Indigenous Use of Controlled Plants and Fungi

An Overview of International Frameworks and Practices, with Recommendations for Māori, Regulators and the Public

Authors: Jena-Rose Astwood, Manu Caddie, Dr Jacek Kolodziej,
Dr Tehseen Noorani, Kenzi Riboulet-Zemouli.

Contents

Tēnā koutou, e rau rangatira mā.

E mihi ana ki te Atua me ngā tini mate kua whetūrangitia. Moe mai rā, moe mai rā i te rangimārie. Ki a tātou te hunga ora, tēnā koutou, tēnā koutou, tēnā koutou katoa.

Ko Oraki te maunga

Ko Tarakihinui te awa

Ko Takitimu te waka

Ko Ngāi Tāmanuhiri te iwi

Ko Ngāti Rangiwaho, Ngāti Meke me Ngāti Waipapa ngā hapū

Ko Rangiwaho te marae, ko Rangiwaho te tupuna

Rangiwaho Ihu ki moana!

E rere kau ana ngā mihi ki ā tātou kaitiaki o te whenua, o te moana, me ngā taonga tuku iho o ā tātou tūpuna. He mana taonga, he mana tangata, he mana wairua ēnei e whiria nei i roto i ā tātou tikanga me ō tātou mātauranga tuku iho.

Foreword

The Tū Wairua international overview report provides an essential analysis of the global frameworks surrounding the Indigenous use of controlled plants and fungi. For Ngāi Tāmanuhiri and our whānau at Rangiwaho Marae, this kaupapa speaks directly to our rights as tangata whenua to maintain and develop our rongoā, tikanga, and spiritual practices without restriction or exploitation.

Our iwi has a long history of connection to the natural world, recognising the intrinsic wairua within the land, plants, and waters of our rohe. Our knowledge and use of rongoā rākau, fungi, and other taonga species have been shaped by generations of observation, practice, and intergenerational transmission. The impacts of colonisation, including prohibitive drug policies and the commodification of Indigenous knowledge, have disrupted our ability to exercise these rights freely. This report highlights the ongoing global struggle of Indigenous peoples to protect their traditional knowledge from biopiracy and to have their cultural practices recognised in international legal frameworks.

The findings of this report are particularly relevant to the Tū Wairua project, which seeks to reaffirm our cultural identity, spiritual sovereignty, and self-determination through the revitalisation of wairua-based practices. By aligning with global Indigenous movements advocating for the protection and legal recognition of traditional plant and fungi use, we strengthen our ability to uphold the mana motuhake of Ngāi Tāmanuhiri. The research and case studies presented in this document provide invaluable insights into pathways that may support our advocacy for law reform, benefit-sharing agreements, and enhanced protections under te Tiriti o Waitangi.

Under te Tiriti, the Crown has clear obligations to uphold our tino rangatiratanga over our taonga, including our biological heritage, medicinal practices, and wairua connections. The government must ensure that Indigenous rights are not only protected in domestic legislation but also reinforced in international agreements. This means actively resisting the imposition of Western legal systems that seek to control and restrict our cultural practices, and instead working in genuine partnership with iwi to design frameworks that reflect our tikanga and aspirations.

This report serves as both a warning and an opportunity. It is a warning that without robust protections and Indigenous-led governance over our resources and knowledge, we risk further loss of our taonga. However, it is also an opportunity to unite, to advocate, and to establish new ways forward that are rooted in the principles of tino rangatiratanga, kaitiakitanga, and whanaungatanga.

Ka nui te mihi ki ngā kaituhi o te pūrongo nei. Tēnei te karanga ki a tātou kia whai whakaaro, kia mahi tahi, kia u tonu ki ā tātou tikanga. Me hoki whakamuri, kia anga whakamua.

Noho ora mai i raro i te maru o te Atua.

