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# Intellectual property at a crossroads: The knowledge and resources of indigenous peoples and local communities

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## Abstract

On 24 May 2024, Member States of the World Intellectual Property Organization (WIPO) adopted the Treaty on Intellectual Property, Genetic Resources, and Associated Traditional Knowledge. While lauded as a victory for Indigenous peoples and local communities (IPLC), in this article we critique both the Treaty and its deficiencies, as well concerns of opponents of the Treaty. In addition, this article examines various ways forward in the plight of IPLC to protect their knowledge and knowledge systems, comparing and contrasting Aotearoa New Zealand, Australia and the United States, as three jurisdictions with comparable British colonial histories, but across the spectrum in terms of how their intellectual property law doctrines meet the interests of IPLC. The article warns that the Treaty might distract from meeting the deeper interests of IPLC and also that the typical paths forward are not without their disadvantages, including potentially perpetuating colonial constructs.

**KEYWORDS**

Australia, genetic resources, Indigenous knowledge, New Zealand, United States, WIPO Treaty

## 1 | INTRODUCTION

Decades after Indigenous people's concerns regarding the misappropriation of their knowledge and culture started to appear on the international stage, the first multinational treaty pertaining to 'traditional knowledge' was adopted on 24 May 2024. Member States of the World Intellectual Property Organization (WIPO) adopted the Treaty on Intellectual Property, Genetic Resources, and Associated Traditional Knowledge ('the WIPO Treaty' or 'the Treaty').[1] Hailed as a historic triumph,[2] the Treaty is being propounded as representing protection of Indigenous peoples' and local communities' (IPLC's) genetic resources and knowledge.[3] But what does the WIPO Treaty do? And does it in fact address IPLC's concerns regarding their genetic resources and knowledge?

In brief, the WIPO Treaty relates to the patent system—the legal system that protects 'inventions'. To patent an invention, a claimed invention must meet requirements of novelty and non-obviousness.[4] To illustrate, in the United States (US), an invention is not novel if it has been 'patented, described in a printed publication, or in public use, on sale, or otherwise available to the public before the effective filing date of the claimed invention'.[5] Regarding non-obviousness, the standard is not met if 'the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious … to a person having ordinary skill in the art'.[6] Such patent requirements have long-existed in the English-speaking world and,[7] as a result of the World Trade Organization (WTO) Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS),[8] analogous requirements exist globally.[9]

Despite the patent requirements for novelty and non-obviousness, stories of misappropriation of pre-existing genetic resources and associated knowledge permeate the globe. This includes quite blatant examples of patents being granted for inventions that are simply a reflection of existing IPLC's genetic resources and/or knowledge. Examples include uses of neem,[10] mānuka[11] and turmeric[12] that are no different from IPLC's uses. To illustrate, when Examiner Rose allowed Harihar Koli and Soman Das's patent for the oral and topical use of turmeric powder to heal surgical wounds and ulcers,[13] the examiner determined that the claims were novel and nonobvious over prior art found during the search process. In their re-examination request to the United States Patent and Trademark Office (USPTO), India's Council of Scientific and Industrial Research (CSIR) cited 32 references dating back to the 1920s to show that the examiner likely over-relied on his own internal knowledge, capabilities, and known solution space during the examination process—to the detriment of exploring the knowledge space of Indian households and the traditional Indian knowledgebase.[14]

More complicated examples involve inventions derived from IPLC's genetic resources and/or knowledge. Examples of this include the isolated active components of hoodia,[15] and mānuka,[16] or a new cultivar of taro.[17] Still more complicated is researchers' use of digital sequence information (DSI) sourced from (sometimes, open) gene banks, where there is a significant conceptual distance between the researcher, the DSI and the source community.[18]

As discussed in depth below, the WIPO Treaty supposedly addresses these kinds of patent applications because it requires that patent applicants make certain disclosures in regard to any IPLC's genetic resources and associated knowledge that they used towards their claimed invention. These disclosures should assist patent offices and their examiners to assess novelty and non-obviousness in light of IPLC's genetic resources and associated knowledge. This information may be difficult for patent examiners to identify in the absence of such disclosure. Traditional knowledge may be unpublished, or examiners may not understand or appreciate the significance of certain knowledge to the claimed invention.[19]

Put another way, implementation of the WIPO Treaty seeks to ensure that third parties are not granted patents for IPLC's genetic resources and associated traditional knowledge, or inventions that are obvious vis-à-vis these resources and knowledge. Whether this constitutes 'protection' of IPLC's genetic resources and associated knowledge depends on the concerns that these peoples and communities have with respect to their genetic resources and associated knowledge. The range of IPLC's concerns is briefly discussed in Part 2 of this article. The WIPO Treaty, its history, scope and rhetoric, are analysed in Part 3. Concluding that the WIPO Treaty makes few

inroads towards the aspirations of IPLC, Part 4 of this article subsequently examines possible ways forward. It does so focusing on the US, with some lessons from Aotearoa New Zealand and Australia, as these jurisdictions are developed former British colonies, with minority Indigenous peoples, making comparisons reasonable. Moreover, these jurisdictions are of interest because—as discussed in the following—the US was one of the most significant opponents of the WIPO Treaty, whereas the discourses from Aotearoa New Zealand and Australia are arguably already well-advanced of the WIPO Treaty. The article concludes by noting that, while the Treaty is a step in the right direction and an achievement to be celebrated, it leaves much to be desired in the quest to recognise and protect IPLC's knowledge and knowledge systems. Furthermore, we argue that the Treaty has the potential to distract one from that greater quest. Thus, we argue the importance of the discussion continuing beyond the Treaty and its implementation.

## 2 | SOME GENERAL CONCERNS OF IPLC

The concerns of IPLC in relation to the protection and exploitation of genetic resources and associated knowledge are many and varying. Peoples and communities are not homogeneous with respect to their worldviews, knowledge systems, histories, relationships within their countries and with respect to their governments, and—relatedly—their ability to interact on the world stage. At the heart of many concerns lies the issue that many IPLC are socially, politically and economically marginalised. That is, they have little power within their countries and on the world stage. This impacts how the misappropriation of their knowledge and culture affects them as peoples/communities. To illustrate, one Indigenous scholar described it as the final stage of colonisation—the last thing that could be taken from them, after their lands and their physical items.[20]

Furthermore, being marginalised implicates the way IPLC's worldviews and knowledge systems (and, more broadly, their legal systems) are viewed nationally and internationally. They are seen as subordinate if relevant at all. Thus, for a significant amount of time (and, indeed, one still comes across this perspective), academics and politicians saw the worldviews and knowledge systems of IPLC as 'lesser' and not resulting in 'real' science or knowledge.[21] Instead, their science and knowledge was deemed to be 'primitive', creating only 'folklore' and 'traditional medicine' to be investigated by 'real' (read, 'western', science), if not deemed to be witchcraft.[22] Only recently have there been calls from Western scientific bodies to recognise IPLC's systems of knowledge as valuable reservoirs of learning.[23]

Moreover, ignoring that IPLC have their own legal systems and different ways of controlling and transmitting knowledge,[24] their knowledge systems were viewed through a Western lens to cast IPLC's knowledge and creations into the public domain.[25] Not 'real' science and in the public domain, the knowledge was 'free' for the taking.[26] And this occurred (and continues to occur) regularly without proper consent and often in a manner that is potentially offensive to the source community, and/or it is contrary to their laws, norms or cosmology.[27] Even if not offensive, the use is often without any compensation to the source community or inclusion in the innovation process[28] and may prevent IPLC from engaging in industries based on their own knowledge.[29] In addition, the use often does not properly acknowledge the source community, or—if it does—it is in a romanticised way that reinforces stereotypes about IPLC as non-modern, untouched and 'natural'.[30]

Patent offices, and by extension patent examiners, are not free of social biases.[31] They might similarly have viewed IPLC's knowledge as not science and knowledge that constitutes prior art. This would have been (and continues to be) exacerbated by the fact that many such peoples and communities have not recorded their knowledge.[32] If they have, this might not be in a language or medium accessible to patent offices. Perhaps the peoples or communities would not wish to make their records available to patent offices for lack of trust—a point that we shall return to below. But, from the patent office perspective, not being recorded in a language and medium they recognise (written, ideally in another patent or a journal article), together with patent applicants not acknowledging their use of IPLC's knowledge, potentially undermines the integrity of the patent system.

This narrow space between accessible prior art, acknowledgement of sources, and the integrity of the patent system is where the WIPO Treaty comes in. As noted in the Introduction and as discussed in depth in the following, the WIPO Treaty requires that patent applicants disclose the country of origin of the genetic resources or associated traditional knowledge used in their claimed invention, so that patent offices can better assess novelty and non-obviousness.[33]

## 3 | THE WIPO TREATY

### 3.1 | History

Over the years, several attempts have been made to protect genetic resources and traditional knowledge in some capacity, across different fora.[34] In 1992, the United Nations (UN) adopted the Convention on Biological Diversity (CBD), which has the objectives of conservation and the sustainable use of biological diversity and the fair and equitable sharing of benefits arising out of the utilisation of genetic resources.[35] It specifically calls on nations to 'respect, preserve, and maintain knowledge, innovations and practices of indigenous and local communities …, promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilization of such knowledge, innovations and practices'.[36] At the time of writing, only one UN member state has not signed this convention—the US.[37] In any case, the CBD and later its Nagoya Protocol (which has even stronger provisions regarding access to genetic resources and associated knowledge, and fair and equitable benefit-sharing)[38] have often been framed as being at odds with the patent system. This disconnect was acknowledged in the WTO Doha Declaration,[39] which required the TRIPS Council to examine the protection of traditional knowledge and the relationship between the TRIPS Agreement and the CBD.[40]

A disclosure requirement was proposed as a means to bridge the CBD and TRIPS Agreement,[41] and, in 2008, several members of the WTO supported a proposal to amend the TRIPS Agreement to include mandatory disclosure for patent applications related to genetic resources and traditional knowledge.[42] This failed, in part, because 'developed countries at the TRIPS Council meeting also maintained their position, which is to oppose an amendment to the TRIPS Agreement, which they said would not solve the problems'.[43] More critically, certain states would have been wary of the dispute resolution and enforcement measures available under the auspices of the WTO if one were to fail to comply with such an amendment to a WTO agreement.[44]

Meanwhile, in 1998–1999, the UN-housed WIPO conducted 'fact-finding missions' (FFMs) on the 'traditional knowledge, innovations and practices of indigenous and local communities, to be conducted in various regions of the world'.[45] More specifically, the FFMs were conducted in the South Pacific, East and Southern Africa, South Asia, North America, Central America, West Africa, the Arab region, South America, and the Caribbean. This was part of WIPO's programme 'for exploration of the ways in which the intellectual property system can serve as "an engine for social, cultural and economic progress for the world's diverse populations".'[46] The report, entitled 'Intellectual Property Needs and Expectations of Traditional Knowledge Holders' was published in 2001,[47] which set the stage for the WIPO General Assembly[48] to create the Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore (IGC), which held its first session in 2001. The IGC's role has been to construct texts to bridge international gaps and provide some protection to traditional knowledge, traditional cultural expressions, and genetic resources.[49]

At the IGC in 2016, Switzerland proposed requiring patent applicants to disclose sources of genetic resources and traditional knowledge (which has been the law in Switzerland since 2008),[50] which Australia and Ghana supported.[51] Analogously, the European Union (EU) proposed disclosing the 'country of origin or source of genetic resources for all international, regional and national applications'.[52] Peru, the African Group, and many other representatives crafted similar proposals.[53] Common rhetoric in opposition to such a proposal included the

potentially burdensome nature of a mandatory disclosure requirement and its potential to negatively affect innovation.[54] To illustrate, the US objected to the mandatory disclosure requirement because of the 'enormous information potentially required [and] whether this requirement would discourage applicants from filing patent applications on certain inventions'.[55] The US criticised the original Switzerland proposal, and Switzerland replied—requesting that the US withdraw its criticism because it added confusion to the discussion and was not 'fact-based', on the grounds that it misinterpreted Switzerland's proposal and 'confused disclosure, notification of due diligence and product marketing authorization'.[56] The US refused to withdraw its paper and WIPO had to continue to try to navigate a difficult conversation to create a treaty.

In the intervening years, several countries have implemented their own disclosure of origin requirements, such as Peru and India,[57] and, as noted, in 2024 the WIPO Member States finally adopted a Treaty towards this end. However, perhaps a reflection of the multilateral process, several concessions were made to the US and states of a similar political and industrial orientation. As elaborated upon in the following, this included a provision that a failure to correctly disclose would not result in patent invalidation,[58] and the exclusion of DSI from the application of the WIPO Treaty.

## 3.2 | Analysis and critique

The WIPO Treaty has two primary stated objectives. The first objective is to 'enhance the efficacy, transparency and quality of the patent system with regard to genetic resources and traditional knowledge associated with genetic resources'.[59] It is, thus, clear from the outset that the WIPO Treaty is about the patent system and its functioning. The second objective of the WIPO Treaty is to 'prevent patents from being granted erroneously for inventions that are not novel or inventive with regard to genetic resources and traditional knowledge associated with genetic resources'.[60] Again, the WIPO Treaty is about the patent system, because patents that are not new or nonobvious should not be granted. As discussed in the following, the WIPO Treaty does not create any new rights for IPLC with respect to their genetic resources or their knowledge. Instead, one could argue that the WIPO Treaty underscores the centrality of the patent system as *the* knowledge system, and the role of IPLC and their genetic resources or their knowledge is subordinate in the Western regime[61]—relegated to the pool of prior art and there to prop up the patent system to ensure the 'best' patents possible are granted.

