

The ABS Canada Initiative

Scoping and Gauging Indigenous Responses to ABS

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Abstract

This chapter has three objectives: (1) to explain the concept and context for access and benefit-sharing (ABS) in Canada, (2) to outline the undergirding methodology and process for the research that resulted in this book and (3) to provide a concise annotation of the component chapters and demonstrate their cohesiveness in tackling the global challenge of ABS over genetic resources and associated traditional knowledge through Canadian insights.

INTRODUCTION

This edited collection focuses on the topical subject of how researchers, the private sector and various other interests obtain genetic resources from Indigenous territories for research and development of products related to pharmaceuticals, health, personal and sanitary care, agriculture, food, cosmetics, environmental management, etc. Often, these genetic resources are obtained in association with Indigenous peoples' knowledge – also referred to as traditional knowledge (TK) – of the uses of genetic resources, which have proven valuable for researchers and industries in the making of new products. Mindful of concerns about their inadequacy, we use the terms Indigenous knowledge and TK interchangeably without distinction. Historically, Indigenous or Aboriginal peoples' (terms deployed here ambidextrously and interchangeably also in their pragmatic essence)¹ relationship with researchers or industry bio-prospectors is fraught with suspicion. Research has been conducted by non-Indigenous peoples and entities, and the results and benefits of the research rarely applied to the communities whose Indigenous knowledge and genetic resources contribute to valuable research outcomes. This phenomenon is global and not just particular to Canada. It has given rise to international outrage symbolized in the concept of 'biopiracy.' Biopiracy refers

to the global exploitation of genetic resources in Indigenous and local communities by external interests. These external interests seek intellectual property rights (mostly patents) without adequate forms of compensation or equitable partnership with the peoples or communities who provide the genetic resources and the knowledge required to unlock the resulting ‘innovations.’

Since the 1990s, the international community has intensified efforts designed to address the injustice in the inequitable use of genetic resources and associated Indigenous knowledge through the concept known as access and equitable benefit sharing (ABS). ABS recognizes that global biological resources – including genetic resources – are essentially the heritage of humankind and should be accessible to those who seek to utilize them for various ends, including research and development, without undermining the interest of the various custodians who conserve those genetic resources. Consequently, the process for accessing those resources must be mediated by equitable framework(s) for sharing benefits arising from their use by all stakeholders, including Indigenous peoples. So far, there is a complex range of international legal instruments and policy initiatives on ABS such as the Convention on Biological Diversity (CBD), its Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing over Benefits Arising from their Utilization (NP), and the International Treaty on Plant Genetic Resources for Food and Agriculture (IT). An underlying premise of these instruments is that Indigenous peoples and Local Communities’ (IPLC) epistemic orientations and worldviews regarding genetic resources have strong conservation ethics. As such, ABS is a form of incentive directed at objectives related to justice and equity, support for conservation of genetic resources and mitigation of the earth’s ever-intensifying biodiversity crisis.

For the purposes of this book, it is important to note that while Canada is a party to the CBD and the IT, it has yet to accede to the NP, citing its lack of preparedness to implement ABS into domestic law. The NP and the subject of ABS generally raise complex issues that strike at the heart of Indigenous peoples’ search for equity, justice and reconciled relations with the governments of Canada and the country’s universities, researchers and corporate sector. These historic relationships with Indigenous peoples have been rancorous and a source of great suspicion and distrust. ABS implicates Canada’s relationship with Indigenous peoples in many interconnected and overlapping ways, including resource ownership, Indigenous treaty and constitutional rights, cultural appropriation, the role of Indigenous legal traditions, knowledge systems, heritage and worldviews over the conservation of biological diversity, and environmental stewardship. In 2016, Canada withdrew its lingering reservation against the United Nations Declaration on the Rights of Indigenous peoples (UNDRIPs) and has fully endorsed the instrument in accordance with federal government’s ‘reconciliation agenda.’²² Within and outside the NP framework, researchers, industry and bio-prospectors have continued and will continue to deal with Indigenous peoples, their genetic resources and associated traditional or Indigenous knowledge.

Contributions in this volume seek to explore the diversity of issues implicated in ABS with deliberate sensitivity to Indigenous peoples as key partners. These contributions add to mapping and conjecturing the pathways through which Canada and Indigenous peoples can effectively forge constructive partnerships to fully engage ABS as a crucial subject matter in Canada-Indigenous relations at a time when reconciliation with Indigenous peoples is official government policy. Canada's experience will resonate with many other industrialized countries, especially those with a history of colonial relations with Indigenous peoples.

ACCESS AND BENEFIT SHARING: CONSENSUS IN STALEMATE

In 2012, the government of Canada indicated that it would not ratify the NP citing lack of preparedness. Having advised Canada to refrain from ratifying the Protocol, Indigenous peoples argued that the Protocol was negotiated without consultation and therefore without their consent. What Canada may or may not do with the Protocol was not clear to them. Suspicion remains rife. So, for once, both parties are in agreement but for different reasons. Historically, Canada rarely agrees with Indigenous peoples on any issue. But the issue of ABS provides an extraordinary exception. Canada and its Indigenous peoples seem to agree on the need for more time to enable constructive engagements on ABS among stakeholders. Across diverse government departments with mandates that engage or are engaged by ABS, there is presently neither a clear pathway nor a strong interdepartmental strategy on the ABS file. The issue is effectively stalled.