Mihi Harrington
Chairperson, Rangiwaho Marae

Introduction

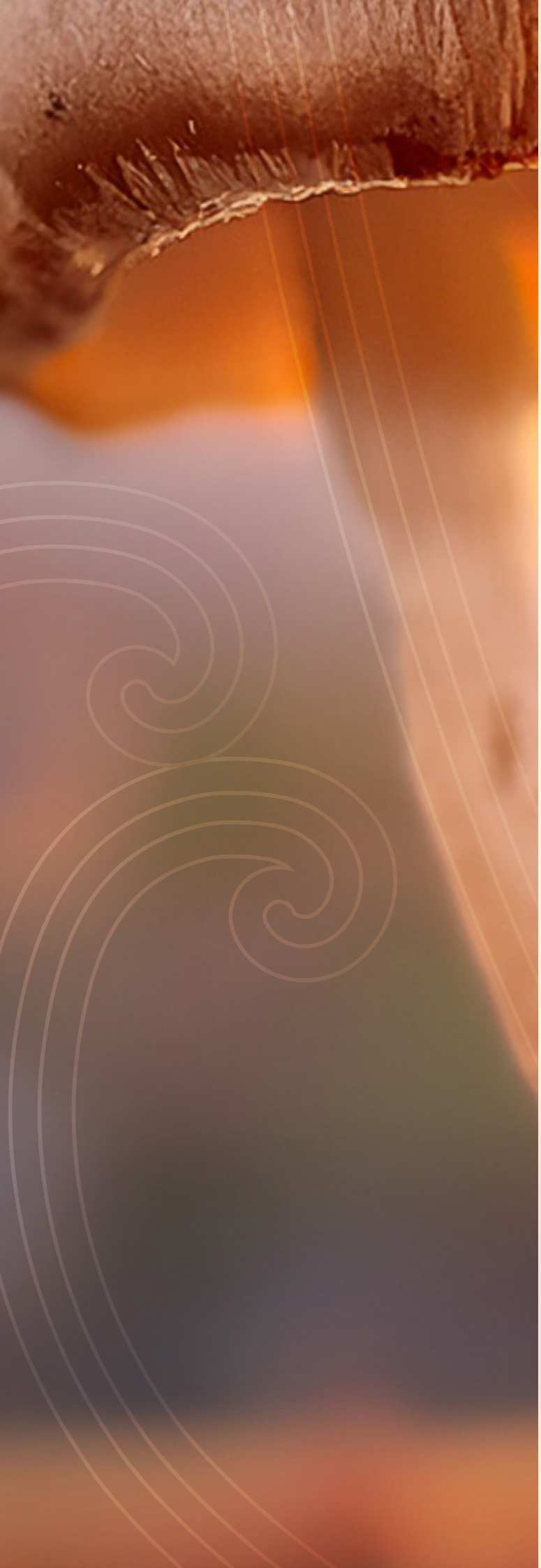
The purpose of this report is to outline the international regulatory frameworks that support or restrict the rights of Indigenous peoples to utilise and develop native psychoactive plants and fungi connected to cultural practices and identity. Indigenous peoples have maintained strong connections to nature and a deep understanding of the place of plants and fungi in it. We have been using plants and fungi as food, medicine, arts, and building materials for thousands of years. The role of plants and fungi is not limited to practical uses. The use of plants and fungi is often intertwined with spiritual practices in connection to deities, cultural expression, and identity.

Drug control models and their extreme enforcement as prohibition have had a significant impact on Indigenous peoples' ability to safely access and use certain plants and fungi. Western colonialism and its legal systems saw the creation of laws that diminished Indigenous rights and suppressed cultural, medicinal, and spiritual practices. These processes impacted Indigenous peoples' rights to self-determination and to engage in cultural practices, which in turn resulted in long-term harms to the social, health, and economic wellbeing of Indigenous communities.

Resource exploitation and bioprospecting have had an impact on Indigenous biodiversity and continue to threaten the sustainability of plants and fungi associated with cultural, medicinal, and spiritual practices. In this report, we explore the avenues for protective measures surrounding cultural knowledge and biodiversity, such as access and benefit-sharing arrangements. The goals of these protective measures should be to ensure sustainable use of biodiversity. Such intergenerational perspective aligns with Indigenous priorities.

In the opening sections of the report, we briefly describe the traditional uses of plants and fungi in relation to cultural, medicinal, and spiritual practices. We also outline the historic processes that led to the prohibition of certain plants and fungi, and their impacts on Indigenous communities. We also provide an overview of the international frameworks that regulate activities involving psychoactive plants and fungi, as well as some case studies that challenge these frameworks. Further on, we provide an outline of international agreements that aim to strengthen the protections of these Indigenous rights.

In the sections that follow, we discuss cases where Indigenous rights are undermined. We also outline some measures that were put in place to counteract this, and protect Indigenous knowledge and biodiversity. We also briefly examine bioprospecting through the lens of the Convention on Biological Diversity and the Nagoya Protocol. Finally, we provide some examples of access and benefit-sharing arrangements between Indigenous peoples and bioprospecting organisations.



