstrated in their request to the FMCC's expert witness to file a separate undertaking on that topic, the decision makes many references to the need for "affordable" services. The Commission's decision to reregulate retail Internet and investigate monopoly wholesale satellite services further reflected its concern about the affordability and quality of these services. While it does not propose any definition or benchmarks for determining affordability, the decision stands in contrast to the 2010 decision on basic service that made no reference to affordability, despite the issue being raised by consumer advocates in those proceedings.⁶⁰

Concerning other issues raised by the FMCC, the CRTC made no specific mention of consultation with Indigenous organizations or communities in this decision. The FMCC had also recommended that progress on Northwestel's modernization plan be closely and independently monitored, with sanctions for failure to meet targets, rather than relying solely on the company's self-reported progress. The Commission did require Northwestel to file a revised modernization plan, and to file annual progress reports, adding that if the company fails to meet its targets, the Commission will "consider taking appropriate action."⁶¹ However, no sanctions or penalties are specified.

CONCLUSION

This article began by outlining the challenges that marginalized groups face in influencing the formation of telecommunications policy and regulation in Canada. The FMCC intervention in a CRTC consultation concerning telecommunication services in the Canadian north demonstrates these challenges, but also the opportunities for Indigenous and other community and consumer representatives to influence regulatory decisions. The CRTC's decision in the Northwestel case reflects a qualified success for the FMCC, addressing several concerns raised by participants in the hearings, and highlighting several issues that the FMCC can leverage in future regulatory interventions. Further, the Commission's recognition of the lack of a viable market in the north resulted in the decision to re-regulate terrestrial retail Internet (which had been deregulated as competitive in 1999), and to investigate Telesat's services and pricing (which also had not been examined since 1999). It is highly unusual for regulators to reclassify services previously deemed competitive as monopolistic, and

⁵⁹ Ibid., ¶ 125.

⁶⁰ Canadian Radio-Television and Telecommunications Commission, *Obligation to Serve and Other Matters*, Telecom Regulatory Policy CRTC 2011-291, ¶ 76.

⁶¹ Ibid., ¶ 289.

therefore subject to regulation. Also, the multiple references to affordability in the decision, although not providing specificity, leave the door open to raising this issue again to propose benchmarks in future proceedings.

As well as the specific points raised in the CRTC's decision, several other outcomes arose from the process described in this article that may be relevant for organizations concerned with the ability of public and consumer groups to intervene in the regulatory process. The FMCC's participation in the proceedings made the Commissioners and senior staff aware of the experiences of Indigenous organizations in providing telecommunications and broadband services. They also learned of the potential for more Indigenous-owned and -operated networks in the far north. Questions from the Commissioners, the Chair's willingness to extend time for the FMCC testimony, and the request for an undertaking on affordability indicated the CRTC's interest and attention. The FMCC's interventions thus appeared to help inform the Commission of the unique circumstances, challenges, and opportunities of serving northern communities.

The proceeding also demonstrated that context may play a role in regulatory determinations. This was the first time that the CRTC had held hearings in the north. The northern hearings were clearly an educational experience for CRTC commissioners and staff. Their comments about Inuvik (where the first day of hearings was held) and about the distances they traveled to reach Inuvik, and to move from Inuvik to Whitehorse during the hearings, indicated that they gained some understanding of the remoteness of the region. Also, hearings in the north made it possible for some representatives of northern communities and organizations who would not likely have travelled to Ottawa to testify in person. Further, the Northwestel hearing panel did not include any commissioners who participated in the 2010 hearing on "the obligation to serve" that had raised some similar issues about affordability and access (although not limited to Northwestel's service area). A new Chairperson had also been appointed in 2012. While the specifics of the decision cannot be directly linked to these factors, they demonstrate the importance of context that should be considered by the participants of future regulatory proceedings.

The consultation also provided the Indigenous organizations and their partners with experience in digital policy advocacy. Participation in the consultation helped familiarize them with the mandate and structure of CRTC proceedings and with firsthand experience in presenting well-documented and relevant evidence in a hearing. More generally, the FMCC participants learned how to strategically use knowledge held by Indigenous peoples, and research on Indigenous communications and technology development, in the specific case of a regulatory proceeding. These experiences will help provide a foundation for a long-term approach to digital policy advocacy in Canada, as already reflected in ongoing First Mile initiatives, including a special issue of the *Journal of Community Informatics* that showcases First Mile projects around the world.⁶² The FMCC has also proposed the establishment of

⁶² See *Journal of Community Informatics* 10, no. 2 (2014), accessed May 12, 2014, <http://ci-journal.net/index.php/ciej/issue/current>. Note that this web address denotes the "current" issue as of the date accessed.

a formal association to work on behalf of non-profit service providers (including those in remote and northern regions) concerning regulatory affairs.

Finally, participation in the public hearings introduced some of the issues raised by the interveners into the broader public sphere. It provided significant visibility for the involved organizations, and the challenges that Indigenous peoples face in their efforts to leverage digital policy to support community and economic development. In addition to increasing their visibility at the CRTC and among the other interveners, the FMCC and its agenda received media coverage, including a national news story based on KFN's testimony,⁶³ CBC North radio interviews carried across the region, and feature stories in Whitehorse newspapers.

While specific to the Canadian context, the present authors hope that the documentation of the efforts described in this article will prove valuable for other groups involved in policy advocacy and research, including that for marginalized and under-resourced populations and organizations, particularly in rural and remote regions.

⁶³ Thandiwe Vela, "Northwestel Rivals Pitch Telecom Projects at CRTC Hearings," *Globe & Mail*, June 19, 2013, accessed May 12, 2014, <http://www.theglobeandmail.com/report-on-business/northwestel-rivals-pitch-telecom-projects-at-crtc-hearings/article12693108/>.

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