As noted in the Introduction, the substantive part of the WIPO Treaty revolves around a disclosure requirement in Article 3 to assist patent offices with their administration and examination of applications.[62] There are two parts to Article 3; the first part relating to claimed inventions that are 'based on'[63] genetic resources, and the second part to claimed inventions that are 'based on traditional knowledge associated with genetic resources'. Regarding, genetic resources, Article 3.1 of the WIPO Treaty requires Member States to require patent applicants to disclose: '(a) the country of origin of the genetic resources, or, (b) in cases where the information in Article 3.1(a) is not known to the applicant, or where Article 3.1(a) does not apply, the source of the genetic resources'.[64] Regarding 'traditional knowledge associated with genetic resources', Article 3.2 of the WIPO Treaty requires Member states to require patent applicants disclose: '(a) the Indigenous Peoples or local community, as applicable, who provided the traditional knowledge associated with genetic resources, or, (b) in cases where the information in Article 3.2(a) is not known to the applicant, or where Article 3.2(a) does not apply, the source of the traditional knowledge associated with genetic resources'.[65]

Thus, patent applications based on genetic resources and based on associated traditional knowledge have different requirements, even if the two can have significant overlap.[66] The former mandates disclosure of the country of origin or source of the genetic resources. The latter mandates disclosure of the IPLC or sources who provided the traditional knowledge associated with the genetic resource. If the applicant does not know the country of origin or source of a genetic resource, or the IPLC or source of associated traditional knowledge, 'each Contracting Party shall require the applicant to make a declaration to that effect, affirming that the content of the

declaration is true and correct to the best knowledge of the applicant'.[67] There is no requirement that applicants make a 'best effort' or something similar to locate the relevant information.[68]

The WIPO Treaty includes a definition section, defining 'genetic resources', consistent with the provisions of the Convention on Biological Diversity, as any material of plant, animal, microbial or other origin containing functional units of heredity, of actual or potential value.[69] While this might appear broad, it excludes human genetic resources.[70] In addition, the IGC negotiations included significant debate around whether the disclosure requirements should extend to DSI—that is, the information lying within the genetic resources. The US was a strong proponent for including an exception for DSI, supported by Group B (which includes Western European countries, the United Kingdom (UK), Norway, the US, Switzerland, Japan, Canada, Aotearoa New Zealand, Australia), and South Korea. Such an exception was not explicitly included in the final WIPO Treaty. While states might implement this aspect of the Treaty differently, from the wording of the definition of genetic resource being 'material' that contains 'functional units of heredity', it would seem that a state could implement the Treaty so that a patentee who obtained DSI would not have to disclose the origin of this, as information is not 'material' and it does not have '*functional* units of heredity'. Thus, it is arguable that an invention derived from DSI is not 'based on' a genetic resource. This is a significant failing of the WIPO Treaty in light of evidence that misappropriation of genetic resources is increasingly less in relation to physical samples and chemical isolates, but vis-à-vis DSI with very little (if any) connection to source communities, often coming from gene banks.[71] That is, the rapid advance of biotechnology has resulted in a decreased value in physical genetic resources and associated knowledge, and the ability to bypass source communities entirely.

Continuing with the disclosure requirement vis-à-vis genetic resources, it is not clear that the 'country' is the best unit of geographical space to consider genetic resources. Requiring a country of origin disclosure for genetic resources will necessarily exclude other relevant countries, and—in that sense—it might be too narrow. But, it also might be too broad if the resource is only from a specific region of a country, which could lead examiners on a much larger search process than necessary by listing the country of origin rather than the relevant region—for example, naming the US rather than a specific state.

As to 'traditional knowledge', the WIPO Treaty does not provide a definition for this term. This is because there is no agreement on what the terms means and, given the diversity of Indigenous and local communities across the globe, there may never be a settled, homogeneous understanding of what constitutes 'traditional knowledge'. In addition, having a definition in this Treaty would pre-suppose the on-going negotiations for a WIPO treaty on traditional knowledge. The Glossary of terms used by the IGC reiterates that there is no accepted definition, but states that[72]:

> *'Traditional knowledge,' as a broad description of subject matter, generally includes the intellectual and intangible cultural heritage, practices and knowledge systems of traditional communities, including indigenous and local communities (traditional knowledge in a general sense or lato sensu). In other words, traditional knowledge in a general sense embraces the content of knowledge itself as well as traditional cultural expressions, including distinctive signs and symbols associated with traditional knowledge.*
>
> *In international debate, 'traditional knowledge' in the narrow sense refers to knowledge as such, in particular the knowledge resulting from intellectual activity in a traditional context, and includes know-how, practices, skills, and innovations. Traditional knowledge can be found in a wide variety of contexts, including: agricultural knowledge; scientific knowledge; technical knowledge; ecological knowledge; medicinal knowledge, including related medicines and remedies; and biodiversity-related knowledge, etc.*

Note the distinction made between the broader understanding of the term as holistic and interconnected with all kinds of cultural 'things', on the one hand, and the narrower 'international' understanding as something related to innovation (i.e., patents) and resulting from intellectual activity in a 'traditional context', on the other hand. While

the WIPO Treaty does not define traditional knowledge, technically leaving the distinction to be up for interpretation, the fact that the WIPO Treaty pertains to disclosure in the patent system strongly indicates that the narrower understanding of traditional knowledge sits at the centre of the WIPO Treaty. This may be contrasted with Indigenous conceptualisations of traditional knowledge, where references to 'traditional' reflect that the knowledge is 'linked to the traditions, cosmology, customs and customary law of an Indigenous or local community'.[73]

Indeed, the WIPO Treaty does not even cover all of the narrower understanding of traditional knowledge, but only relates to traditional knowledge associated with genetic resources.[74] Traditional knowledge (even just that limited to innovation, and not in a holistic sense) that is not associated with genetic resources is decidedly not covered by this agreement.[75] The disclosure requirement is further narrowed by the fact that the WIPO Treaty pertains to *traditional* knowledge, as this is also limiting. IPLC embody living and ever-developing cultures and knowledges, but this Treaty does not require disclosure in relation to all of this. It only requires disclosure if a claimed invention uses *traditional* knowledge that is *associated* with genetic resources.

Overall, the scope of the requirement to disclose is relatively narrow, especially in relation to knowledge. This is similarly the case vis-à-vis the provision on possible sanctions and remedies for the failure to disclose. The sanctions and remedies section of the WIPO Treaty allows parties to have 'appropriate, effective, and proportionate legal, administrative, and/or policy measures to address a failure to provide the' required information.[76] However, as indicated above, the provision on sanctions and remedies saw significant debate in the IGC negotiations, and this is reflected in limitations to the sanctions and remedies. The WIPO Treaty states that, except in limited cases of fraud, which may result in post-grant sanctions, 'no Contracting Party shall revoke, invalidate, or render unenforceable the conferred patent rights solely on the basis of an applicant's failure to disclose the information specified in Article 3 of this Treaty'.[77] Additionally, applicants should have 'an opportunity to rectify a failure to disclose the information required in Article 3 before implementing sanctions or directing remedies', except where there has been 'fraudulent conduct'.[78] This restraint on remedies is problematic, as it affects the incentives for patent applicants to disclose truthly. If one cannot be denied a grant or lose a patent other than in cases of fraud, one might have the incentive to not disclose.[79] For example, a researcher or an entity might decide that, in cases where the researcher is unsure, the best policy is to try not to know or try not to discern where a genetic resource and/or associated knowledge comes from—or even disclose relevant possibilities for the examiner to rely on when searching. Furthermore, within an international system typically based on minimum standards (such as found in TRIPS, as well as WIPO's other treaties), it is rather concerning that a maximum standard is set in this Treaty.[80]

It is also worth noting that there was significant debate around Article 6 of the WIPO Treaty, which relates to the creation of 'information systems' of genetic resources and related knowledge. Article 6.1 states that parties 'may establish information systems (such as databases) of genetic resources and traditional knowledge associated with genetic resources, in consultation, where applicable, with IPLC, and other stakeholders, taking into account their national circumstances.' While this might appear innocuous, the Article is potentially problematic for multiple reasons. States are only obliged to consult with IPLC 'where applicable', and 'taking into account their national circumstances', which opens space for discretion. Furthermore, IPLC were concerned with being equated with 'other stakeholders' in the development of databases of their genetic resources and knowledge.

Article 6.2 continues that parties 'should' make these databases available to other intellectual property offices for use in examination, 'with appropriate safeguards'. This access should 'be subject to authorization, where applicable, by the Contracting Parties establishing the information systems.' While this might appear to fit the purposes of facilitating effective examination, IPLC have expressed concern over who would have control of the databases (data sovereignty), and who would have access to their data.[81] In addition, the Article states that authorization is to be given by the 'contracting parties' rather than the source communities. These concerns are understandable given that several IPLC have had negative experiences when they have trusted the government (or Crown). For example, the ground-breaking Indian Traditional Knowledge Digital Library (TKDL) was originally intended to be shared only with intellectual property offices subject to a signed access agreement, however this has

recently changed with the Modi government opening up the database to third parties to 'drive research & development, and innovation based on India's valued heritage across diverse fields'.[82] We pick up on further concerns relating to databases below in Part 4.

Finally, it is arguable that, at best, the implementation of the WIPO Treaty will give IPLC some acknowledgement for their contribution to the prior art but nothing more. The WIPO Treaty ignores the intent of the 1992 Convention on Biological Diversity and the Nagoya Protocol to promote consent and involvement of Indigenous and local communities in the invention and commercialisation process, including the requirement for contracting parties to make all efforts to 'encourage the equitable sharing of the benefits arising from the utilization of such knowledge, innovations and practices'.[83] Acknowledgement as prior art, though important, is not necessarily sufficient for all relevant patent-related matters, let alone all Indigenous people's concerns regarding their knowledge, resources and development. While progress at the WIPO IGC is welcomed after more than 20 years of discussion and negotiations, the celebration of the WIPO Treaty holds the danger that one could believe that the international community has done something to protect, rather than recognise, IPLC's knowledge. It could also give the sense that this is the end of the process, when this is far from the reality. In this vein, it could give researchers and research entities the belief that they have social and legal licence to use IPLC's genetic resources and associated traditional knowledge with impunity, so long as they disclose the use. The WIPO Treaty could thus distract from meaningful change, including negotiations at the WIPO IGC in relation to traditional knowledge and traditional cultural expressions.[84]

### 3.3 | So, why the concern?

Despite the narrow requirements of the WIPO Treaty, many stood against the adoption of the WIPO Treaty. The USPTO sought comments on the WIPO Treaty negotiations at the end of 2023 that provide several examples of both individuals and companies opposing the Treaty.[85] Of the 39 available public comments, only two could be characterised as pro-Treaty.[86] The vast majority of the comments against the Treaty cited twelve main reasons that the United States should not support the Treaty. Though some of these concerns may have been rectified before the 2024 final Treaty adoption, many still stand.

Many lamented the disclosure requirements as introducing uncertainty into the patent system and undue delay in the patent process.[87] Still others expressed concern over both the monetary and time-costs associated with what is seen as a heightened disclosure requirement.[88] Disclosure requirements are often criticised for introducing costs, delay and uncertainty into the patent system, on the basis that concerns in relation to misappropriation and exploitation of traditional knowledge might be better dealt with outside of the patent system.[89] 14 of the comments to the USPTO included concerns that the region or population of origin would be impossible to trace when applying for a patent.[90] Many put forth concerns about the use of various terminology in the Treaty without definitions, including the term 'traditional knowledge associated with genetic resources',[91] which we discussed above.

Other submissions relayed concerns about the legal implementation of the Treaty, including potential disparities in implementation, existing protection in the Convention on Biological Diversity and other disclosure laws that can prevent unjust enrichment, and issues regarding inventors who rely on DSI to develop their products.[92] Some also noted the potential negative post-grant effects of the Treaty, focusing on the added burden of more post-grant challenges.[93]

We argue that since the WIPO Treaty is only about acknowledging that IPLC's genetic resources and associated traditional knowledge as prior art, then this should not add significantly to the cost or burden of examining an application for a claimed invention.[94] As discussed further in the following, patent law already arguably requires the disclosure of known prior art relating to traditional knowledge and genetic resources, and such existing requirements can already affect the enforceability of a patent and patentability status of the invention. Thus, one could

contend that the Treaty expressly addresses extant disingenuous uncertainty in the patent system that is created by the same people unwilling to comply with current disclosure requirements.[95] Furthermore, the sanctions and remedies under the WIPO Treaty do not allow for a patent to be revoked for nondisclosure except in cases of fraud, when certain jurisdictions, including the US, Australia and Aotearoa New Zealand, already allow for the opposition or revocation of a patent on the basis of failure to comply with disclosure requirements, or not disclosing something that materially affects the grant.[96]

We turn now to the United States to illustrate how the WIPO Treaty reflects existing disclosure requirements in patent law. The United States has been selected as a comparator because the United States was one of the strongest opponents to the WIPO Treaty. First, in the United States, each joint inventor must be identified in the patent application, and '[a] patent could be deemed invalid for improper inventorship'.[97] Second, 37 CFR § 1.56(a) sets forth a duty of disclosure, wherein 'Each individual associated with the filing and prosecution of a patent application has *a duty of candor and good faith* in dealing with the Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability'. Section 1.56(b) defines that 'information' is material to patentability when it is not cumulative to information already of record or being made of record in the application, and

(1) It establishes, by itself or in combination with other information, a prima facie case of unpatentability of a claim; or
(2) It refutes, or is inconsistent with, a position the applicant takes in:
    (i) Opposing an argument of unpatentability relied on by the Office, or
    (ii) Asserting an argument of patentability.[98]

Applicants can comply with the 37 CFR § 1.56(a) disclosure requirement by filing an 'information disclosure statement' (IDS) per 37 CFR §§ 1.97-1.98.[99] An IDS must contain:

- 'A list of all patents, publications, applications, or other information submitted for consideration by the Office'[100];
- 'A legible copy of' listed non-US patents, publications (or relevant portions), specifications (including claims and drawings) of unpublished US applications (or relevant portions), all other information (or relevant portions)[101]; and
- Regarding non-English language information, 'A concise explanation of the relevance, as it is presently understood by the individual designated in § 1.56(c) [inventor, attorney/agent, or "every other person who is substantively involved in the preparation or prosecution of the application and who is associated with the inventor, the applicant, an assignee, or anyone to whom there is an obligation to assign the application"] most knowledgeable about the content of the information', and a copy of the English translation if in the possession of an individual designated in § 1.56(c).[102]

IDSs are not limited to information that is material to patentability, and can include non-prior art references.[103] 37 CFR § 1.97 specifically states that an IDS 'statement shall not be construed to be an admission that the information cited in the statement is, or is considered to be, material to patentability as defined in § 1.56(b)'.[104]

The requirements to list inventors and to disclose material information have practical, intertwined implications. That is, because every inventor listed on a patent application must disclose information known to be material to patentability, the requirement to acknowledge inventorship is not just relevant for credit and ownership, but for the furtherance of disclosure. Complying IDSs must be considered by examiners.[105] This information supplements an examiner's search, allowing examiners to search not only for information and in places they find relevant, but also information that may not be as easily accessible.[106] Note that some applicants submit too much information in their IDS to technically comply with their obligation but effectively bury relevant information.[107] This is a potential concern with the Treaty-related disclosure—that an applicant might obscure the disclosure within a much larger

disclosure. Whether this could occur depends on how the Treaty-related disclosure requirement is implemented. For example, the US may consider if the disclosure can be part of the IDS or if it must be a separate disclosure, as well as whether the US should limit the number of Treaty-related disclosures per patent application.