NOTE ON THE TERMS WE USE

— Controlled plants and fungi

A great variety of plants and fungi have been used by Indigenous communities. A significant number of these are threatened by the decline of natural habitat, pollution and other impacts on the environment. Many have potential therapeutic and/or commercial applications and can be the target of biopiracy.

While all forms of life need active protection, in our report, we focus on plants and fungi regulated through the global drug control mechanisms – whether as biological organisms or as a source of controlled substances. We will use the term "controlled plants and fungi" to refer to these organisms throughout the paper.

— Indigenous applications

Different terms can be used to refer to the range of applications that Indigenous people have had for psychoactive plants and fungi. Terms like "cultural", "traditional", "medicinal", "spiritual", "healing", "religious" or "magical" have often been used. Usually, the roles these plants and fungi play in Indigenous communities are complex and are a combination of the intents above – and more. The applications can be unique to a specific Indigenous culture and a given species.

To reflect this complexity, throughout this document we will be using the term "Indigenous applications" (or "Indigenous use") to refer to any use of Indigenous plants and fungi by Indigenous people through Indigenous practices. When we want to describe the specific purpose for utilisation of a plant or fungus, we will use the term(s) that, in our view, capture(s) this purpose most closely.

We acknowledge that Indigenous communities may be utilising these biological and genetic resources for new purposes, including commercial applications, and often in collaboration with non-Indigenous actors.

Traditional use of plants and fungi

For thousands of years plant-based remedies were the main source of medicine worldwide. The earliest written record of plant use for medicinal purposes was found on a Sumerian clay slab, dated at around 5,000 years ago (Petrovska, 2012). However, fossil records suggest the use of plants as medicine can be traced back as far as 60,000 years (Yuan et al., 2016). Natural products in the form of parts of plants and fungi have been in use in Chinese medicine, Ayurveda (India), Kampo (traditional Korean medicine), Unani (Persian-Arabic traditional medicine), Aboriginal Canadian medicine, Aboriginal Australian and Torres Strait Islander medicine, Native American medicine, and rongoā Māori (Borchers et al., 2000; Koia & Shepherd, 2020; Turpin et al., 2022; Uprety et al., 2012; Yuan et al., 2016). European cultures also have an extensive history of using nature as part of their pharmacopoeia for more than 2,000 years, dating back at least to the classical antiquity period.

Plants and fungi have also been involved in other cultural and spiritual practices among Indigenous peoples. The well-known examples include several Native American nations using tobacco in ceremonial prayer and for traditional purposes (Sadik, 2014). The cultivation of tobacco was regarded as an important part of ensuring "the continued welfare of the people" (Pego, 1995, p. 152). The First Nations of Canada conduct the Pkwenezige ceremony of smudging with sage and other herbs (Shawanda, 2023); this ceremony connects them with the spirits of their ancestors, and spiritually cleanses the space.

Rich knowledge of such practices exists within the corpus of oral histories of Indigenous people, and also in formal academic ethnobotanical research (Rahman et al., 2019). This report focuses on a small subset of plants and fungi with Indigenous uses.

These are organisms with psychoactive properties that have been internationally regulated. Importantly, not all plants or fungi with psychoactive properties are strictly regulated, including such commonly used plants as Coffea, used for manufacturing coffee drinks. Other plants, such as kratom or kava, are regulated in certain states, but they are not covered by international agreements.

International bodies such as the World Health Organization and the World Intellectual Property Organization have been undertaking work to help member states better understand the place of traditional medicines and traditional knowledge, along with opportunities to protect the rights of Indigenous peoples and local communities in maintaining these traditions and associated intellectual property. Two excellent resources are the World Intellectual Property Organization report Documenting traditional knowledge – A toolkit (2019) and the World Health Organization's traditional and complementary medicines report (2019). Recently, the WHO's Traditional Medicine Strategy was rejected at the Executive Board meeting – which is not surprising considering the funding cuts. Advocates will continue to strongly encourage state delegations to the World Health Assembly to adopt the Strategy.

The processes that have led to international control of certain organisms but not others are largely political, and influenced by historical contexts. Despite this, the impacts on Indigenous peoples continue to this day, and they have resulted in long-term severance of connection with Indigenous practices.