Some attempts by the government to start the conversation on ABS, post-Nagoya, have been at best superficial without the substantive involvement of Indigenous peoples. The latter's lingering suspicion on the government's motives is historically informed. Perhaps more specifically, it is deeply influenced by Canada's role at the negotiations of the NP, which was, arguably, perceived by Indigenous peoples at home as pro-industry and anti-Indigenous interests despite the best efforts of Canadian leadership as permanent co-chair of the ABS negotiations. Such a disposition is consistent with the posture of many of Canada's industrialized country allies. At the very least, realistically, there are three major partners on ABS: the various levels of governments in Canada (federal, provincial/territorial and municipal), research/industry stakeholders and Indigenous peoples. The latter have yet to be taken seriously as key stakeholders in ABS.

THE ABS CANADA RESEARCH INITIATIVE: NETWORKING, PARTNERSHIP AND COLLABORATION

In 2011, the first major academic piece in Canada on the NP and ABS, following the signing of the Protocol in 2010, kicked off the conversation over how Canada can best position itself on the subject. Titled 'Genetic Resources & Access and Benefit Sharing: Politics, Prospects and Opportunities for Canada after Nagoya'

(Oguamanam, 2011), the study evaluated Canada's unique and complex ecological profile and its rich Indigenous knowledge heritage. It found that Canada is both a user and producer of genetic resources as well as endowed with many Indigenous peoples, cultures and knowledge systems. The paper concluded that such a status requires the country to show leadership and play a proactive role on ABS, which is inclusive of industry and Indigenous interests. That study provided the impetus for building a research team that successfully applied for an Insight Grant from the Social Sciences and Humanities Research Council (SSHRC) in 2014, titled 'Toward an Indigenous Sensitive ABS Policy in Canada.' This project is premised on the need to start a national dialogue and raise awareness on ABS among various stakeholders, especially Indigenous peoples, and enable all interests to engage one another as Canada mulls the NP.

The SSHRC initiative attracted other supplementary funders and partners resulting in the founding of a research network of professors, researchers, students and Indigenous organization partners, known as ABS Canada (www.abs-canada.org). Among other things, its mandates include the identification and collaboration with Indigenous institutional and other partners for the articulation of Indigenous perspectives on ABS as part of Canadian ABS framework. Also, the project aims to engage policymakers at federal, provincial and territorial levels in the area of awareness raising, networking, collaborative training and capacity building on ABS toward an equitable policy outlook that is sensitive to Indigenous interests and concerns.

SCOPING THE INDIGENOUS PULSE ON ABS THROUGH PARTICIPATORY ENGAGEMENT

The ABS Canada initiative organized a series of focus groups and interactive sessions on a regional basis, in partnership with Indigenous organizations and leaders. The first one was in Moncton, New Brunswick for the maritime region in 2015; the second event was held in Ottawa, Ontario for central Canada in 2016; and the last focus group was held in Saskatoon, Saskatchewan for the Prairies and Western Canada in 2017. In a participatory and collaborative environment, through these forums, the ABS Canada research network facilitated a national conversation that gauged Indigenous sensitivity, built capacity and attempted to garner a cross-section of Indigenous perspectives on the subject of ABS. A unique aspect of the partnership with Indigenous participants is the discretion reserved to Indigenous peoples to raise their own account and resolutions arising from the focus groups.³ The Maritime Aboriginal Peoples Council was able to leverage that discretion by issuing the *Petkoutkoyek Statement on the Access, Use, and Fair and Equitable Sharing of Benefits Arising Out of the Utilization of Genetic Resources and Associated Traditional Knowledge in Canada* promulgated at Petitcodiac (Petkoutkoyek), Moncton, New Brunswick on 16 October 2015. The Pekkoutkoyek Statement

dovetails with the 2011 *Iskensisk Declaration on the Access, Use, and Fair and Equitable Sharing of Benefits Arising Out of the Utilization of Genetic Resources and Associated Traditional Knowledge in Canada*, issued in Iskenisk, Mi'kma'k, Truro, Nova Scotia, on 28 March 2011. The *Iskensisk Declaration* is perhaps the first major exclusively Indigenous declaratory response and initiative on ABS issues in Canada. It is discussed in greater detail in Oguamanam and Roger Hunka's contribution to this volume (Chapter 3).