Regarding sanctions for failure to comply with the requirement to disclose all known information material to patentability, 37 CFR 1.56(a) states 'no patent will be granted on an application in connection with which fraud on the Office was practiced or attempted or the duty of disclosure was violated through bad faith or intentional misconduct'.[108] Analogous formalities and consequences for failure to comply are not uncommon in other jurisdictions.[109] In other words, there is already a requirement to disclose prior art relevant for assessing novelty and non-obviousness, and a consequence of non-grant for fraud, bad faith, or intentional misconduct. That is, US law arguably already goes beyond the requirements of the WIPO Treaty.[110]

In light of this, it is difficult to see how the WIPO Treaty's disclosure requirement upsets existing law. To summarise, per 37 CFR §§ 1.56(a) and 1.97-1.98, US patent applicants are already required to disclose prior art related to traditional knowledge and genetic resources if they are material to patentability. In addition, if applicants engage in fraud, bad faith, or intentional misconduct for any reason, including improper disclosure, the patent could be held invalid.[111]

Barring engagement of fraud, bad faith, or intentional misconduct, the procedure of rectification for failure to disclose under the WIPO Treaty seems to parallel rectification of improper inventorship disclosure. If an entity wrongly discloses inventorship, they may 'obtain a correction of inventorship through certification and reissue at the USPTO, with no input from the non-joined inventor'.[112] This is a straightforward, form-based corrective procedure. Similarly, any entity who fails to properly disclose reliance on traditional knowledge under the WIPO Treaty must be given 'an opportunity to rectify [the] failure… before [they receive] sanctions or directing remedies'.[113] Like improper inventorship disclosure, improper Treaty disclosure in and of itself does not automatically result in patent invalidation, or indeed any significantly negative consequences.[114]

In US patent law, if inventorship is not remedied, the patent is not enforceable. The WIPO Treaty does not prescribe such a harsh consequence for lack of proper disclosure—even before correction. Indeed, Article 5.3 of the Treaty (that 'no Contracting Party shall revoke, invalidate, or render unenforceable the conferred patent rights solely on the basis of an applicant's failure to disclose') seems to include instances where the applicant fails to correct an improper disclosure. That being said, for applicants who wish to correct improper disclosure, we see no reason why they should not have a similar corrective procedure to improper inventorship or use the existing supplemental information disclosure procedures to remedy their error.

Part of the concern in the US could be that the US protects certain plant varieties and designs as patents, whereas other jurisdictions only protect them via non-patent (sui-generis or copyright) regimes.[115] That is, in the US, the requirement to disclose could apply to all three patent areas. In contrast, regarding plant varieties, the WIPO Treaty could have more impact in the United States than in jurisdictions that protect these via sui generis regimes. Regarding designs, we anticipate little if any effect for design patents, which would seldom rely on genetic resources or traditional knowledge associated with genetic resources. Of course, had the Treaty extended to knowledge unrelated to genetic resources, design law might be implicated. It is also worth noting that the WIPO Riyadh Design Law Treaty (DLT) was adopted on 22 November 2024,[116] which states that

> *A Contracting Party may require, where permitted under the applicable law, that an application contain an indication of any prior application or registration, or of other information, including information on traditional cultural expressions and traditional knowledge, of which the applicant is aware, that is relevant to the eligibility for registration of the industrial design.*[117]

Note that the disclosure requirement in the DLT is not mandatory. The differences between the provisions in the two WIPO treaties indicate that the disclosure requirement relating to genetic resources and associated

knowledge relates to what the United States refers to as 'utility' patents for inventions, and possibly to plant patents (though this is unclear), but not to design patents.

## 4 | POSSIBLE WAYS FORWARD AND THEIR CHALLENGES

Based on our analyses of the WIPO Treaty and existing patent systems as working to narrowly acknowledge IPLC, and shoring up the novelty and non-obviousness standards in light of their genetic resources and associated traditional knowledge, we believe the WIPO Treaty does very little to meet the concerns of IPLC. In this Part, we, thus, examine ways to address the shortcomings of the Treaty.

There is a spectrum of possible ways that the concerns of IPLC in relation to their resources and knowledge could be addressed. As we stated in Part 3.2 of this article, the WIPO Treaty protects neither alternative knowledge systems nor IPLC's genetic resources and knowledge. Doing so in a way that respects their laws, norms and customs would lie on one end of the spectrum. Arguably, the WIPO Treaty lies very close to the opposite end of the spectrum, as it is primarily about supporting the existing patent system. The suggestion of databases of knowledge to assist patent offices sits very close to this, as it is also about the patent system rather than the knowledge or the knowledge holders. Somewhere in between lies giving IPLC a voice in the existing processes, ranging from an advisory role to a decision-making role.

None of these are without their advantages and disadvantages. This is exemplified by the discussion in Part 3.2 of this article around databases. From the patent office perspective, a database of pre-existing knowledge to use to examine patent applications is rather harmless. One could even argue that it equates the knowledge of IPLC with other sources of knowledge, breaking the history of seeing such knowledge as 'primitive' and not science. However, this perspective is potentially made a-historical from a Western standpoint. As discussed above, many IPLC do not have positive histories with their governments and may not trust them with their knowledge.[118] Furthermore, as explained below, many IPLC may not view recording their knowledge as being consistent with their norms and customs.

Furthermore, genetic resources do not grow in accordance with country lines.[119] This is because country lines are, of course, social and political constructs. It is also because people affect genetic resources. For example, Māori brought the kūmara (sweet potato originally from South America) and taro (a root vegetable found across the Asia Pacific and Africa, and known as kalo in 'Ōlelo Hawai'i, the Hawaiian language) to Aotearoa New Zealand when they first settled there around 1250–1300 CE from another part of Polynesia.[120] While some might think this means that Māori should not have any claim over kūmura or taro, they are considered taonga (sacred) to Māori for the very reason that they were brought over on the original waka (boats). Even within one country, the rights and responsibilities relating to genetic resources and also associated knowledge can span across more than one group. There can, thus, be issues about who is the 'correct' rightsholder in the eyes of the patent system and who should be acknowledged in any disclosure and implementing a database can exacerbate or create inter- and intra-group conflict.

Let us look at a specific example to tease out these issues—taro. As noted in the foregoing, varieties of taro can be found across the Pacific. In 1999, the University of Hawai'i filed three plant patent applications directed to taro cultivars.[121] These cultivars were all resistant to a root rot caused by Pythium spp and pink, purple, and white corms.[122] The inventor, Eduardo Trujillo, was a plant pathologist trained in botany who dedicated his practice to 'do something to help people'.[123] He created these new varieties with the goal of increasing production of the food staple.[124] After the University spent over $300,000 over 4 years on the research, Dr. Trujillo hoped that the new varieties 'could bring major improvements to the lives of many Pacific Islanders who depend on taro as the staple starch in their diets'.[125]

After successfully patenting the plant cultivars—determined to be new, non-tuberous,[126] and not found in nature—Kānaka Maoli (the Indigenous People of Hawai'i, who also refer to themselves as Kānaka 'Ōiwi and Native

Hawaiians)[127] wanted the University of Hawai'i to 'dissolve all university proprietary or ownership interests of any kind in the three taro varieties'.[128] Kānaka Maoli understand taro to be an integral part of their culture—even if it is no longer a staple of the Hawaiian diet.[129] According to moʻōlelo (Hawaiian oral histories), Kānaka Maoli are the younger sibling of taro, as a plant grown from the buried stillborn child from Wakea (the sky father) and Ho'o-hokukalani, an akua (traditional Hawaiian elemental form, deity, and ancestor of all Kānaka Maoli).[130] Though the plant created by Dr. Trujillo was considered biologically different to existing cultivars and thus patentable under USPTO standards, it was not seen as different by the standards of Kānaka Maoli. The University of Hawai'i decided to file terminal disclaimers with the USPTO, essentially dissolving their patent ownership interests.[131] This termination 'included Hawaiian oli, or chants, honouring the sacred relationship the Native Hawaiians have with kalo'…[132] After dissolving the patents, the general public (including Kānaka Maoli) could plant, propagate, sell, and transfer the plants 'as if the patents had never existed'.[133]

Moving to the other side of the Pacific, taro remains a common vegetable found in Aotearoa New Zealand supermarkets, particularly beloved by Māori, Pasifika and Asian communities. Māori have general concerns about the propertisation of lifeforms,[134] and from that perspective would have concerns around the patenting of taro cultivars. More specifically in relation to taro, as noted above it is taonga to Māori because it came across on the original waka. In Aotearoa New Zealand, plant varieties are exclusively protected under the Plant Variety Rights (PVR) Act 2022, Part 5 of which aims to protect Māori's kaitiaki (guardian) relationship with certain species. Part 5 applies to a plant variety 'that is derived wholly or partly from—(i) an indigenous plant species; or (ii) a non-indigenous plant species of significance', *and* 'in circumstances where the material from which the plant variety was derived was obtained from New Zealand'.[135] 'Indigenous plant species' is defined as 'a native plant species that occurs naturally in New Zealand or has arrived in New Zealand without human assistance', and 'nonindigenous plant species of significance' is defined as a plant species: '(a) believed to have been brought to New Zealand before 1769[136] on waka migrating from other parts of the Pacific region; and (b) listed in the regulations as a non-indigenous plant species of significance'.[137] At the time of writing, the Regulations listed ten nonindigenous species of significance, including taro (and kūmara).[138] The 2022 Act established a Māori Plant Varieties Committee,[139] which provides advice to the Commissioner of Plant Variety Rights on any information that may be relevant to the criteria for granting a PVR (novelty, stability, uniformity and distinctiveness), and can 'make decisions' in relation to the potential effect on any relevant kaitiaki relationships, which can result in non-grant or the cancellation of a grant.[140]

The mechanism set-up under the Plant Variety Rights Act 2022 is the most 'progressive' acknowledgement of Māori concerns in Aotearoa New Zealand's intellectual property legislation,[141] and it goes well beyond the WIPO Treaty (which would not apply to the PVR regime in Aotearoa New Zealand). Nevertheless, the PVR Act 2022 is designed to address Māori interests, which results in limits in relation to cross-border concerns. More specifically, if University of Hawai'i filed for plant variety protection in Aotearoa New Zealand, it is unclear whether the Māori Plant Varieties Committee would be engaged. While taro is specifically listed as a 'nonindigenous plant species of significance' under the PVR Act 2022, presumably the University of Hawai'i plant variety is not derived from material that was obtained from Aotearoa New Zealand.[142] Even if the Māori Plant Varieties Committee were engaged, it is possible that they would find that there is no kaitiaki relationship impinged because the cultivars were derived from Hawaiian plants. The Kānaka Maoli relationship with taro could not be part of the Committee's decision-making process, because their relationship to taro is irrelevant for the purpose of the PVR Act 2022. Thus, it is possible that neither the concerns of Māori nor of Kānaka Maoli would be part of the decision-making process. This underscores the limitations in national mechanisms to address Indigenous concerns, and the potential of the law to create artificial divisions between peoples.

Within Aotearoa New Zealand's context, it is understandable that its law reflects the Crown's relationship with Māori. However, potentially, in doing so, the legislation reinforces colonial line-drawing around peoples, culture and things. It is also worth noting that *who* is the rightsholder or has the authority to speak to a kaitiaki relationship can also be unclear to an outsider and possibly contested.[143] Different peoples and communities do not necessarily hold

resources and knowledge in the same way as Western peoples, and they might not show their rights and obligations in the same way. For example, they might not view themselves as owners, or their resources or knowledge as ownable, and the rightsholder may not be the one who exhibits western signs of 'ownership'. Furthermore, it is possible that more than one person or community within a country has authority over a resource or knowledge and, without the threat of misappropriation and propertisation, this would not be problematic. Taro in Aotearoa New Zealand exemplifies this. But, third party use and patents can create tension, requiring the identification of who can speak to something and have decision-making authority. Taken one step further, this could create tensions between IPLC, within and across country borders, all to prevent the march of biocolonialism. Cross-border issues are ostensibly one of the main reasons why a multilateral solution has been sought, yet the WIPO Treaty makes no inroads in this regard as it is purely about bettering the assessments of novelty and non-obviousness. Put another way, no rights are created, so there is no need for a mechanism to mutually recognise each other's decision-making in this regard, for example.[144]

To date, in the absence of recognising and giving legal status to different knowledge systems, 'solutions' to address IPLC's concerns that are put forth in the Western world often reinforce cultural differences. The foregoing discussion on the WIPO Treaty's negotiation around databases illustrates this, as it is premised on documentation and it is argued to be a precursor to access-and-benefit-sharing (ABS) agreements. Though some cultures might view documentation of genetic resources and associated knowledge as harmless, others might view it as contrary to their laws and norms.[145] The question then becomes why they must do something that is anathema to their way of life to prevent others patenting their resources and knowledge. Or, put another way, if the disclosure requirement is to better the assessment of novelty and non-obviousness and the efficacy and functioning of the patent system, then perhaps any burden should only sit within that knowledge system. Notably, IP Australia (Australia's intellectual property office) has recognised the potential burden of a disclosure requirement on the resource/knowledge holders, stating:

> *The intent of the disclosure requirement will need to be balanced against unintended effects such as increasing the burden on Traditional Owners and Elders, making the process more difficult or uncertain for businesses or inventors, or creating a barrier to benefits flowing back to the community*.[146]

Regarding ABS agreements, there are positive examples of engagements between IPLC and third parties seeking access to genetic resources and associated traditional knowledge.[147] Some of these have been made public with monetary and nonmonetary benefits flowing to IPLC; however it is likely that others are kept confidential, in part to preserve rights as part of the intellectual property commercialisation process. Despite this success, ABS agreements can also suffer from the aforementioned issues regarding presumptions about who the rightsholders are. To illustrate, Miranda Forsyth and Madhavi Sunder have separately noted that sexist cultures and presumptions on both sides of the negotiation table might result in men being identified as the ones with authority, when women might in fact be the knowledge holders.[148] More towards our point, there is the presumption that the contract—a Western legal construct—is a fitting means to ensure equity, when IPLC may have different means of coming to and enforcing an agreement. Furthermore, there are serious questions around power dynamics that affect bargaining power and, thus, the ultimate contractual terms.[149] This is both within a peoples/community and also between peoples/communities. As Rachel Wynberg et al. concluded:

> *… ABS may have created more problems than it seeks to solve. The processes to develop benefit-sharing agreements have tended towards expedience rather than inclusivity, often comprising a hand-wave towards adequate representation. Already, the resources and promises offered are leading to a combined clamor for representation, a rejection of the agreements being negotiated, and a favoring of those more visible, better organized and resourced, or politically well-connected*.