The context of global drug regulation

While restrictions and bans on the use of certain natural products have long existed in many human cultures, often on moral or religious grounds, the origins of international drug regulation can be traced back to the desire to control the use, supply, and trade of opium. Significant social and economic problems stemming from excessive use of opium and opium addiction were first observed on a very large scale in early-19th-century China after centuries of non-problematic uses of opium, an Indigenous medicine in Asia. This historic increase of opium consumption in China is thought to have been driven by economic interests of the British Empire, which was dumping large volumes of opium into the Chinese market. While domestic Chinese policies at the time aimed to curtail excessive use of opium, the military action of the British Empire and other European 'powers' (the Opium Wars) eventually resulted in failure of these policies and steady increase in consumption (Caquet, 2015). The international agreements settling the end of the Opium Wars served as the basis for the creation of the international legal regime for drug control (Pietschmann, 2007).

For some time, large-scale opium harm was thought to be a problem isolated to China. However, the practice of smoking opium became popular in places such as Spain, where it was controlled by national regulation as early as 1863, and opium had also been introduced to the United States of America by Chinese immigrants in the mid-19th century. The consumption of opium spread from the Chinese community to the general population and caused concern in many communities, in particular in San Francisco, where a large Chinese minority resided. In 1875 San Francisco became the first US city to pass an ordinance making the frequenting of opium dens a misdemeanour. The law specifically targeted the Chinese community (smoking opium was the usual means of consumption among the Chinese in the US at the time), and did not criminalise other forms of opioid consumption – much more common among non-Chinese Americans.

This selectively punitive policy was adopted despite the fact that morphine use was already causing significant harm among Americans. With the drug widely distributed to soldiers during the American Civil War in the 1860s, morphine use was estimated to have resulted in addiction in around 400,000 soldiers (Moini et al., 2021).

While opioids continued to be recognised for their medicinal benefits, there was a growing international concern over the harms of narcotic substances (Crocq, 2007). This led to the formation of the Opium Commission, and its high-level meeting in Shanghai in 1909 was attended by ministers from several countries. Treaties were agreed in subsequent conferences at the Hague in 1912 and Geneva in 1925. These treaties created the mechanism for an Expert Committee of Pharmacologists to review substances and add them to an international list of controlled drugs. The United States federal government introduced a series of domestic Acts[1] aimed at tackling the issues of abuse of narcotics, while still recognising their medicinal benefits. The Acts also regulated and taxed the production, importation, and distribution of opiates and cocaine, and made it illegal to make, import, or sell heroin.

Several international conventions followed that addressed the manufacture of, international trade in, and use of opium, and – later – coca leaf and cannabis.[2] Internationally, the Convention for the Suppression of the Illicit Traffic in Dangerous Drugs 1936 was the first instrument to make certain drug offences an international crime.

In 1946 the United Nations (UN) established the Commission on Narcotic Drugs (CND) as the central policy-making body for all UN drug-related matters. Two years later, the CND produced the Paris Protocol,[3] which placed a series of new substances under international control and acted as the foundation for today's centralising international drug conventions. However, it was not until 1961 that the international drug control regime became truly functional and unified.

1 These included the Smoking Opium Exclusion Act 1909, the Harrison Narcotics Tax Act 1914, and the Anti-Heroin Act 1924.

2 Such as, among others: International Opium Convention, The Hague, 1912; Second Opium Convention, Geneva, 1925; Convention for Limiting the Manufacture and Regulating the Distribution of Narcotic Drugs, Geneva, 1931.

3 The Paris Protocol, officially titled Protocol Bringing under International Control Drugs Outside of the Scope of the 1931 Convention, was a 1948 drug control treaty signed in Paris that aimed to address loopholes in the 1931 Convention by expanding international control to include drugs with similar harmful effects and abuse potential, using the 'similarity concept'.

Global drug control regime

In this section we describe the key international conventions that seek to regulate drugs, and offer examples that illustrate how countries have undertaken, or could undertake, steps to protect Indigenous practices.

Both the 1961 Single Convention and the 1971 Convention recognise the medical and scientific value of controlled drugs. The Conventions affirm that adequate provision must be made to ensure access to, and availability of, these substances for medical or research purposes, and established a regulatory environment for these uses. However, with regards to uses of controlled drugs other than medical and scientific ('non-medical purposes'), the Conventions are more flexible.

Under the Conventions, Indigenous practices may be construed as corresponding to 'medical use' or to 'non-medical use', depending on specific dispositions in each Convention.