In addition to Indigenous peoples' active participation, all of these focus groups were resourced by keynotes and capacity building sessions from globally renowned experts on ABS from within (including Indigenous experts) and outside of Canada and, in some cases, with institutional support from the Secretariat of the CBD and the Food and Agriculture Organization. With the further assistance of the Open African Innovation Research (Open AIR) (www.openair.org.za) – one of ABS Canada's partners – and the generosity of several African delegations, ABS Canada personnel participated at the World Intellectual Property Organization's Intergovernmental Committee on Intellectual Property and Genetic Resources, TK and Folklore (WIPO-IGC) in a symbolic gesture of south-north development and capacity building. The WIPO-IGC is charged with developing text-based instrument(s) for effective protection of a range of subject matters pursuant to its self-explanatory nomenclature. In the WIPO-IGC, ABS and incidental matters, including disclosure of source of origin or genetic resources and associated TK in intellectual property, especially patent application, constitute key cross-cutting issues at the jurisdictional intersection of the WIPO and the CBD. Owing to serving as facilitators and active observers of the interchanges in the earlier-enumerated forums, ABS Canada teased out wide-ranging issues on the subject of ABS with consideration for Indigenous peoples as key stakeholders in the Canadian context.

Aside from the Canada-wide focus groups, ABS Canada also partnered with the College of Law at the University of Saskatchewan in organizing a highly successful symposium on 11–13 May 2017 in Saskatoon. The symposium drew Indigenous youth, thought leaders, Canadian academics and researchers who work in the area of ABS. Open AIR sponsored the attendance and participation of members of African Indigenous and local communities to the symposium who shared their experience on ABS with their Canadian counterparts as one of the highlights of the symposium.

Presenters at the symposium were shortlisted from entries received in response to a call for papers. In addition to two keynotes, a total of fourteen presentations were made at the symposium. Complemented by the editor's articulation of the insights from the three focus groups, the resulting papers from those presentations from members and partners of ABS Canada are presented in this book. The diversity of participants, their opinions and views from the focus groups as well as the diversity of categories of contributors in terms of this disciplinary backgrounds, practical

experiences and research profiles in the areas of ABS, Indigenous rights, research ethics, international governance, development and sustainability, is evident in the robust range of arguments and perspectives on ABS in the following chapters. Collectively, the chapters provide multifaceted insights for stakeholders in Canada thereby laying the foundation for future research and policy direction on ABS in Canada and globally.

STRATEGIC RESEARCH APPROACH TO A COMPLEX SUBJECT

The edited collection distinguishes itself through a unique mixture of research methodologies. As explained earlier, these involve sourcing opinion and data through on-the-ground participation and partnership with Indigenous peoples; engaging expert resource persons, specialist researchers and scholars; and facilitating their interactions with Indigenous peoples on the subject matter in the course of our research. In addition, the undergirding research and resulting publications are inspired by the opportunity for action on ABS in ways that seek to fill the void between the government and Indigenous peoples on how to move the ABS conversation forward. With eyes on advances on ABS from other jurisdictions since the NP came into effect, the book will be a crucial and handy instrument for all interests in ABS at a time of official stalemate on how to move the conversation forward. Perhaps more importantly, given Canada's bold initiative on reconciliation and the recent endorsement of the UNDRIPs, this project would contribute in complementing and advancing the reconciliation discourse in the direction of ABS – a subject that draws on multidepartmental or multisectoral interests at many levels of governments across the country.

ABS ISSUES: WIDE-RANGING AND INTERLINKED

Three years of partnership, collaboration and participation by and with Indigenous peoples on the issue of ABS in the Canadian context, albeit with broader ramifications for the global stage, have uncovered an open-ended catalogue of concerns that an Indigenous-sensitive ABS policy must address. As a crucial matter, Indigenous peoples have raised the issue of the trust deficit that historically characterized their relationship with the colonial state. The trust deficit runs deep in the ABS context, as Indigenous peoples accuse Canada of both failing to consult with them and not representing their interests at the NP negotiations, as well as other related antecedent and current initiatives relevant to ABS. Specifically, participants 'decried Canada's informal preference for the term "Indigenous and Local Communities," [over Indigenous peoples and Local Communities] as an attempt to undermine the [UNDRIPs]' (ABS Canada, Moncton Focus Group Report, 2015, 5).⁴ The trust question echoes beyond Indigenous peoples' relationship with the government, to include their long-running rancorous relationship with non-Indigenous researchers,

bio-prospectors and corporate entities. There is a shared impression among Indigenous peoples that Canada's lukewarm approach to ABS emanated from its prioritization of its status as a user of genetic resources and a biotechnology powerhouse for which the country panders to corporate interests (Oguamanam, 2011). This stands in contrast to Canada's dual status as both a user and a provider of genetic resources with associated Indigenous knowledge – a situation that requires the country to seriously consider Indigenous peoples as crucial partners in the discussion of ABS.

Indigenous peoples have associated the ABS discourse with deep-rooted constitutional dynamics in Canada over Indigenous rights. For many, ABS raises treaty rights, resource rights, even the right to Indigenous self-determination and many other considerations at the ever-constant legal and political flashpoints of Indigenous relations in Canada. In addition, Indigenous participants expressed concern that the historical and colonial divisions and fragmentation of Indigenous peoples along multiple classifications, such as reserve, non-reserve and various other categories, pursuant to the *Indian Act* approach, 'may, but must not be allowed to draw a wedge between Indigenous peoples, preventing collective action on the issue of ABS' (Moncton Focus Group Report, 2015, 7). For Indigenous peoples, ABS can be explored in the light of opportunities laid open in some progressive decisions of the Supreme Court of Canada such as *Calder v. Attorney General British Columbia*; *Delgamuukw v. British Columbia*; *Tsilhqot'in Nation v. British Columbia*; *Daniels v. Canada*; *Clyde River (Hamlet) v. Petroleum Geo-Services Inc.*, etc. ABS may be implicated in these decisions because they deal with a number of considerations, including but not limited to the duty to consult, extinction of rights, considerations of sovereignty, scope of title and whether the rights to genetic resources, mineral rights and associated Indigenous knowledge were ever ceded.