> *The cases also demonstrate that ABS approaches have not challenged the modus operandi of current practices. As a result, the extent to which they can achieve equitable outcomes is limited.… ABS continues to remain disconnected from, and indeed ignorant of, the wider political and economic struggles faced by communities, instead serving as a legal compliance mechanism to justify a "business as usual" approach but without fundamentally shifting power relations or economic disparities.*[150]

Thus, ABS agreements can cement hegemony and, consistent with our discussion above, can pit IPLC against one another. Moreover, they may do little to change the methods and operations of researchers and research entities. Like the WIPO Treaty's disclosure mechanism, they can give researchers and research entities legal licence to continue as they always have, and give the veneer of social licence. The latter of these matters because it can be a barrier to effective change. That said, ABS agreements may form part of a broader toolkit to protect Indigenous traditional knowledge. However, for ABS agreements to be successful in meeting the needs and expectations of IPLC, they must be negotiated in accordance with customary law and cultural protocols and support Indigenous institutions of governance and capacity building.

In addition, many of the 'solutions' are premised on the presumption that IPLCs ultimately have financial and commercial interests. They may well have. However, it is also possible that a peoples' or communities' laws and norms around a resource or knowledge would dictate that there can be no commercialisation, or only commercialisation under certain circumstances. For example, something might be sacred in a way that is inapposite to commercialisation. In recognition of this, under the Aotearoa New Zealand's Patents Act 2013, an invention is not a patentable invention if its commercial exploitation would be contrary to public order (*ordre public*) or morality.[151] To make this assessment, the Intellectual Property Office of New Zealand (IPONZ) requires applicants to indicate through a tick box 'cases where the applicant submits the invention is derived from Māori traditional knowledge or from New Zealand indigenous plants or animals'. The Commissioner of Patents may also seek the advice of a Māori Advisory Committee (established by the 2013 Act).[152] The 2013 Act requires that, when sought, the Committee advises the Commissioner as to whether a claimed invention is derived from 'Māori traditional knowledge' or 'indigenous plants or animals' and, if so, whether 'the commercial exploitation of that invention is likely to be contrary to Māori values'.[153]

The 'yes' or 'no' disclosure to IPONZ is not required by statute. Thus, the exact nature of the disclosure and consequences for failure to disclose correctly are unclear—potentially, certain incorrect disclosures could constitute fraud. The introduction of a statutorily defined disclosure requirement in patent law has been floating around for over a decade in Aotearoa New Zealand[154] and the Government work on this began in September 2018.[155] This was with the aim of ensuring that applications that needed to be referred to the Patents Māori Advisory Committee were indeed referred to them, and to 'improve transparency in the patents regime so that interested groups, including Māori, the public and government can find out information about the use of genetic resources and/or traditional knowledge in inventions'.[156] Note that the existence of the Patents Māori Advisory Committee means that there is a clearer sequence of events following Treaty-related disclosure in Aotearoa New Zealand. In other jurisdictions, such as the United States and Australia under their current laws, it is unclear what an office or patent examiner might do with a Treaty-related disclosure.

The Government Discussion document in Aotearoa New Zealand discussed three options for disclosure, of varying 'strengths'[157]:

- Option 1 would require applicants to 'disclose the country of origin of any genetic resources and/or traditional knowledge used in their inventions. If the country of origin is not known or not applicable, applicants may make a declaration to that effect.' For knowledge, the country of origin can be the country of origin of the genetic resource. Option 1 would be a formal requirement only (not examined by IPONZ for accuracy).
- Option 2 would add to Option 1 by requiring that, for genetic resources where the origin is not known, the applicant must disclose what information is known. In addition, for traditional knowledge, applicants would be

required to disclose the specific Indigenous people or local community who supplied the knowledge, or, if unknown, a disclosure must be made about known information regarding the source of the knowledge. Option 2 is a formal requirement only.

- Option 3 is Option 2 with the additional requirement of evidence of compliance with access-and-benefit-sharing (ABS) legislation of the country of origin, if applicable. Option 3 would be substantive, with the possibility of refusal or grant or revocation upon failure to comply. 'This would be the case even if making the correct disclosure would have made no difference to the decision to grant the patent.'

The Ministry of Business, Innovation and Employment (MBIE) (which oversees IP policy in Aotearoa New Zealand and IPONZ) preferred Option 2, as it achieved a 'good balance' between providing 'quality information', at relatively low cost, without 'creating a significant deterrent or burden for patent applicants'.[158] Feedback from public submissions were taken to indicate support for the introduction of a patent disclosure of origin requirement, concurrent with the development of a comprehensive bioprospecting policy.[159] The work was, however, held up, ostensibly due to the then ongoing negotiations of the WIPO Treaty.[160] Now completed, it remains to be seen whether and how exactly the WIPO Treaty might be enacted in Aotearoa New Zealand (at the time of writing, Aotearoa New Zealand was not a signatory). Notably, Option 2 is most consistent with the wording of Article 3 of the WIPO Treaty. Option 1 would be inconsistent, as an applicant that has used traditional knowledge only needs to indicate the country of origin, and not the source community. Option 3 would also be inconsistent with the WIPO Treaty, because of the Article 6 limitations on the possibility of revocation for failure to comply with the disclosure requirement.

In contrast to Aotearoa New Zealand, Australia has been discussing how to address concerns of Aboriginal and Torres Strait Islander peoples with respect to the intellectual property system for many years without any concrete outcome to date. Much of this discussion has mirrored what Aotearoa New Zealand has enacted—namely, establishing an advisory panel to advise IP Australia on applications that contain Indigenous knowledge, and introducing a requirement to declare the source of Indigenous knowledge in patent and plant breeder's rights applications.[161] Prima facie, Australian legislation does less for IPLC than Aotearoa New Zealand. Yet, it remains to be seen if this might not be to Australia's benefit. Australia was heavily involved in the negotiation of the new WIPO Treaty,[162] it is a signatory, and it is currently investigating the development of standalone legislation to protect and commercialise Indigenous knowledge.[163] This might allow Australia to observe the gaps present in Aotearoa New Zealand law and 'springboard' over them.

IP Australia has engaged in a range of consultations, identifying six key areas of concern for Aboriginal and Torres Strait Islander peoples in protecting Indigenous Knowledge[164] and seeking input on proposed amendments to existing intellectual property legislation.[165] Consultation on standalone legislation commenced in 2022,[166] with the Final Report from the Scoping Study into standalone legislation recommending standalone legislation creating 'a new IP right in respect of TCE (traditional cultural expressions) and TK (traditional knowledge)',[167] and 'protect the rights of First Nations peoples in respect of GR of native flora and fauna'.[168] The Final Report details a range of features for the protection of traditional knowledge and traditional cultural expressions that includes broad definitions of Indigenous knowledge, that recognises that this can include the tangible and intangible, and are not time-limited, and that the relevant rights holders have the authority to decide on use and commercialisation of Indigenous knowledge.[169] The Final Report also recognises that there needs to be a mechanism to identify the appropriate rights holders and resolve co-ownership issues, and the need for sanctions for unauthorised use and misappropriation, including the breach of licence agreements.[170] Finally, it acknowledges the need to address 'issues of overlap with existing IP rights held by third parties'.[171]

Concurrent to the process at IP Australia, the intention to develop standalone legislation to protect First Nations Indigenous Cultural and Intellectual Property was announced in the national cultural policy 'Revive', released in January 2023.[172] The Office of the Arts, under the auspices of the federal Department of Infrastructure, Transport, Regional Development, Communications and the Arts, is responsible for coordinating the development

of the standalone legislation. Structured around 5 pillars, Revive privileges Indigenous voices with a 'First Nations led' approach with the legislation to be structured around the 10 principles outlined in Terri Janke's *True Tracks: Respecting Indigenous knowledge and culture*.[173] Implementing the First Nations led principle, the Office of the Arts intends to establish an Expert Working Group to provide advice on the development of new laws in partnership with the federal government. The Expert Working Group will be made up of 7 members and a Chair, all of whom must meet at least one of the following criteria:

- 'knowledge and expertise in ICIP
- lived experience with ICIP and an understanding of current issues
- stakeholder engagement and the ability to represent the views of Aboriginal and Torres Strait Islander peoples.'

Expressions of interest for members of the Expert Working Group closed in September 2024.

The Office of the Arts has engaged in consultations on the terms of the legislation including the scope of the protections, definitions of key terms, provisions dealing with ownership and decision making, dispute resolution and enforcement. The consultations involved over 40 meetings with communities, as well as written submissions, and closed in June 2024.[174] The intention is to take a staged approach to developing legislation with the initial focus on the issue of fake art and souvenirs. The broader protection of Indigenous Cultural and Intellectual Property will be addressed in later stages.[175] How the standalone legislation will interact with existing intellectual property laws including the Patents Act 1990 (Cth) remains to be seen, however IP Australia is working with the Office of the Arts and other governmental organisations to contribute to the development of the legislation.[176] The IP Australia Corporate Plan 2024–2025 outlines significant initiatives, with the first being to '[d]eliver evidence-based improvements to IP right systems and legislation, including the protection and awareness of Indigenous Knowledge'.[177] While progress may appear to be slow, it is important that the process of developing and implementing a legislative response involves appropriate consultation with, and participation by, Aboriginal and Torres Strait Islander communities across Australia in order to identify and respond to the diverse range of positions and interests and support self-determination.

The discussion in the United States at the law and policy levels is less advanced. There appears to be less willingness to look beyond, or deeper into, the patent system as the only relevant knowledge system. There is, thus, less openness to consider questions around what should be protected by intellectual property and how invention and innovation should take place. There is certainly a lot more that the US could do beyond implementing the WIPO Treaty to address the concerns of IPLC in their genetic resources and knowledge. To a certain degree, the US could learn from the Aotearoa New Zealand experience that in many respects already does more than the WIPO Treaty. In particular, the US might take note that the Patents Māori Advisory Committee has not been inundated with applications and, of the applications the Committee have assessed, they have found only two dealt with inventions that were likely contrary to Māori values.[178] The US could also learn from Aotearoa New Zealand's PVR regime, where—if the Māori Plant Varieties Committee decides that a plant variety would impinge a kaitiaki relationship, it can also decide that a condition to mitigate potential adverse effects should be imposed as a formal condition of the grant of the PVR.[179] For example, this could be that the applicant must come to an agreement with the relevant kaitiaki. More yet, the United States could 'springboard' to protect Indigenous knowledge through a sui generis form of intellectual property, the way that Australia might.

'Springboarding' to protect IPLC's genetic resources, knowledge and knowledge systems in a way that largely meets their concerns (as detailed in Part 2 of this article) would make Australian and/or US law uniquely progressive in the Western English-speaking world. While Aotearoa New Zealand has otherwise been avantgarde in its intellectual property legislation vis-à-vis Indigenous concerns compared to other English-speaking Western countries, nascent work on sui generis means 'to enable Māori to benefit from the appropriate use of mātauranga Māori' was never widely discussed and has stalled.[180] In any case, it is unclear the degree to which this would have reflected te ao Māori (the Māori world view) and tikanga Māori (Māori law), as opposed to merely using western mechanisms in

a 'patch-like' manner to address some Māori interests.[181] As examined above, discussions on a potential sui generis form of intellectual property are happening in Australia, but whether Australian law- and policy-makers are able to implement standalone legislation in a manner that is meaningful to their First Nations peoples remains to be seen. As to the United States, it seems highly unlikely that the US will do anything beyond the mere minimum to implement the WIPO Treaty, if it does at all—at the time of writing, the US was not a signatory. Furthermore, recall that US negotiators fought to keep the scope of the WIPO Treaty narrow and limited to changes that assist with the administration of the extant patent system, such that a leap to recognise and protect IPLC's genetic resources, knowledge and knowledge systems is unimaginable.

## 5 | CONCLUSION

IPLC and marginalised groups have long been decrying the ostracisation of their knowledge and knowledge systems, yet the simultaneous misappropriation of the same. The issues are complicated and only more so when one considers the international dimension. As we discuss, there is no 'magic bullet'—at least, no one has thought of one, thus far. In May 2024, WIPO adopted the Treaty on Intellectual Property, Genetic Resources, and Associated Traditional Knowledge, a cause for celebration after a long and drawn out negotiation process; however, the WIPO Treaty does not provide positive protection for IPLC's genetic resources, knowledge and knowledge systems.