The Single Convention on Narcotic Drugs 1961

The Single Convention on Narcotic Drugs 1961 (United Nations Office on Drugs and Crime [UNODC], 2013) replaced the previous international drug agreements. The version in force today is the Single Convention as amended in 1972. It sought to limit the use, cultivation, production, supply, trade, and transport of narcotics or 'narcotic-like' substances and restrict these activities to medical and scientific purposes, with certain exceptions. Substances covered by the Single Convention are opium (and its active compounds: morphine, codeine, etc.), coca leaf (and its active compounds, such as cocaine), and cannabis (its active compound being 'cannabis resin' in the Convention), as well as substances deemed to have opium, cocaine or cannabis-like effects. These include natural plants, plant products, and products obtained by synthesis.

A classification system of four schedules has divided the regulated substances based on their assumed risk of harm and medical applications. The basic legal regime corresponds to strictly controlled substances in Schedule 1, described as harmful and with little to no medical application. This is followed by substances considered less harmful and subject to fewer controls, listed in Schedule 2. Schedule 3 and Schedule 4 are somewhat special categories that apply in addition to Schedule 1 or 2 placement. Schedule 3 is reserved for preparations considered less harmful, which may be dispensed over the counter, while Schedule 4 is reserved for "particularly dangerous substances". Controversially, until 2020, cannabis and cannabis resin were listed as Schedule 1 and 4 substances (they are now only in Schedule 1) (Riboulet-Zemouli & Krawitz, 2022).

Importantly, the Single Convention established the International Narcotics Control Board (INCB). The INCB is an independent body responsible for monitoring statistical compliance with the three drug conventions. It is tasked with overseeing the implementation of the licit international trade aspects of the conventions by member states. Although this has been criticised as outside of its mandate and of the skills of its members, the INCB also provides various types of recommendations on drug policies (Csete, 2012; Hallam, 2010; Riboulet-Zemouli & Krawitz 2021).

Reservations for the traditional use of scheduled plants

The Single Convention includes, as 'substances' under its control, derivatives of three plants (opium, coca leaf, and cannabis, including resin and extracts for non-medical use). These, along with other plants and fungi often controlled by state parties to the Single Convention, have long histories of use by Indigenous peoples. The Single Convention recognised to a limited extent the traditional use of these scheduled plants among some communities. To this effect, Article 49 permitted registering transitional 'reservations' by member states where non-medical use was traditional before 1961. These reservations could be applied for by a member state if the 'traditional' activity took place in their territories.

The reservations were only intended as temporary measures to allow member states to gradually phase out certain traditional activities, without recognition of the cultural value of these practices. All activities permitted under these reservations had to be abolished within 15 to 25 years (depending on the substance) after the Convention came into force – which might be calculated as starting in 1968 or in 1975, dates of entry into force of the original Single Convention or of the amended Single Convention. Subsequently, the transitional reservations regime can no longer be activated.

Besides this temporal limitation and the imperative to phase out these activities – which represented an outright violation of the rights of Indigenous peoples and caused irreversible damage to traditional practices by contributing to an accelerating loss of traditional knowledge, traditional medicines, and spiritual practices; some would say the treaty mandated the eradication of Indigenous therapeutic practices and culture – this system failed to recognise the long-lasting connections Indigenous peoples have with these plants and fungi. This directly conflicts with the provisions of the United Nations Declaration on the Rights of Indigenous Peoples 2007 (UNDRIP) (in particular Article 8, "Indigenous peoples and individuals have the right not to be subjected to forced assimilation or destruction of their culture"; Article 11.1, "Indigenous peoples have the right to practise and revitalize their cultural traditions and customs. This includes the right to maintain, protect and develop the past, present and future manifestations of their cultures"; Article 24 "Indigenous peoples have the right to their traditional medicines and to maintain their health practices, including the conservation of their vital medicinal plants"; but also Articles 29 and 31).

For a more detailed discussion on these issues, we recommend the paper by Riboulet-Zemouli (2022).

As Riboulet-Zemouli points out in this paper, the relevance of Article 49 today is that it suggests that the traditional non-medical use of cannabis products that existed before 1961 is among, or at least assimilable to, the category of "Other than Medical and Scientific Purposes".

- South Asian countries' transitional reservations for the use of opium and cannabis

Initially, four countries made transitional reservations upon signature to the Convention. Bangladesh, India, Nepal, and Pakistan applied for reservations for the use of opium and cannabis, and for the production, manufacturing, and trade of the substances for said purposes. Over 98% of Hindu adherents reside in these countries (Pew Research Center, 2012). Certain traditions of Hinduism are recognised for their sacramental use of cannabis as part of religious ceremonies (Morningstar, 1985), and opium use is also recognised as a traditional practice (Ganguly, 1995).