As both ideological and philosophical matters, Indigenous peoples argue that ABS is premised on 'propertization' of knowledge and natural resources under a market economic framework and constructs that are difficult to reconcile with Indigenous worldviews. One aspect of that disconnect is the singling out of genetic resources and even fragmenting them in relation to their specific applications⁵ under the ABS framework in contrast to Indigenous holistic outlook on humankind's interconnected relationship with all natural forces and resources. In Canada, as the effect of climate change continues to bear across all ecological regions (particularly the Arctic), Canada's intense quest for resource exploitation continues to put pressure on Indigenous ways of life, including indigenous knowledge and various natural resources raising analogues issues of ABS, equity, justice and sustainability in extractive resource contexts. Consequently, Indigenous peoples insist on the 'need to constitute and support Indigenous legal and organizational structures as part of internal capacity building required by Indigenous peoples' (ABS Canada Ottawa Focus Group, 2016, 7) in the context of ABS. Similar expectations are expressed in relation to Impact Benefit Agreements (IBA) as a tool to secure and balance interest

of Indigenous peoples in the extractive resource industry exploitation. Indigenous concerns over these parallel issues demonstrates the importance of capacity building going forward.

The NP, in the view of Indigenous peoples, is only a prototype of ABS. It neither prejudices relevant existing practices within and outside Indigenous communities nor precludes Indigenous peoples from initiating new options. For example, the FAO International Treaty raises ABS issues in the context of traditional farming, including TK and practices over the utilizations of plant genetic resources for food and agriculture. Yet, Indigenous peoples have noted that under the NP, they ‘have uninhibited freedom to constitute their own competent national authorities, focal points and other structures – including community protocols on ABS in a manner that reflects their ecological identity and the complex dynamic of their historical, regional and political contingencies within the Canadian Federation’ (Moncton Focus Group Report, 2016, 6).

Pushing back on the usual refrain by bureaucrats that it is difficult to identify legitimate stakeholders to effectively perform the duty to consult, Indigenous peoples insist that to the extent that the ‘Canadian “Federation” remains a work in progress, Canada needs to genuinely engage Indigenous peoples on nation-to-nation basis as a threshold imperative for recognition of Indigenous sovereignty and claims for self-determination within the Canadian federation’ (Ottawa Focus Group, 2016, 9). Consequently, the demarcations of authority between the federal and provincial/territorial governments in which the former retains primary jurisdiction over most Indigenous issues while the latter maintains control over natural resources is a derogation of the nation-to-nation principle. In regard to ABS, Indigenous peoples call on the government to recognize the legal status of seventy-three distinct Indigenous Nations across Canada on a nation-to-nation basis (Ottawa Focus Group, 2016, 5) and to establish a national consultation table from the seventy-three Nations of Indigenous peoples ‘to effectively engage with the details of required consultations and negotiations for the implementation of ABS in Canada’ (Moncton Focus Group, 2015, 6)

In the opinion of many Indigenous peoples, the concept of ABS is inherently ironic; it is a regime primarily directed at ensuring justice, fairness and equity, yet governments have capitalized on power and knowledge imbalances among stakeholders with the effect of exacerbating inequality and injustice. For example, as noted earlier, Canada did not fulfill its duty to consult before, during, or after the NP and its antecedent instruments. In addition, there is a lingering concern that Canada continues to engage in sporadically organized sessions on ABS and related matters that have no purposive focus on Indigenous peoples as key partners. As well, ‘federal outreach has largely been directed at large and national Indigenous organizations . . . and not at regional or local groups, who have a better understanding of the situation on the ground and a more direct line to the people being affected by government decision-making’ (Ottawa Focus Group, 2016, 5).

Indigenous peoples are apprehensive that in Canada's current approach to ABS-related negotiations, 'all delegations are led by government officials with limited [if any] input from Indigenous peoples' (Ottawa Focus Group 2016, 7). As noted earlier, the WIPO-IGC is an example of such negotiations where genetic resources, TK, and by extension, ABS, constitute cross-cutting issues between WIPO and the CBD. Further, there is little visible, if any, coordination across the several departments at federal, provincial and territorial levels to demonstrate awareness of the cross-cutting and cross-sectoral nature of ABS.