In this Article, we address our concerns regarding the WIPO Treaty. These concerns relate to the narrow definitions of 'genetic resource', which excludes human genetic resources and DSI, and 'associated traditional knowledge', which is qualified by the term 'traditional' and that it only pertains to knowledge associated with genetic resources. Moreover, the WIPO Treaty caps the possibility of any real consequences for incorrect disclosure, except in the case of fraud (which is already the case under US, Australian and New Zealand law). Of course, it is a step in the right direction to minimise patent offices granting patents that are not novel or are obvious in light of the genetic resources and associated traditional knowledge of IPLC. However, it is a very small step. One that barely disturbs the status quo. Other than recognising that the genetic resources and knowledge of IPLC constitute prior art (which might constitute a change in understanding in some jurisdictions), the WIPO Treaty does not represent any shift in the conceptualisation of the intellectual property system. The United States and like-minded jurisdictions were successful in maintaining the 'innovation' rhetoric that sits behind patent law. Yet, our article also demonstrates that a robust international agreement is required, as domestic laws and policies are limited in their scope and reach.

Therefore, the WIPO Treaty arguably does little more than improve the patent system as it is vis-à-vis the operation of inventorship and the standards of novelty and non-obviousness. It is not about meeting IPLC's interests in their knowledge and resources, other than preventing its nonnovel and obvious misappropriation. Indeed, it potentially obfuscates these interests, as it creates a façade of 'change' in the Western intellectual property system. It might even result in a change in perception about what constitutes biopiracy, as certain behaviours hitherto considered biopiracy might become viewed as legally and socially sanctioned so long as the disclosure requirement is met. Thus, we end by noting the importance that the discussion continues and that academics, law-makers and policy-makers continue to consider the broader concerns that IPLC have in relation to their resources, knowledge and knowledge systems, and how these could be meaningfully protected.

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## ENDNOTES

[1] WIPO Treaty on Intellectual Property, Genetic Resources and Associated Traditional Knowledge, GRATK/DC/7, 24 May 2024.

[2] See e.g. WIPO, 'WIPO Member States Adopt Historic New Treaty on Intellectual Property, Genetic Resources and Associated Traditional Knowledge' (24 May 2024) Press Release PR/2024/919 <https://www.wipo.int/pressroom/en/articles/2024/article_0007.html>; UN, 'Nations Agree Landmark tTeaty on Traditional Knowledge, Protecting Indigenous Peoples' Rights' (24 May 2024) *UN News* <https://news.un.org/en/story/2024/05/1150231>; Rajeev Jayaswal, 'India Says WIPO Treaty a Significant Win for Global South' (26 May 2024) *Hindustan Times* <https://www.hindustantimes.com/india-news/india-says-wipo-treaty-a-significant-win-for-global-south-101716734414688.html>.

[3] E.g. Miri Raven and others, 'Patents Based on Traditional Knowledge are Often 'Biopiracy'. A New International Treaty will Finally Combat this' (3 June 2024) *The Conversation* <https://theconversation.com/patents-based-on-traditional-knowledge-are-often-biopiracy-a-new-international-treaty-will-finally-combat-this-231272>, UN, 'Nations Agree Landmark Treaty on Traditional Knowledge, Protecting Indigenous Peoples' Rights' (24 May 2024) *UN News* <https://news.un.org/en/story/2024/05/1150231>.

[4] Among other requirements.

[5] 35 USC § 102.

[6] 35 USC § 103.

[7] For example, the idea of novelty was codified in the Statute of Monopolies 1624, s 6, which allowed the grant of patents for "manners of *new* manufacture".

[8] Marrakesh Agreement Establishing the World Trade Organization, opened for signature 15 April 1994, 1867 UNTS 3 (entered into force 1 January 1995) annex 1C (Trade Related Aspects of Intellectual Property Rights (TRIPS), Art. 27.1.

[9] At the time of writing, there were 164 Member States of the WTO. WTO, 'Members and Observers' <https://www.wto.org/english/thewto_e/whatis_e/tif_e/org6_e.htm?>.

[10] See e.g. Ukrike Hellerer and KS Jarayaman, 'Greens Persuade Europe to Revoke Patent on Neem Tree' (2000) 405 Nature 266.

[11] Jessica C Lai, 'A Successful Recalibration of Patent Law vis-à-vis Mātauranga Māori? A Case Study of Mānuka (*Leptospermum scoparium*)', in Susy Frankel (ed), *The Object and Purpose of Intellectual Property* (Cheltenham, UK: Edward Elgar 2019) 30.

[12] See e.g. Anusree Bhowmick, Smaranika Deb Roy and Mitu De, 'A Brief Review on the Turmeric Patent Case With its Implications on the Documentation on the Documentation of Traditional Knowledge' (2021) 1 NDC E-BIOS 83, 87; see also KS Jayaraman, 'U.S. Patent Office Withdraws Patent on Indian Herb' (1997) 389(6) Nature.

[13] See U.S. Patent No. 5,401,504 (issued Mar. 28, 1995) ('504 Patent). The patent was assigned to University of Mississippi Medical Center; see also Jordana Goodman, 'Patently Inequitable' (forthcoming 2025) Boston University LR 24.

[14] Hannes W. Lampe, 'Crowdsourcing in Patent Examination: Overcoming Patent Examiners' Local Search Bias' (2023) 53 R&D Management 731; Jordana Goodman, 'Patently Inequitable' (forthcoming 2025) Boston University LR 24.

[15] See e.g. Laura A. Foster, *Reinventing Hoodia* (University of Washington Press 2017).

[16] European Patent No. EP0704422A1 (for the active antimicrobial isolate of Mānuka).

[17] WIPO PCT No. WO2001029181A3; US Patent No. USPP12342P2. The patent was also filed in Australia (No. U2614301A), but abandoned.

[18] See e.g. Ryan Nehring, 'Digitising Biopiracy? The Global Governance of Plant Genetic Resources in the Age of Digital Sequencing Information'(2022) 43(8) TWQ 1970.

[19] Jessica C. Lai, 'Māori Traditional Knowledge and New Zealand Patent Law: The 2013 Act and the Dawn of a New Era?' (2014) 17(1-2) JWIP 24, 38.

[20] Toni Liddell, 'The Travesty of Waitaha: The New Age Piracy of Early Māori History', in Leonie Pihama and Cherryl Waerea-i-te-rangi Smith (eds), *Cultural and Intellectual Property Rights. Economics, Politics & Colonisation* (vol. 2, Auckland, New Zealand: International Research Institute for Māori and Indigenous Education, University of Auckland, 1997) 32; Makere Harawira, 'Neo-imperialism and the (mis)appropriation of indigenousness' (1999) 54 PW <https://maorinews.com/writings/papers/other/makere.htm>.

[21] See e.g. Ikechi Mgbeoji, *Global Piracy: Patents, Plants, and Indigebous Knowledge* (Cornell University Press 2006); Laurelyn Whitt, *Science, Colonialism, and Indigenous Peoples* (Cambridge University Press 2009); Sandra Harding (ed), *The Postcolonial Science and Technology Studies Reader* (Duke University Press 2011).

[22] See e.g. Oksana Yakushko, 'Witches, Charlatans, and Old Wives: Critical Perspectives on History of Women's Indigenous Knowledge' (2017) 41(1–2) Women & Therapy 18.

[23] Arun Bala and George Gheverghese Joseph, 'Indigenous Knowledge and Western Science: The Possibility of Dialogue' (2007) 49 IRR 39.

[24] Note that overarching domestic laws ignore the legal and governance systems of Indigenous peoples beyond knowledge. Thus, the struggle to protect one's knowledge and knowledge goverance system is part of a broader struggle for self-determination, as exemplified by the UN, Declaration on the Rights of Indigenous Peoples, GA Res. 61/295 (UN Doc. A/61/L.67 and Add.1) (adopted on 13 September 2007).

[25] Anupan Chander and Madhavi Sunder, 'The Romance of the Public Domain' (2004) 92 California LR 1331, 1335; Boatema Boetang, 'Walking the Traditional-Modernity Tightrope: Gender Contradictions in Textile Production and Intellectual Property Law in Ghana' (2007) 15 American University JGSL 341, 349.

[26] Kathy Bowrey and Jane Anderson, 'The Politics of Global Information Sharing: Whose Cultural Agendas are Being Advanced?' (2009) 18(4) SLS 479, 481; Carys J. Craig, 'Critical Copyright law and the Politics of "IP"' in Emilio Christodoulidis, Ruth Dukes, Marco Goldini (eds), *Research Handbook on Critical Legal Theory* (Edward Elgar 2019) 301, 315.

[27] Maui Solomon, 'Protecting Māori Heritage in New Zealand', in Barbara T. Hoffmann (ed.), *Art and Cultural Heritage: Law, Policy, and Practice* (New York: Cambridge University Press 2005) 352, 353 and 360. Peter K. Yu, 'Cultural Relics, Intellectual Property, and Intangible Heritage' (2008) 81 TLR 433, 457; Peter Drahos, 'When Cosmology Meets Property: Indigenous People's Innovation and Intellectual Property' (2011) 29(3) Prometheus 233.

[28] Darrell Posey, 'Intellectual Property Rights: And Just Compensation for Indigenous Knowledge' (1990) 6(4) AT 13.

[29] Henrietta Fourmile-Marrie, 'Developing a Regime to Protect Indigenous Traditional Biodiversity-Related Knowledge' (2000) 1 Balayi 163, 164; Vandana Shiva, *Biopiracy: The Plunder of Nature and Knowledge* (South End Press 21997) 14; Katie O'Bryan 'The Appropriation of Indigenous Ecological Knowledge: Recent Australian Developments' (2004) 1 Macquarie JICEL 29, 32; Evana Wright, *Protecting Traditional Knowledge: Lessons from Global Case Studies* (Edward Elgar 2020) 3, 18.

[30] See e.g. Sarah Fowler, 'The Commodification of the Native in the 21st Century' (2013) 1(1) GSJ 44; Beverley Seiver and Amie Matthews, 'Beyond Whiteness: A Comparative Analysis of Representations of Aboriginality in Tourism Destination Images in New South Wales, Australia' (2016) 24 JST 1298.

[31] This has been observed vis-a-vis gender: Kyle Jensen, Balázs Kovács and Olav Sorenson, 'Gender Difference in Obtaining and Maintaining Patent Rights' (2018) 36(4) NB 307; Jessica Milli and others, *Equity in Innovation: Women Inventors and Patents* (Institute for Women's Policy Research 2016) 12. See also Chahreddine Abbes, Amélie Lafrance-Cooke and Danny Leung, 'Patenting Activity of Women-Owned Business in Canada' (22 February 2023) Statistics Canada, Catalogue No. 36-28-0001, 8–9; Vicki Huang, Sue Finch and Cameron Patrick, 'Patents and Gender: A Big Data Analysis of 15 Years of Australian Patent Applications' (2022) 45(3) UNSWLJ 914. See also Hannes W. Lampe, 'Crowdsourcing in Patent Examination: Overcoming Patent Examiners' Local Search Bias' (2023) 53 R&D Management 731, which discusses how examiners tend to have a local search bias, where they over-rely on internal knowledge, their own capabilities, and the solution space known to them.

[32] Iván Vargas-Chaves, 'Oral Transmission in Traditional Cultural Expressions, and the Challenge of their Protection from Intellectual Property Rights' (2024) 9(1) Perspectivas 101.

[33] WIPO Treaty on Intellectual Property (n 1).

[34] On the history of the IGC, see the contributions in Daniel F. Robinson, Ahmed Abdel-Latif, Pedro Roffe (eds), *Protecting Traditional Knowledge The WIPO Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore* (Routledge 2017).

[35] Rio Convention on Biological Diversity (CBD), 1760 UNTS 79; 31 ILM 818 (opened for signature 5 June 1992, entered into force 29 December 1993, Art 1.

[36] CBD, Art. 8(j).

[37] CBD, 'List of Parties' <https://www.cbd.int/information/parties.shtml> accessed 30 August 2024.

[38] Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity (UN Doc. UNEP/CBD/COP/DEC/X/1) (adopted on 29 October 2010), Arts. 5–7.

[39] WTO, Ministerial Declaration, Adopted on 14 November 2001 (Doha Declaration), WT/MIN(01)/DEC/1, 20 November 2001, Para 19.

[40] WIPO's "Development Agenda" is also relevant when considering the tension between the CBD and the patent system; WIPO 'Development Agenda for WIPO' <https://www.wipo.int/ip-development/en/agenda/>.

[41] See discussion in Jessica C. Lai, *Indigenous Cultural Heritage and Intellectual Property Rights* (Springer 2014), 146–152.

[42] Martin Khor, 'TRIPS: Majority of WTO Members Now Support Disclosure Proposal' (19 March 2008) 07 *Third World Network*, Info Service on Intellectual Property Issues <https://twn.my/title2/intellectual_property/info.service/2008/twn.ipr.info.080307.htm>. See, e.g., Communication from Brazil, China, Colombia, Ecuador, India, Indonesia, Peru, Thailand, the ACP Group, and the African Group, 'Draft Decision to Enhance Mutual Supportiveness Between the TRIPS Agreement and the Convention on Biological Diversity', WTO Doc TN/C/W/59, 19 April 2011.

[43] Khor (n 42).

[44] On dispute resolution at the WTO, see e.g. Joost Pauwelyn, 'Enforcement and Countermeasures in the WTO: Rules are Rules-Toward a More Collective Approach' (2000) 94(2) American JIL 335.

[45] WIPO Permanent Committee on Cooperation for Development Related Intellectual Property, 'WIPO Fact-Finding Missions on Traditional Knowledge, Innovations and Practices of Indigenous and Local Communities: Progress Report', PCIPD/1/10, 3 May 1999, at para. 2.

[46] WIPO Permanent Committee on Cooperation for Development Related Intellectual Property, 'WIPO Fact-Finding Missions on Traditional Knowledge, Innovations and Practices of Indigenous and Local Communities: Progress Report', PCIPD/1/10, 3 May 1999, at para. 1.

[47] WIPO, 'Intellectual Property Needs and Expectations of Traditional Knowledge Holders: WIPO Report on Fact-Finding Missions on Intellectual Property and Traditional Knowledge (1998–1999) WIPO Publication No. 768(E) <https://www.wipo.int/edocs/pubdocs/en/tk/768/wipo_pub_768.pdf>.