There is a general recognition that ABS is inherently a complex subject matter due to its cross-sectoral and hi-tech nature. As a consequence, a genuine attempt to recognize and realize the status of Indigenous peoples and enhance their participation in policymaking as key partners would require a proactive commitment on the part of the government to support and finance capacity building and capacity development on ABS and related matters. According to some, such matters could be wide-ranging regarding, for example, development of community protocols, establishment of Indigenous knowledge databases and their management, material transfer and other contractual agreements, revision of existing research protocols to directly accommodate ABS; prioritization of resources to translate relevant documents, simplification of such documents in plain language and enhancing their accessibility, not excluding explanation of key terms, etc. Remarkably, Indigenous peoples were clear that capacity building does not have to be a unidirectional initiative, but 'a two-way or multidirectional exercise. As such, while the governments need to support ABS capacity building in different directions, Indigenous peoples need to educate governments on how to engage and understand Indigenous peoples as important stakeholders in ABS' (Ottawa Focus Group Report, 2016, 10).

Capacity building is an initiative that should come from sources internal and external to Indigenous peoples. Internal capacity building refers to efforts within Indigenous communities to mobilize their members and educate individuals in relevant skills to effectively participate in ABS. This approach is consistent with the opinion of Indigenous leadership. For example, Indigenous lawyer and opinion leader, Roberta Jamieson, emphasizes, in another but relevant context, that Indigenous peoples must lead the charge for change as opposed to demanding new promises and wait in passive expectation for their fulfillment (Jamieson, 2017), which hardly happens. External sources of capacity building include all level of government within Canada and other related development initiatives within and outside of Canada capable of partnering with Indigenous peoples to develop capacity in ABS and related matters. Irrespective of any source or method of capacity building, Indigenous peoples seem to agree: 'all forms of support for capacity building and consultation must involve a transgenerational approach that deliberately engages Indigenous youths in learning and teaching on ABS and related concepts' (Ottawa Focus Group, 2016, 11).

Except for those that work in the area, it is quite obvious that most Indigenous peoples have yet to hear about ABS. This situation is no different in regard to other demographics, and for a good reason. ABS is a specialized subject by nature and requires dedicated commitment to raise awareness and build capacity around it. Despite the increasingly topical nature of the subject across national and international forums, some Indigenous people in Canada doubt whether ABS deserves any priority within the myriad challenges that affect them. For them, it is hard to locate where ABS ranks in relation to various competing priorities that constitute the features of Indigenous peoples' historic struggle for survival in Canada. Some of those priorities include widespread racism directed at Indigenous peoples, missing and murdered Indigenous women, unacceptable rates of youth suicide, disproportionate representation of Indigenous youth, women and men in the prison population, crises of access to quality and culturally sensitive education and health services; lack of access to safe drinking water; mental health and substance abuse issues, and overall poor standard of living.

Notwithstanding the reservations over the significance of ABS in the scheme of Indigenous peoples' priorities, as a matter of consensus, many seem to agree that ABS designates an opportunity for practical translation or realization of the spirit of UNDRIPs. As noted by participants at the Ottawa Focus Group, 'while ABS may not assume priority over the abject poverty and abysmal living standards of Indigenous peoples, when Indigenous history and the colonial experience of subjugation and deprivation is considered holistically, then everything – including ABS – is interconnected and assumes the same urgency' (Ottawa Focus Group, 2016, 9). In the present moment, as Roberta Jamieson (2017) puts it, 'when the spirit of reconciliation is trying to find its footing,' the prevalent cases of biopiracy or cultural appropriation undermines reconciliation. In principle, ABS is a response, in part, to cultural appropriation at least in the area of genetic resources and aspects of TK and must enjoy priority in the reconciliation initiative as an attempt to retrace centuries long and 'ongoing tragedy in the entire history of [Canada's] relationship with Indigenous peoples' (Jamieson, 2017).

Indigenous peoples recognize that biopiracy is an aspect of cultural appropriation that has historically done harm to them and their knowledge systems and ways of life. As such, they are in the best position to determine the suitable remedial options, including those within an ABS framework and how to go about them whether on the Nagoya template or in other regimes. In the spirit of reconciliation, the doors should be open for exploring reparation and other compensatory options for past abuses and appropriations of Indigenous knowledge using available mechanisms and remedies, including restorative justice in line with truth and reconciliation. Whatever the promise, prospects and actual results of ABS for Indigenous peoples, they are unequivocal that 'any preferred benefit sharing framework should be grassroots-driven and should not be conflated with or allowed to be a substitution for Canadian government's obligations to Indigenous peoples' (Ottawa Focus

Group, 2016, 6). In other words, benefits resulting from the implementation of ABS should not substitute or be made to subsidize government's responsibilities toward Indigenous peoples.

Indigenous peoples' unfettered ability to determine an acceptable ABS arrangement could contribute to the sustainability of their communities. One example of the importance of Indigenous intervention over the applications of biotechnology to their genetic resources comes from Mexico. Maize is at the centre of the cultural identity of Indigenous peoples of Mexico, a county said to be the authentic genetic origin of the crop. Similar to other economic crops, maize is a target of R&D through genetic modification and various applications of biotechnology, including terminator technology. Indigenous peoples of Mexico have argued that genetic modification or other applications of biotechnology to maize, or even other culturally sensitive crops, results in genetic erosion and external proprietary control of such crops. It is a development disruptive of Indigenous peoples' interests in the cultural and genetic diversity of maize that inextricably links the crop to their cultural, economic, and spiritual survival. It does not make much difference even where the undergirding R&D was ABS-compliant with the free, prior, and informed consent of Indigenous peoples. Although the deleterious effect of biotechnology on culturally sacrosanct crops could not necessarily be predetermined before the fact, at the very least, Indigenous peoples should be able to save or reserve the right, on a residual or contingent basis, against an R&D outcome that undermines their economic interests and cultural survival.