[48] WIPO General Assembly, Twenty-Sixth (12th Extraordinary) Session, WO/GA/26/10, 3 October 2000, [28].

[49] WIPO, IGC <https://www.wipo.int/tk/en/igc/>.

[50] Federal Act on Patents for Inventions (CH) of 25 June 1954, Art. 49a. Inserted by No I of the FA of 22 June 2007, in force since 1 July 2008.

[51] Thiru Balasubramaniam, 'US Proposal to Seek a "Better Understanding" of Switzerland's Implementation of the Nagoya Protocol Receives Chilly Reception' (6 June 2016) *Knowledge Ecology International* <https://www.keionline.org/23113>.

[52] Ibid.

[53] Ibid.

[54] Ibid.

[55] WPO IGC, Document submitted by the Delegation of the United States of America, 'Seeking a Better Understanding of Switzerland's "Federal Act on the Protection of Nature and Cultural Heritage" and "Federal Act on Patents for Inventions" by Hypothetically Applying them to the US Patent Number 5,137,870', WIPO/GRTKF/IC/30/9, 1 June 2016, at 1.

[56] Balasubramaniam (n 51).

[57] Patents Act 1970 (India), ss 25(1)(j), 25(2)(j), 64(1)(p); Law 27811, Second Complementary Provision. See also, WIPO, *Key Questions on Patent Disclosure Requirements for Genetic Resources and Traditional Knowledge* (2nd edn, 2020), 61–93.

[58] K. M. Gopakumar and Chetali Rao, 'WIPO: US-led Developed Countries Pushed to Control Genetic Resources and Traditional Knowledge Treaty' (28 May 2024) 06 *Third World Network*, Info Service on Intellectual Property Issues <https://twn.my/title2/intellectual_property/info.service/2024/ip240506.htm>.

The consequences for failing to disclose, or failing to disclose correctly, has long been contested, and revocation has been argued to be contrary to the WIPO Patent Law Treaty, 2340 UNTS 3; 39 ILM 1047 (adopted 1 June 2000,

entered into force 28 April 2005). See Jessica C Lai, *Indigenous Cultural Heritage and Intellectual Property Rights* (Springer 2014), 269-271.

[59] WIPO Treaty on Intellectual Property, Genetic Resources and Associated Traditional Knowledge, GRATK/DC/7, 24 May 2024, Art. 1(a).

[60] WIPO Treaty on Intellectual Property, Genetic Resources and Associated Traditional Knowledge, GRATK/DC/7, 24 May 2024, Art. 1(b).

[61] See, for example, Gregory Younging 'Traditional Knowledge Exists; Intellectual Property is Invented or Created' (2015) 36 UPAJIL 1077, 1081 (discussing how "due to a series of historical realities … the status quo is that Indigenous knowledge is subordinate to European legal regimes."). See also Ocean Ripeka Mercier, 'Mātauranga and Science' (2018) 74(4) New Zealand SR 83–90; Ocean Ripeka Mercier and Anne-Marie Jackson, 'Indigenous Science Discourse in the Mainstream: The Case of "Mātauranga and Science" in New Zealand SR' in Elizabeth Rasekoala (ed), *Race and Sociocultural Inclusion in Science Communication: Innovation, Decolonisation, and Transformation* (OUP, 2023) 130–146; Ikechi Mgbeoji, *Global Piracy: Patents, Plants, and Indigenous Knowledge* (Cornell University Press 2006).

[62] See generally Margo A. Bagley, 'The Fallacy of Defensive Protection for Traditional Knowledge' (2019) 58 Washburn LJ 339. See also Ruth L. Okediji, 'A Tiered Apporach to Rights in Traditional Knowledge'(2019) 58 Washburn LJ 271, 296.

[63] The Treaty states that "based on" "means that the genetic resources and/or traditional knowledge associated with genetic resources must have been necessary for the claimed invention, and that the claimed invention must depend on the specific properties of the genetic resources and/or on the traditional knowledge associated with genetic resources." WIPO Treaty on Intellectual Property, Genetic Resources and Associated Traditional Knowledge, GRATK/DC/7, 24 May 2024, Art. 2. Earlier terms in the negotiations included "materially based on", which would have been narrower.

[64] WIPO Treaty on Intellectual Property, Genetic Resources and Associated Traditional Knowledge, GRATK/DC/7, 24 May 2024, Art. 3.1.

[65] WIPO Treaty on Intellectual Property, Genetic Resources and Associated Traditional Knowledge, GRATK/DC/7, 24 May 2024, Art. 3.2.

[66] The Patents Māori Advisory Committee of Aotearoa New Zealand has taken the view that where an invention involves Indigenous plants or animals it necessarily involves Māori traditional knowledge. See, Evana Wright and Daniel Robinson, 'The Patents Māori Advisory Committee of Aotearoa New Zealand: Lessons for Indigenous Knowledge Protection' (2024) 27(2) JWIP 222, 9.

[67] WIPO Treaty on Intellectual Property, Genetic Resources and Associated Traditional Knowledge, GRATK/DC/7, 24 May 2024, Art. 3.3.

[68] Pedro Henrique D. Batist, 'The WIPO IGC Chair's Draft on IP and Genetic Resources—Reasons for Concern' (2024) 19(4) JIPLP 328, 331.

[69] WIPO Treaty on Intellectual Property, Genetic Resources and Associated Traditional Knowledge, GRATK/DC/7, 24 May 2024, Art. 2 definitions of "genetic resources" and "genetic materials"; Convention on Biological Diversity, (opened for signature 5 June 1992, entered into force 29 December 1993) 1760 UNTS 30619 ('CBD'), Art. 2.

[70] WIPO Treaty on Intellectual Property, Genetic Resources and Associated Traditional Knowledge, GRATK/DC/7, 24 May 2024, Art. 2, footnote 1.

[71] See e.g. Rachel Wynberg, 'Biopiracy: Crying Wolf or a Lever for Equity and Conservation?' (2023) 52(2) Research Policy 104674; Edward Hammond, 'Gene Sequences and Biopiracy: Protecting Benefit-Sharing as Synthetic Biology Changes Access to Genetic Resources' (August 2017) *Third World Network Briefing Paper* 93 <https://www.twn.my/title2/briefing_papers/No93.pdf>; Molly R. Bond and Deborah Scott, 'Digital Biopiracy and the (Dis)assembling of the Nagoya Protocol' 2020) 117 Geoforum 24–32; Kai Kupferschmidt, 'Biologists Raise Alarm Over Changes to Biopiracy Rules' (2018) 361(6397) Science 14; Manuel Ruiz Muller, *Genetic Resources as Natural Information* (Earthscan from Routledge 2015).

[72] WIPO IGC, 'Glossary of Key Terms Related to Intellectual Property and Genetic Resources, Traditional Knowledge and Traditional Cultural Expressions, WIPO/GRTKF/IC/45/INF/7, 27 September 2022, 43–44.

[73] Evana Wright, *Protecting Traditional Knowledge: Lessons from Global Case Studies* (Edward Elgar 2020) 11. See also, Marie Battiste and James [Sa'ke'j] Youngblood Henderson, *Protecting Indigenous Knowledge and Heritage: A Global Challenge* (Purich Publishing Ltd 2000), 46; World Intellectual Property Organization, *Intellectual Property Needs and Expectations of Traditional Knowledge Holders: WIPO Report on Fact-Finding Missions on Intellectual Property and Traditional Knowledge 1998–1999* (April 2001), 212; Peter Drahos, 'When Cosmology Meets Property: Indigenous Peoples' Innovation and Intellectual Property' (2011) 29(3) Prometheus 233, 242.

[74] David Jefferson, Jessica C. Lai and Jesse Pirini, 'Patently Insufficient: A New Intellectual Property Treaty does Little to Protect Māori Traditional Knowledge' (10 June 2024) *The Conversation* <https://theconversation.com/patently-insufficient-a-new-intellectual-property-treaty-does-little-to-protect-maori-traditional-knowledge-231264>.

[75] This could, for example, include: Sailing or surfing-type traditional knowledge; Todd Berry, 'Can Surfers Have Traditional Knowledge Intellectual Property?' (2020) 8(2) Griffith JLHD 154; Knowledge of ecological systems such as fire management; Peter Drahos, *Intellectual Property: Indigenous People and their Knowledge* (Cambridge University Press 2014), 52–53; Knowledge of systems of governance and decision making; World Intellectual Property Organization, Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore, 'List and Brief Technical Explanation of Various Forms in Which Traditional Knowledge May Be Found', WIPO/GRTKF/IC/17/INF/9, 5 November 2010, 4.

[76] WIPO Treaty on Intellectual Property, Genetic Resources and Associated Traditional Knowledge, GRATK/DC/7, 24 May 2024, Art. 5.

[77] WIPO Treaty on Intellectual Property, Genetic Resources and Associated Traditional Knowledge, GRATK/DC/7, 24 May 2024, Art. 5.3.

[78] WIPO Treaty on Intellectual Property, Genetic Resources and Associated Traditional Knowledge, GRATK/DC/7, 24 May 2024, Arts 5.2 and 5.2*bis*. Some have focused on the non-retroactivity and ability to rectify the failure to disclose correctly as the positive aspects of the Treaty; e.g. Daniel S. Volchok, Thomas G. Saunders and Laura E. Powell, 'World Intellectual Property Organization Adopts Treaty on Intellectual Property, Genetic Resources and Associated Traditional Knowledge' (26 August 2024) <https://www.wilmerhale.com/insights/client-alerts/20240826-wipo-adopts-treaty-on-intellectual-property-genetic-resources-and-associated-traditional-knowledge>; Marion Heathcote and Michael Caine, 'Recognising Source: Historic Treaty on Patents, Genetic Resources and Associated Traditional Knowledge Adopted' (31 May 2024) <https://dcc.com/news-and-insights/recognising-source-historic-treaty-on-patents-genetic-resources-and-associated-traditional-knowledge-adopted/>.

[79] For a discussion about information asymmetry and how this contributes to disclosure incentives, see, for example, Aman Gebru, 'Patents, Disclosure, and Biopiracy,' 96 DLR 535 (2018–2019).

[80] As noted by Susy Frankel, in Matthew Rimmer, Susy Frankel, Jessica Lai and Christian Schott, 'Sustainable Innovation: Intellectual Property and the Sustainable Development Goals' (28 August 2024) NZCIEL, SACL, PRME Seminar <https://cassyni.com/events/MLnr2sFf3nG5qeDfewZDjB>.

[81] Ad Hoc Open-Ended Inter-sessional Working Group on Article 8(j) and Related Provision of the Convention on Biological Diversity, 'Considerations for Developing Technical Guidelines for Recording and Documenting Traditional Knowledge and the Potential Threat of Such Documentation', UNEP/CBD/WG8J/5/3/Add.2, 28 July 2007, [36–43]; Preston Hardison, 'The Report on Traditional Knowledge Registers (TKRs) and Related Traditional Knowledge Databases (TKDBs)', prepared for the Secretariat of the Convention on Biological Diversity, UNEP/CBD/WG8J/4/INF/9, 21 December 2005; Margo A. Bagley, 'The Fallacy of Defensive Protection for Tradtitional Knowledge' (2019) 58 Washburn LJ 339. On data sovereignty, see e.g. Tahu Kukutai and John Taylor (eds). *Indigenous Data Sovereignty: Towards and Agenda* (ANU Press 2016); Maggie Walter et al., (eds), *Indigenous Data Sovereignty and Policy* (Routledge, 2021); Maggie Walter et al., 'Indigenous Data Sovereignty in the Era of Big Data and Open Data' (2021) 56(2) Australian JSI 143; Maggie Walter and Michele Suina, 'Indigenous Data, Indigenous Methodologies and Indigenous Data Sovereignty' (2019) 22(3) IJSRM 233.

[82] Indian Government, Press Release 'Cabinet Approves Widening Access of the Traditional Knowledge Digital Library (TKDL) Database to Users, Besides Patent Offices' (17 August 2022) <https://pib.gov.in/PressReleasePage.aspx?PRID=1852528>.

[83] CBD, Art. 8(j).

[84] Jessica C. Lai, '"Best Practices" to Protect Indigenous Knowledge?', in Irini Stamatoudi (ed), *Research Handbook on Intellectual Property and Cultural Heritage* (Cheltenham, UK: Edward Elgar 2022) 312, 320–323.

[85] USPTO, 'WIPO IGC Negotiations on Genetic Resources and Associated Traditional Knowledge' (24 October 2023) National Archives Federal Register <https://www.federalregister.gov/documents/2023/10/24/2023-23387/wipo-igc-negotiations-on-genetic-resources-and-associated-traditional-knowledge?utm_campaign=subscriptioncenter&utm_content=&utm_medium=email&utm_name=&utm_source=govdelivery&utm_term=>.

[86] USPTO, World Intellectual Property Organization Intergovernmental Committee Negotiations on Genetic Resources and Associated Traditional Knowledge, Docket (PTO-C-2023-0019), 23 October 2023 <https://www.regulations.gov/document/PTO-C-2023-0019-0001/comment> (see pro-Treaty comments from Victoria Sutton and Joshua Sarnoff).

[87] See, for example, comments from the US Chamber of Commerce, USPTO, World Intellectual Property Organization Intergovernmental Committee Negotiations on Genetic Resources and Associated Traditional Knowledge, Docket (PTO-C-2023-0019), 22 January 2024, 2 <https://www.regulations.gov/document/PTO-C-2023-0019-0001/comment> ("Research illustrates how disclosure requirements both increase the cost of patent procurement and delay the process to receive a patent"; "burdensome obligations and disclosure requirements as well as ambiguous terminology persist across GR and TK proposals, creating significant uncertainty for global innovators"); comments from Ginkgo Bioworks, World Intellectual Property Organization Intergovernmental Committee Negotiations on Genetic Resources and Associated Traditional Knowledge, Docket (PTO-C-2023-0019), 22 January 2024, 4 <https://www.regulations.gov/document/PTO-C-2023-0019-0001/comment> ("The uncertainties associated with applying the Proposed Instrument to synthetic biology are likely to play out in a manner that would retard the patent prosecution process and increase the expense of litigation.").

[88] See, for example, comments by Sandip Shah (p 2, "Already, in countries that have implemented information demands like the ones proposed at WIPO, there have been significant delays in patent applications, greater uncertainty for both applicants and government agencies, and often higher costs associated with navigating the process"), American Intellectual Property Law Association (p 3, "The confusion and ensuing costs would be considerable and would suppress innovation."), and James Pooley (p 2, "These requirements would also burden inventors with significant new costs. Tracing the origins of all possible genetic resources can be immensely expensive and time-consuming."). USPTO, World Intellectual Property Organization Intergovernmental Committee Negotiations on Genetic Resources and Associated Traditional Knowledge, Docket (PTO-C-2023-0019), 23 October 2023 <https://www.regulations.gov/document/PTO-C-2023-0019-0001/comment>.

[89] See e.g. Jon Santaumauro, 'Reducing the Rhetoric: Reconsidering the Relationship of the TRIPS, CBD and Proposed New Patent Disclosure Requirements Relating to Genetic Resources and Traditional Knowledge' (2007) 3 European IPR 91; Ministry of Business, Innovation and Employment (MBIE), 'Summary of submissions on *Disclosure of Origin of Genetic Resources and Associated Traditional Knowledge in the Patents Regime: Discussion Paper* <https://www.mbie.govt.nz/assets/summary-of-submissions-on-disclosure-of-origin-discucssion-document.pdf>.

[90] See, for example, comments by Partnership to Fight Chronic Disease, Gingko Bioworks, SBE Council, and US Chamber of Commerce. USPTO, World Intellectual Property Organization Intergovernmental Committee Negotiations on Genetic Resources and Associated Traditional Knowledge, Docket (PTO-C-2023-0019), 23 October 2023 <https://www.regulations.gov/document/PTO-C-2023-0019-0001/comment>.

[91] See, for example, comments by American Intellectual Property Law Association. USPTO, World Intellectual Property Organization Intergovernmental Committee Negotiations on Genetic Resources and Associated Traditional Knowledge, Docket (PTO-C-2023-0019) 23 October 2023, 2 <https://www.regulations.gov/document/PTO-C-2023-0019-0001/comment> ("The definition of GRs in the Chair's Text is vague, and there is no definition for TK associated with GRs. The Chair's Text includes nebulous concepts that will only introduce confusion, more work, and more costs to applicants").

[92] See, for example, comments by American Intellectual Property Law Association (p 3, "It is unclear how the proposed patent disclosure requirement would be implemented, and it is unclear how the PPDR would function with existing law and procedure."), Innovation Council (p 5, "the treatment of DSI is far from clear and certain… Clarity with respect to definitions is also lacking."), Biotechnology Innovation Organization (BIO) (p 4, "In addition, lack of clarity around how access and use of Digital Sequence Information (DSI) is to be treated within the text creates great uncertainty and exposure to biotech firms"). USPTO, World Intellectual Property Organization Intergovernmental Committee Negotiations on Genetic Resources and Associated Traditional Knowledge, Docket (PTO-C-2023-0019), 23 October 2023 <https://www.regulations.gov/document/PTO-C-2023-0019-0001/comment>.

[93] See, for example, comments by Frank Cullen on behalf of C4IP (p 2, "And even if an inventor does disclose all relevant GR and TK sources and their patent application is approved, disclosure rules create new opportunities for post-grant challenges and litigation."), and PhrMA (pp 11–12, "Indeed, even where a patent is granted, uncertainty regarding enforcement persists, as PDRs provide space for challenging patents on ABS grounds after approval."). USPTO, World Intellectual Property Organization Intergovernmental Committee Negotiations on Genetic Resources and Associated Traditional Knowledge, Docket (PTO-C-2023-0019), 23 October 2023 <https://www.regulations.gov/document/PTO-C-2023-0019-0001/comment>.

[94] Analysis conducted in 2018 on behalf of the New Zealand Ministry of Business, Innovation and Employment (MBIE) suggests that the additional cost of disclosure of origin requirements ranges from NZ$3.36 to NZ$19.85 per patent application over 30 years. For a disclosure requirement similar to that set out in the WIPO Treaty – disclosure of country of origin or, if that is not possible, disclosure of source - the additional cost is calculated to be NZ$3.54 per patent application over 30 years. The highest level of additional cost relates to a disclosure of origin requirement that incorporates disclosure of country of origin or Indigenous peoples or local community as well as evidence of compliance

with access and benefit sharing arrangements. See MBIE, 'Disclosure of Origin of Genetic Resources and Traditional Knowledge in the Patents Regime' (Discussion Paper, September 2018), 17 <https://www.mbie.govt.nz/dmsdocument/3706-disclosure-of-origin-discussion-paper>; Castalia, 'Economic Evaluation of Disclosure of Origin Requirements' (Report to MBIE, April 2018) <https://www.mbie.govt.nz/assets/137b70a333/castalia-economic-assessment-evaluation-disclosure-origin-requirements.pdf>. Of course, the cost per application would vary, and the cost would depend on what exactly a patent office would have to do and the resources/infrastructure available to patent offices.

[95] See, for example, Aman Gebru, 'Patents, Disclosure, and Biopiracy,' 96 Denv. L. Rev. 535 (2018-2019) (discussing information asymmetry and "because of the information asymmetry between expert patent applicants and generalist patent examiners, applicants can withhold useful information while still receiving the benefits of exclusive patent rights" especially "in cases of inventions that rely on the genetic resource or traditional knowledge (TK) of indigenous peoples and local communities in their research.")

[96] 37 CFR § 1.56(a); Patents Act 1990 (Cth), s 138(d) and (e); Patents Act 2013 (NZ), ss 92(1)(d) and 114(1)(d).

[97] See Sarah Pike, 'Inventorship and Patent Applications' (2019) White SW Computer Law <https://computerlaw.com.au/doku.php?id=inventorship> (concluding that "a patent may be held invalid if more or less than the true inventors are named"); Jordana Goodman, 'Homography of Inventorship: DABUS and Valuing Inventions' (2022) 20 Duke LTR 30 ("When applications are filed, applicants are heavily incentivized to properly list inventors in order to avoid a messy litigation process and potential patent invalidation"); Alex Wolcott, Christopher Adams & Jeremy Dutra, 'Failure to Name Joint Inventors May Bar Patentability' (20 May 2018) Global IP & Technology <https://www.iptechblog.com/2018/05/failure-to-namejoint-inventors-may-bar-patentability/> (noting "See 35 U.S.C. §§ 115(a), 116(a). While section § 102 no longer directly states that failure to list proper inventorship results in an application being unpatentable or a patent being invalid, the MPEP reminds examiners to reject applications with improper inventorship.")

[98] 37 CFR 1.56(b).

[99] USPTO, 'Manual of Patent Examing Procedure', s 609 Information Disclosure Statement [R-07.2022] <https://www.uspto.gov/web/offices/pac/mpep/s609.html>.

[100] 37 CFR § 1.98(a)(1).

[101] 37 CFR § 1.98(a)(2).

[102] 37 CFR § 1.98(a)(3).

[103] USPTO (n 99).

[104] 37 CFR § 1.97(h). See also 37 CFR § 1.97(g), which states that an IDS "shall not be construed as a representation that a search has been made".

[105] USPTO (n 99).

[106] USPTO, 'Manual of Patent Examing Procedure', s 609 Information Disclosure Statement [R-07.2022] <https://www.uspto.gov/web/offices/pac/mpep/s609.html>, which states: "Consideration by the examiner of the information submitted in an IDS means nothing more than considering the documents in the same manner as other documents in Office search files are considered by the examiner while conducting a search of the prior art in a proper field of search".

[107] This is a practice known as "burying," discussed in Robert Brendan Taylor 'Burying' (2012) 19 Mich. TTLR 99.

[108] 37 CFR 1.56(a).

[109] E.g. Patents Act 2013 (NZ), ss 92(1)(b) and (d), 114(1)(b) and (d); Patents Act 1990 (Cth), ss 59(a), 138(d).

[110] See also Patents Act 2013 (NZ), s 92(a)(d) and 114(1)(d) which state that an application can be opposed, or a grant revoked, if obtained (or attempted to be obtained) by fraud, false suggestion or misrepresentation. Similarly, see Patents Act 1990 (Cth), s138(d)-(e) which allows for the revocation of a patent obtained by fraud, false suggestion or misrepresentation.

[111] 37 CFR § 1.56.

[112] Jordana R. Goodman, 'Who Benefits?: How the AIA Hurt Deceptively Non-Joined Inventors (2022) 50 Hofstra LR 743, 757 (discussing correcting improper inventorship, which can lead to patent invalidation).

[113] WIPO Treaty on Intellectual Property, Genetic Resources and Associated Traditional Knowledge, GRATK/DC/7, 24 May 2024, Art. 3.4.

[114] WIPO Treaty on Intellectual Property, Genetic Resources and Associated Traditional Knowledge, GRATK/DC/7, 24 May 2024, Art. 5.3.

[115] The TRIPS Agreement, Art. 27.3(b) allows Member States to exclude plants from patentabilty. However, if they do so, they must protect plant varieties by a sui generis regime, which many jurisidctions do, such as New Zealand and the European Patent Office.

[116] WIPO, 'WIPO Member States Adopt Riyadh Design Law Treaty' (22 November 2024) Press Release PR/2024/929 <https://www.wipo.int/pressroom/en/articles/2024/article_0017.html>.

[117] WIPO, Riyadh Design Law Treaty', DLT/DC/26, 25 November 2024, Art. 4(2).

[118] See e.g. Trish Luker, 'Decolonising Archives: Indigenous Challenges to Record Keeping in 'Reconciling' Settler Colonial States' in Maryanne Dever (ed), *Archives and New Modes of Feminist Research* (Routledge 2019) 108, 109.

[119] Jessica C. Lai, '"Best Practices" to Protect Indigenous Knowledge?', in Irini Stamatoudi (ed.), *Research Handbook on Intellectual Property and Cultural Heritage* (Cheltenham, UK: Edward Elgar 2022) 312, 318; Manuel Ruiz Muller, *Genetic Resources as Natural Information* (Earthscan from Routledge 2015).

[120] Louise Furey, 'Ngā tupu mai i Hawaiki—plants from Polynesia - From Polynesia to New Zealand' (24 November 2008) *Te Ara—the Encyclopedia of New Zealand* <http://www.TeAra.govt.nz/en/nga-tupu-mai-i-hawaiki-plants-from-polynesia/page-1> accessed 30 August 2024.

[121] WIPO PCT No. WO2001029181A3; US Patent No. PP12342P2. The patent was also filed in Australia (No. U2614301A), but abandoned.

[122] Id.

[123] Dennis Gonsalves, 'The Wayward Hawaiian Boy Returns Home' (2015) 53 ARP 1.

[124] Lyn Danninger, 'UH Scientist Roots Out a Bigger, Better Taro' (27 May 2001) *Honolulu Star-Bulletin* <https://archives.starbulletin.com/2001/05/27/business/story2.html>.

[125] Ibid.

[126] Aditika et al., 'Taro (*Colocasia esculenta*): Zero Wastage Orphan Food Crop for Food and Nutritional Security' (2022) 145 South African JB 157.

[127] University of Hawai'i, 'UH files Terminal Disclaimer on Taro Patents: Action Dissolves University Proprietary or Ownership Interests' (20 June 2006) <https://www.hawaii.edu/news/article.php?aId=1468>.

[128] Ibid.

[129] Hawaii Ocean Project, 'Hawaiian History' (20 March 2018) <https://hawaiioceanproject.com/a-brief-history-of-taro-in-hawaii/>.

[130] Ibid.

[131] University of Hawai'i (n 127).

[132] Gregory K. Schlais, 'The Patenting of Sacred Biological Resources, the Taro Patent Controversy in Hawai'i: A Soft Law Proposal' (2006–2007) 29 UHLR 581; Daniel F. Robinson, *Confronting Biopiracy: Challenges, Cases and International Debates* (Routledge 2010) 49–51.

[133] University of Hawai'i (n 127).

[134] See e.g. Moana Jackson, 'Intellectual Property Rights and Implications for Māori', in Leonie Pihama and Cherryl Waerea-i-te-rangi Smith (eds), *Cultural and Intellectual Property Rights. Economics, Politics & Colonisation* (vol. 2, International Research Institute for Māori and Indigenous Education, University of Auckland, 1997) 30, 31; Aroha Mead, 'Indigenous Rights to Land and Biological Resources. The Convention on Biological Diversity', *Biodiversity: Impacts on Government Business and the Economy*, International Institute for Research (NZ) Ltd and Department of Conservation (Auckland, New Zealand, 4–5 August 1994), in Aroha Mead, *Nga Tikanga, Nga Taonga. Cultural and Intellectual Property: The Rights of Indigenous Peoples* (International Research Institute for Māori and Indigenous Education 1994) 4, 6.

[135] Plant Variety Rights Act 2022 (NZ), s 55.

[136] 1769 is the year that James Cook made landfall on Aotearoa.

[137] Plant Variety Rights Act 2022 (NZ), s 56.

[138] Plant Variety Rights Regulations 2022 (NZ), Schedule 2.

[139] Plant Variety Rights Act 2022 (NZ), s 58.

[140] Plant Variety Rights Act 2022 (NZ), s 58.

[141] See also: Patents Act 2013(NZ), ss 15(1), 15(3), 225-228, 276; Trade Marks Act 2002 (NZ), ss 17(1)(c), 177–180; Geographical Indications Registration Act 2006 (NZ), ss 13A, 64, 170. On the PVR provisions, see David Jefferson, 'Treasured Relations: Towards Partnership and the Protection of Māori Relationships with Taonga Plants in Aotearoa New Zealand' (2022) 25(2) JWIP 347–374; David Jefferson, 'Reconciling Guardianship with Ownership: Protecting Taonga Plants, Māori Knowledge, and Plant Variety Rights in Aotearoa New Zealand' (2024) 27(2) JWIP 91–111.

[142] PVR Act 2022s 55.