The development of TK or genetic resource databases through digitization, inventorying and other documentation options is one of the most prominent measures-based approaches aimed at strengthening Indigenous positions in ABS agreements. Affirming historic or prior applications of Indigenous knowledge, such databases constitute defensive protection against the use of patents to deny pre-eminence of TK as a prior art in specific contexts. Various forms of documentation enhance identification of genetic resources and associated TK and their uses through research and development in ways that ensure accountability for purposes of ABS. Notwithstanding its potential, the idea of TK database draws mixed reaction in Indigenous circles (Oguamanam, 2009), a sentiment that has been re-enforced among Indigenous peoples in Canada. Not least of the concerns is the suitability of digitization and other forms of TK documentation for accurate interpretation of Indigenous knowledge. Yet, as a pragmatic matter, many recognize the value of keeping TK database in specific situations; especially given regard to generational disconnect that results in the loss or erosion of TK with the passing of elders and knowledge keepers. A more sustainable approach to the erosion of TK via the demise of elders is one that prioritizes a healthy intergenerational process of knowledge apprenticeship and transfer.

Assuming technology-enhanced databases remain a viable strategy for augmenting knowledge of the uses of genetic resources, adaptations and transformations

of TK, concerns remain among Indigenous peoples over the governance, jurisdiction, control and access to those databases. Fresh apprehensions are raised over the security of such databases, the consequences of their inadvertent disclosure or deliberate compromise through technological sabotage such as hacking. In addition, the status of TK databases, as public or non-public domain assets, remains inchoate. Indigenous peoples identify or categorize their ability to participate in such technologically driven measures-based approach as an area for capacity building, given the burden of cost and expertise required to generate and administer that form of technological infrastructure. While attention is focused on the idea of dedicated TK database, little or no consideration is given to other forms of data generated as incidents of Indigenous-related research, which have consequences of ABS. This volume sheds some light on the increasing relevance of digital sequence information and data aggregation technologies and the ensuing changes in Indigenous research landscape and their ramifications for ABS.

Perhaps, a far more important concern relates to the broader issue of new technological strategies, including biological and digital technologies in the creation, manipulation and virtualization of datasets based on genetic resources and associated TK. These two mutually supportive technologies have redefined the process of doing research generally, even research that involves IPLCs, their genetic resources and associated TK in ways that attempt to disrupt the foundational logic and *raison d'être* of ABS. For example, the virtualization of various research data and their accessibility over the internet as well as the use of digital DNA or digital sequencing technologies and synthetic biological models readily de-link genetic resources and associated TK from their origins in specific IPLC in ways that circumvent the ABS imperative. While such practices designate the role of big data in the facilitation of research and knowledge production, it underscores a tension between big data and Indigenous peoples' interest in data sovereignty (Oguamanam & Jain, 2017). Virtualization of data through digital technology and the production of synthetics of new or adaptations of naturally occurring biological formulations through biotechnology enhance the liberalization and accessibility of vital data for R&D. But not only do they de-link genetic resources and associated TK from IPLCs, as may be applicable, they also threaten, if not undermine, Indigenous peoples' insistence that derivatives of genetic resources and TK constitute subjects of ABS.

Another important sentiment expressed by Indigenous peoples is the need to engage and share experiences on ABS and related issue over the struggle for the protection of TK with their counterparts from the global south. Indigenous peoples have observed that Canada is an active and heavily invested actor in North–South international development, knowledge transfer and capacity building with countries and local communities of the developing world as targets and recipients. So far, the call for South–North directional development, capacity building and knowledge transfer that targets Indigenous peoples as beneficiaries is self-evidently alien to Canada. One reason this expectation has yet to be met is that such action would

unmask Canada's historical subjugation of Indigenous peoples. Canada's vested interest in image laundering and image preservation does not position it as an enthusiast of this kind of clarion call. For that purpose, the underdevelopment and deprivations in Indigenous peoples and communities in Canada are analogized to a 'global South encased in the global North.' For Indigenous peoples of Canada and, certainly, their counterparts elsewhere in the developed countries, it is about time to acknowledge that they can benefit from in-kind development aid for capacity building from their local communities' counterparts from the global South or elsewhere, in the form of South–North capacity building. The issue of ABS presents an opportunity to creatively explore external development support in capacity and experience outside the conventional framework.

CHAPTER SYNOPSIS

This volume is divided into three parts. Part I, which opens with the present chapter, focuses on the evolution and the making of the fledgling ABS policy landscape in Canada. In Chapter 2, the duo of Timothy Hodges and Jock Langford, Canada's leading subject matter experts on domestic and international ABS policy development recount, on a historic basis, Canada's checkered role in the development of ABS in the international arena. In 'Canada and the Nagoya Protocol: Towards Implementation, In Support of Reconciliation,' they insist that new opportunities have opened up for Canada in the context of the current political climate for reconciliation for a more serious approach to ABS implementation. For them, ABS is an important site to give effect to the UNDRIP which has been fully endorsed by Canada without reservation. In Chapter 3, Chidi Oguamanam and Roger Hunka focus on the practical experience of the partnership between ABS Canada and the Maritime Aboriginal Peoples Council to explore insights and lessons for modelling an independent Indigenous capacity building and capacity development on ABS.