[143] Lamont Lindstrom, 'Kava Pirates in Vanuatu?' (2009) 16 IJCP 291; Christopher Heath and Sabine Weidlich, 'Intellectual Property: Suitable for Protecting Traditional Medicine?' (2003) IPQ 169, 182; and Aroha Mead, 'Geneaology, Sacredness, and the Commodities Market' (2010) 20(2) CSGPP <https://www.culturalsurvival.org/publications/cultural-survival-quarterly/genealogy-sacredness-and-commodities-market> accessed 30 August 2024.

[144] Note that the Treaty does make reference to the WIPO, Patent Cooperation Treaty, done at Washington on June 19, 1970, amended on September 28, 1979, modified on February 3, 1984, and on October 3, 2001 (in force from April 1, 2002), which provides a means for applicants to more easily file their applications in multiple jurisdictions. See WIPO Treaty on Intellectual Property, Genetic Resources and Associated Traditional Knowledge, GRATK/DC/7, 24 May 2024, Art. 7, foonote 4: "Agreed Statement: The Contracting Parties request the Assembly of the International Patent Cooperation Union to consider the need for amendments to the Regulations under the PCT and/or the Administrative Instructions thereunder with a view towards providing an opportunity for applicants who file an international application under the PCT designating a PCT Contracting State which, under its applicable national law, requires the disclosure of genetic resources and traditional knowledge associated with genetic resources, to comply with any formality requirements related to such disclosure requirement either upon filing of the international application, with effect for all such Contracting States, or subsequently, upon entry into the national phase before an Office of any such Contracting State".

[145] For example, some people believe that placing their knowledge into a system external to theirs is so contradictory to their knowledge system, or makes them the object of an archive built through and to satisfy the colonial gaze, that they would rather the knowledge disappear. See e.g. Trish Luker, 'Decolonising Archives: Indigenous Challenges to Record Keeping in "Reconciling" Settler Colonial States' in Maryanne Dever (ed), *Archives and New Modes of Feminist Research* (Routledge 2019) 108, 109; Sue McKemmish et al, 'Australian Indigenous Knowledge and the Archives: Embracing Multiple Ways of Knowing and Keeping' (2010) 38(1) AM 27; Lynette Russell, 'Indigenous Records and Archives: Obligations and Building Trust' (2006) 34(1) AM 32.

[146] IP Australia, *Enhance and Enable Indigenous Knowledge Consultations 2021* (September 2022), 9 <https://consultation.ipaustralia.gov.au/policy/ik2021/user_uploads/enhanceandenableindigenousknowledgeconsultationreport2021.pdf>.

[147] See the examples in Daniel F. Robinson, *Biodiversity, Access and Benefit-Sharing: Global Case Studies* (Routledge 2015); Virginia Marshall, Terri Janke and Anthony Watson, 'Community Economic Development in Patenting Traditional Knowledge: A Case Study of the Mudjala TK Project in the Kimberley Region of Western Australian' (2013) 8(6) ILB 17.

[148] Miranda Forsyth, 'How Can Traditional Knowledge Best Be Regulated? Comparing a Proprietary Rights Approach with a Regulatory Toolbox Approach' (2013) 25(1) CP 1, 8–12; Madhavi Sunder, 'The Invention of Traditional Knowledge' (2007) 70 LCP 97, 115 and 121–122.

[149] Donna Ngaronoa Gardiner, 'Hands Off—Our Genes: A Case Study on the Theft of Whakapapa' in Leonie Pihama and Cherryl Waerea-i-te-rangi Smith (eds), *Cultural and Intellectual Property Rights. Economics, Politics & Colonisation*, vol. II (Auckland, NZ: International Research Institute for Māori and Indigenous Education, University of Auckland 1997) 44, 51–52; Anthony Taubman 'Analysis of Different Areas of Indigenous Resources. Genetic Resources' in Silke von Lewinski (ed.), *Indigenous Heritage and Intellectual Property: Genetic Resources, Traditional Knowledge and Folklore* (2nd edn, London: Kluwer Law International 2008) 181, 261; Jorge Cabrera and Medaglia Fred-Perron, 'Current Status and Future Research Agenda on Benefit-Sharing in International Sustainable Development Law' (2018) 17 JKL 179, 206-207.

[150] Rachel Wynberg, 'Biopiracy: Crying Wolf or a Lever for Equity and Conservation?' (2023) 52(2) RP 104674, 11. See also Jessica C. Lai, '"Best Practices" to Protect Indigenous Knowledge?', in Irini Stamatoudi (ed.), *Research Handbook on Intellectual Property and Cultural Heritage* (Cheltenham, UK: Edward Elgar 2022) 312, 312–320.

Note a different concern about the development of ABS as a 'solution' to Indigenous peoples and local communities' concerns is that it has morphed the concept away from its origins in relation to conservation towards a focus on ensuring a fair and equitable exchange; Sarah Laird et al. 'Rethink the Expansion of Access and Benefit Sharing' (2020) 367(6483) Science 1200.

[151] Patents Act 2013 (NZ), s 15(1).

[152] Patents Act 2013 (NZ), s. 14(3) and 276. *Ordre public* and morality are specifically permissible exceptions from patentability under TRIPS Agreement, Art. 27.2. The Patents Act 2013 actually uses the term "public order" rather than "*ordre public*". There is some debate as to whether "public order" and "*ordre public*" have the same meaning or not. However, the Patents Act 2013 specifically states that "public order" is to have the same meaning as the TRIPS "*ordre public*". Thus, for the sake of clarity, the term "*ordre public*" is used in this discourse.

[153] Patents Act 2013 (NZ), ss 225-228; Jessica C Lai, 'Māori Traditional Knowledge and New Zealand Patent Law: The 2013 Act and the Dawn of a New Era?' (2014) 17(1–2) JWIP 34–46; Lai, 'A Successful Recalibration of Patent Law vis-à-vis Mātauranga Māori? A Case Study of Mānuka (*Leptospermum scoparium*)', in Susy Frankel (ed), *The Object and Purpose of Intellectual Property* (Cheltenham, UK: Edward Elgar 2019) 30-56. See also Trade Marks Act 2002 (NZ), ss 17(1)(c), 177–180; Geographical Indications Registration Act 2006 (NZ), ss 13A, 64, 170.

[154] See e.g. *Report of the Waitangi Tribunal on Claims Concerning New Zealand Law and Policy Concerning New Zealand Law and Policy Affecting Māori Culture and Identity* (2011) Wai 262; Susy Frankel, 'A New Zealand Perspective on the Protection of Mātauranga Māori (Traditional Knowledge)', in Christoph B. Graber, Karolina Kuprecht and Jessica C. Lai (eds), *International Trade in Indigenous Cultural Heritage: Legal and Policy Issues* (Edward Elgar 2012) 439–459.

[155] Ministry for Business, Innnovation and Employment, 'Disclosure of Origin of Genetic Resources and Traditional Knowledge in the Patents Regime' (September 2018) Discussion Paper <https://www.mbie.govt.nz/dmsdocument/3706-disclosure-of-origin-discussion-paper>.

[156] Ministry for Business, Innnovation and Employment, 'Disclosure of Origin Requirements in the Patents Regime' (8 April 2019) <https://www.mbie.govt.nz/business-and-employment/business/intellectual-property/disclosure-of-origin-requirements-in-the-patents-regime/>.

[157] Ministry for Business, Innnovation and Employment (n 155), 68–69.

[158] Ibid, 19.

[159] Ministry for Business, Innnovation and Employment, 'Summary of Submissions on Disclosure of Origin of Genetic Resources and Traditional Knowledge in the Patents Regime: Discussion Paper' <https://www.mbie.govt.nz/assets/summary-of-submissions-on-disclosure-of-origin-discucssion-document.pdf>.

[160] Ministry for Business, Innnovation and Employment, 'Disclosure of Origin Requirement in the Patents Regime' (last updated 8 April 2019) <https://www.mbie.govt.nz/business-and-employment/business/intellectual-property/disclosure-of-origin-requirements-in-the-patents-regime/>.

[161] IP Australia, 'Indigenous Knowledge Consultation Paper' (February 2021), 3 <https://www.ipaustralia.gov.au/about-us/our-agency/our-research/indigenous-knowledge-initiatives>; IP Australia, 'Enhance and Enable Indigenous Knowledge Consultations 2021' (September 2022), 5 <https://consultation.ipaustralia.gov.au/policy/ik2021/user_uploads/enhanceandenableindigenousknowledgeconsultationreport2021.pdf>; Australia, 'Indigenous Knowledge Consultation Paper' (February 2021) <https://www.ipaustralia.gov.au/about-us/our-agency/our-research/indigenous-knowledge-initiatives> 11; IP Australia, 'Indigenous Knowledge Work Plan 2022–23', 3 <https://www.ipaustralia.gov.au/about-us/our-agency/our-research/indigenous-knowledge-initiatives>.

[162] The main negotiating committee was chaired by Jodie McAlister from IP Australia. Ian Goss is the former Chair of the WIPO Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore.

[163] IP Australia, 'Scoping Study on Standalone IK Legislation' (5 October 2022) <https://www.ipaustralia.gov.au/tools-and-research/professional-resources/data-research-and-reports/publications-and-reports/scoping-study-on-standalone-ik-legislation>.

[164] Terri Janke and Company, 'Indigenous Knowledge: Issues for Protection and Management' (Discussion Paper commissioned by IP Australia and the Department of Industry, Innovation and Science, 2017).

[165] IP Australia, 'Enhance and Enable Indigenous Knowledge Consultations 2021' (September 2022) <https://consultation.ipaustralia.gov.au/policy/ik2021/user_uploads/enhanceandenableindigenousknowledgeconsultationreport2021.pdf> 5.

[166] Ninti One Limited, 'Interim Report: Scoping Study on Stand-alone Legislation to Protect and Commercialise Indigenous Knowledge' <https://www.ipaustralia.gov.au/tools-and-research/professional-resources/data-research-and-reports/publications-and-reports/scoping-study-on-standalone-ik-legislation>.

[167] Ninti One Limited, 'Scoping study on standalone legislation to protect and commercialise Indigenous knowledge: Final report' (July 2023), 6 <https://www.ipaustralia.gov.au/tools-and-research/professional-resources/data-research-and-reports/publications-and-reports/scoping-study-on-standalone-ik-legislation>.

[168] Ibid, 7.

[169] Ninti One Limited (n 167), 8.

[170] Ibid.

[171] Ibid.

[172] Australian Government, 'Revive: A Place for Every Story, A Story for Every Place—Australia's Cultural Policy for the Next 5 Years' (2023).

[173] Australian Government, 'Revive: A Place for Every Story, A Story for Every Place – Australia's Cultural Policy for the Next 5 Years' (2023) 22–35; Terri Janke, *True Tracks: Respecting Indigenous knowledge and culture* (New South Publishing 2021). The 10 True Tracks principles are respect, self-determination, consent and consultation, interpretation, integrity, secrecy and privacy, attribution, benefit-sharing, maintaining Indigenous cultures, and recognition and protection.

[174] Australian Government, Department of Infrastructure, Transport, Regional Development, Communications and the Arts, 'Stand-alone Legislation to Protect Indigenous Cultural and Intellectual Property' (Fact Sheet, 23 April 2024) <https://www.arts.gov.au/sites/default/files/documents/Standalone-legislation-fact-sheet.pdf>.

[175] Australian Government, Department of Infrastructure, Transport, Regional Development, Communications and the Arts, 'Indigenous Cultural and Intellectual Property Rights' (June 2024) <https://www.infrastructure.gov.au/have-your-say/indigenous-cultural-and-intellectual-property-rights>.

[176] IP Australia, 'Empowering Indigenous Knowledge and Advancing IP Systems' <https://www.ipaustralia.gov.au/understanding-ip/indigenous-knowledge/empowering-indigenous-knowledge-and-advancing-ip-systems>.

[177] IP Australia, 'Strategic Corporate Plan 2024-25' (2024) 8

[178] Evana Wright and Daniel Robinson, 'The Patents Māori Advisory Committee of Aotearoa New Zealand: Lessons for indigenous knowledge protection' (2024) 27(2) JWIP 222, 8.

[179] Plant Variety Rights Act 2022 (NZ), s 66.

[180] Te Puni Kōkiri, 'Protecting Indigenous Knowledge—He Toa Takitini' (23 February 2024) <https://www.tpk.govt.nz/en/mo-te-puni-kokiri/our-stories-and-media/protecting-indigenous-knowledge-he-toa-takitini>. On 1 April 2025, the Minister of Māori Development announced a Māori economic growth plan, 'Going for Growth with Māori | Tōnui Māori' (1 April 2025) <https://www.beehive.govt.nz/release/m%C4%81ori-economic-growth-plan-aimed-boosting-jobs-and-incomes>, one of three strands of which were to "Support Māori exporters' global USP through domestic and international recognition of Māori traditional knowledge: Progress biodiscovery protection for indigenous flora/fauna; Address regulatory barriers to commercialisation, e.g. recognition of cultural intellectual property and provenance". The meaning of this is unclear (including what "USP" stands for, as this is undefined).

[181] An example of such a 'patch' is the resale royalty right, which Australia and New Zealand have implemented, in part, to ensure financial compensation to Indigenous peoples for the resale of their art work; Resale Royalty Right for Visual Artists Act 2009 (Cth), Resale Right for Visual Artists Act 2023 (NZ), s 3(b)(i).

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**Dr Jessica C. Lai** specialises in patent law, the protection of mātauranga Māori, and feminist perspectives of patent law. Jessica is the author of three books, including monographs *Patent Law and Women* (Routledge, 2022) and *Indigenous Cultural Heritage and Intellectual Property Rights* (Springer, 2014), and editor of five edited volumes, including *A Research Agenda for Intellectual Property Law and Gender* (Edward Elgar, 2024, with Kathy Bowrey). Professor Lai is a Te Apārangi Royal Society of New Zealand Royal Discovery Fellow. She was a Swiss National Science Foundation Postdoctoral Fellow, which she undertook at the Max-Planck Institute for Innovation and Competition in Munich. Professor Lai obtained her Doctorate from University of Lucerne, Switzerland (*summa cum laude*), and an LLB Hons (First Class), MSc (First Class) and BSc in chemistry, from Victoria University of Wellington, New Zealand.

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