Contributions in Part II engage identifiable hurdles to ABS implementation. They cover conceptual questions and practical responses and insights on the path forward to the realization of Indigenous-sensitive ABS policy in Canada. In Chapter 4, Joshua Nichols explores the Canadian domestic and constitutional legal framework for Indigenous rights in relation to the meaning and implication of internationally sanctioned sovereign rights of states over genetic resources for a unitary nation-state structure vis-à-vis the model of shared or collaborative sovereignty, which is a better reflection of Canada's Indigenous relations. The current federal government of Canada's rapprochement with Indigenous peoples, Nichols argues, presents a new opportunity to adapt and reconcile the domestic legal framework to fit with the principles of self-determination and the spirit of the UNDRIPs for the implementation of a functional ABS regime in Canada. Writing in Chapter 5 under the title: 'Making Room for the Nagoya Protocol in Nunavut' – Canada's largest Indigenous self-governing territory – Daniel Dylan indicates that

current legal regime for resource control is premised on the *Nunavut Land Claims Agreement*. The latter envisages impacts and benefits sharing over the extractive or non-genetic natural resources with no direct focus on genetic resources as envisaged in the ABS framework. With rapidly melting sea ice, Nunavut's wealth of genetic resources would become more evident in ways that would exacerbate rights claims. Dylan avers that the lacuna in the current Nunavut territorial legal framework could be tackled through the implementation of the NP which, he argues, will provide the opportunity to amend relevant ABS-related laws in Nunavut like the *Scientists Act* and to enact new ones to account for ABS and associated concepts.

In Chapter 6, Perron-Welch and Oguamanam harp on the desirability of a nation-to-nation approach to ABS routed through different layers of governments in Canada: Federal, Provincial/Territorial and Indigenous, under the principle of cooperative federalism and distinct orders of government. Despite its conceptual and governance challenges, with adequate political will, they argue, this approach could serve as an effective way to integrate Indigenous peoples' rights over genetic resources, TK and ABS as aspects of their self-determination. While current attempts at breathing new life into Indigenous relations in Canada are conducive for this progressive approach, for the desired outcome other layers of governments, notably provincial and territorial, ought to demonstrate stronger or commensurate commitment as the federal government which is leading the charge on reconciliation.

In Chapter 7, Oguamanam and Koziol underscore a fundamental flaw in Canada's approach to ABS. Specifically, they argue that Canada's tendency to underappreciate not only the interest of Indigenous peoples on the subject but also the country's status as both a provider and user of genetic resources and associated TK explains, in part, its lacklustre attitude to biopiracy. With predictable and unpredictable effects of climate change affecting genetic resources and biodiversity in Canada's extreme ecological regions, Canada's status as a provider of genetic resources will assume greater prominence than before. Oguamanam and Koziol explore concrete cases of what they call 'flashpoints of biopiracy' within Canada. They also speculate about potential sites and contexts for the future escalation of that phenomenon in the country. For them, ongoing acts of biopiracy at domestic levels, and its impending exacerbation drive the issue home to Canada contrary to the impression that biopiracy is a matter for Indigenous and local communities in remote parts of the global south and the developing world. Those tendencies constitute reason enough for Canada to identify with international efforts to implement ABS and stem the tide of abuse of Indigenous knowledge.

In Chapter 8, Larry Chartrand et al. chart an inward-looking pathway to identify Indigenous customary laws and practices that approximate an understanding of ABS from Indigenous worldviews. They selectively focus on a few Dene stories, offering some interpretative perspectives on them and extracting legal principles that are amenable to ABS. The essence is to assist researchers and Dene peoples in negotiating ABS agreements consistent with their laws and to elicit an introspective

approach to ABS by other Indigenous peoples as a crucial part of internal capacity building and capacity development on the subject. Some of the identified principles extrapolated from the stories such as equality, interdependence, sharing, reciprocity and mutual aid, go beyond the narrow instrumentalist prism of commoditization and commercialization of TK and GRs under the NP and related frameworks.

In Chapter 9, Freedom-Kai Phillips explores experiences on ABS from three national contexts (Brazil, Namibia, and Australia) with better standing on the subject than Canada, drawing out lessons that could influence future implementation of an ABS regime in Canada. Specifically, some of the insights include a phased approach with immediate and long term targets for entrenching ABS; streamlining of both national and local frameworks for ABS implementation; a pooled national ABS fund, and the use of differential permit systems to account for distinctive users and uses of GRs and associated TK in specific contexts.

The four constitutive chapters of Part III are dedicated to new technological dynamics that influence the processing, generating and transfer of information related to genetic resources and associated TK and their ramification for the research ethics and implementation of ABS. In Chapter 10, Peter W.B. Phillips, Stuart Smyth and Jeremy De Beer, writing under the title 'Access and Benefit Sharing in the Age of Digital Biology,' argue that digital technology problematizes the issue of physical alignment of genetic and genomic information with associated TK and their origins in IPLC for ABS purposes. They observe that out of expediency, NP could not directly tackle the subject of 'digital biology', and that normative studies and literature on ABS fail to engage it adequately. Accordingly, for effective application of ABS to advance R&D and meet industry and IPLCs' expectations, there is urgent need to plug the gap in law and policy over the practical parameters to govern the relationship between TK and digital biology for ABS purposes. Interestingly, the CBD explores this subject head-on through its Ad Hoc Technical Expert Working Group on Digital Sequence information on Genetic Resources which submitted its report in 2018. In Chapter 11, Oguamanam takes on the same subject matter from a more extended perspective, focusing on the role of digital technology in open data, big data and data sovereignty and their ramifications for ABS and TK. The Chapter highlights the cumulative effect of these phenomena in virtualization and de-linking genetic resources and associated TK from their origins in IPLCs. However, it argues that a combination of purposive interpretation of the NP and progressive development in international law and policy on Indigenous peoples and TK suggests that these technological transformations do not undermine the essence of Indigenous-sensitive ABS. Rather, they underscore the need for a fluid regulatory space to ensure the ABS laws are attuned to fast-changing technological space.

In Chapter 12, Kelly Bannister argues that ABS warrants a new approach to ethics by researchers beyond mere checkboxes and prescriptive formalities and compliance with local community protocols. Rather, researchers and Indigenous peoples must enter into an 'ethical space' to learn from each other within the framework of

relational ethics and in pursuit of deep-rooted and shared appreciation and respect as the best approach to mutually implement ABS. She selectively highlights established ethical codes and guidelines for research involving Indigenous peoples within the framework of a *relational* approach in two domains: national ethics policy for academic research involving Indigenous peoples in Canada; and international ethical standards in the discipline of Ethnobiology which must now accommodate considerations for ABS as the new reality of contemporary research. In Chapter 13, Thomas Burelli's empirical study indicates that researchers and Indigenous peoples have been forging research partnerships through various formal and informal protocols and agreements that reflect varying degrees of ABS sensitivity. It is not fashionable for researchers and bioprospecting entities, Burelli argues, to hide under the guise of the paucity of formal ABS laws in the specific jurisdiction as a licence to exploit TK and Indigenous peoples. Policymakers do not need to reinvent the wheel on ABS. He concludes that insights from the diversity of examined cases could constitute helpful starting points and building blocks for Indigenous-sensitive ABS in Canada and elsewhere.

In Chapter 14, Chidi Oguamanam concludes by synthesizing the various discussions that animated this book, reflecting on the challenges and opportunities which the present momentum for reconciliation in Canada poses for formal implementation of ABS. Noting the litany of precedents and practices within and outside of Canada, he highlights Canada's potential to tap into what he calls the 'late comer advantage' to implement a domestic ABS regime that optimizes lessons and insights including new challenges and opportunities arising from technological developments relevant to implementation of ABS. The chapter maps out a range of advantages to be explored in potential domestic implementation of ABS in Canada. Those advantages, the author argues, far outweigh obvious challenges and inherent obstacles. The chapter incorporates, on constructive and reflective basis, criticisms including highlights of omissions (e.g. the absence of insights or perspectives from corporations as major interests in ABS) in the undergirding methodology of the volume. Nevertheless, the author insists that the project has tried to both underscore the complexity and sophistication of ABS as a global subject matter with significant ramification for Canada while simultaneously contributing to demystify the concept. It is the author's expectation that the volume contributes in opening the policy space on ABS, as a work in progress, to catalyze conversations and consultations and to energize collaborations and partnerships required to take ABS seriously in Canada.

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NOTES

- 1 An insightful analysis of terms used to identify Indigenous peoples can be found at Ch. 1 in 'Just Don't Call Us Late for Supper – Names for Indigenous peoples,' in Chelsea Vowel, *Indigenous Writes: A Guide to First Nations, Metis & Inuit Issues in Canada* (Winnipeg: Highwater Press, 2016).
- 2 This announcement was formally made by Carolyn Bennet, Canada's Minister of Indigenous and Northern Affairs, at a UN Plenary Session on 10 May 2016. See www.cbc.ca/news/indigenous/canada-adopting-implementing-un-rights-declaration-1.3575272.
- 3 The reports of the three focus groups were each separately developed with input from Indigenous participants, which included the incorporation. In the case of the Maritime Indigenous peoples Council, their official written accounts of the focus groups as well as their feedback from each of the draft report and without prejudice to their independently generated declarations or statements such as the 2015 *Petkoutkoyek Statement on ABS*.
- 4 The Convention on Biological Diversity has now formally recognized the use of the term Indigenous peoples and Local Communities.
- 5 This is references to distinction which the International Treaty makes in regard to plant genetic resources for food agriculture and Nagoya Protocol's references to genetic resources in the context of the CBD framework whose undergirding objectives is the conservation of biological diversity. It also includes reference to constitutive active substance or substantive properties of genetic resources.