- Bolivia's reservations for the protection of the traditional practice of chewing of coca leaves

Bolivia has a long history of traditional use of chewing coca leaves, as part of Indigenous cultural, medicinal, and spiritual practices. Upon initial accession into the Single Convention in 1976, Bolivia did not register reservations, despite concerns regarding the stern approach to the requirement to eventually abolish practices involving coca leaves.

In 2009, after the deadline for application of Article 49 had elapsed, the Bolivian Government adopted a new constitution declaring coca leaf as part of its national heritage (Walsh & Jelsma, 2023). In the same year, the state made a request to the United Nations to amend Article 49 of the Single Convention and remove the obligation to transition out the chewing of coca leaves (International Narcotics Control Board [INCB], 2011). In the request, the Bolivian Government stated that the chewing of the coca leaf has been an ancestral practice of the Andean Indigenous people, does not cause health harm to the Bolivian people, and should not be prohibited (United Nations, 2009).

As per procedures set out in Article 47(1)(b) of the Single Convention, if any member state rejects an amendment within 18 months of its application, the amendment is considered rejected. Seventeen member states[4] filed formal rejections and, consequently, the amendment was not accepted.

4 Bulgaria, Canada, Denmark, Estonia, France, Germany, Italy, Japan, Latvia, Malaysia, Mexico, the Russian Federation, Singapore, Slovakia, Sweden, the United Kingdom and the United States.

Civil-society organisations voiced concerns about this outcome. The International Drug Policy Consortium (IDPC), a global network of drug policy non-governmental organisations, stated:

> *Bolivia has made a reasonable and democratic request to the international community. The fact that predominantly Western countries are unwilling to allow even the slightest amendments to the drug control regime, even where they conflict with the cultural and indigenous rights, is a very worrying development. (International Drug Policy Consortium [IDPC], 2011a)*

Following the rejection, the Bolivian Government denounced the Convention, indicating their intentions to re-accede to the Convention with a reservation (under Article 50) that allows for a more flexible national implementation. Through this process, Bolivia expected to carve out the traditional chewing of coca leaf and the cultivation of coca bush for that purpose on Bolivian territory from its international obligations under Article 49 (INCB, 2011).

In 2013, as Bolivia undertook steps to re-join the Single Convention, the INCB criticised Bolivia's actions and, controversially, called upon member states to oppose Bolivia's re-accession. Many civil-society actors considered it an abuse of the board's mandate (e.g., IDPC, 2011b). Eighteen member states opposed Bolivia re-joining the Single Convention. They were unsuccessful, as a minimum of one-third of the 184 members of the treaty was required to invalidate re-entry (Boister, 2016).

The successfully registered reservation under Article 50 affirms

> *the right to allow in its territory: traditional coca leaf chewing; the consumption and use of the coca leaf in its natural state for cultural and medicinal purposes; its use in infusions; and also, the cultivation, trade and possession of the coca leaf to the extent necessary for these licit purposes.*

The case highlights the challenges posed by the Single Convention to member states in allowing the Indigenous uses of regulated substances. However, this example also demonstrates that there are effective avenues for states determined to preserve the rights of Indigenous people to maintain cultural practices in compliance with the international agreements.

The Single Convention and the protection of biological heritage

While the Single Convention permits the cultivation of the controlled plants (poppy, cannabis, and coca) for certain limited purposes other than illicit drug manufacturing,[5] Article 22(2) of the Convention requires member states to seize and destroy any illicitly cultivated plants. Furthermore, Article 26(2) of the Convention mandates the uprooting of coca bushes that grow in the wild, which endangers the sustainability of coca plants and threatens biodiverse ecosystems in regions where coca plants grow naturally.

This creates a serious threat for Indigenous peoples who use these plants for traditional and cultural practices, and where the plants are considered a biological heritage as part of cultural identity.

5 These purposes are: the cultivation of poppies, coca bushes, or cannabis plants for medical and scientific purposes on one side; on the other side, the cultivation of opium poppy for purposes other than the production of opium (Article 25), and the cultivation of cannabis plants for other than medical and scientific purposes (Article 28).

Adult cannabis use

In addition to its established uses as a medicine, as food, as a source of industrial materials, and its use for leisure or pleasure, the cannabis plant has long been associated with a variety of ritual, religious or ceremonial uses, most famously among certain Hindu and Caribbean communities (as well as a number of other belief systems in Africa, Asia, and Latin America that incorporate different modalities of cannabis use as a sacrament). However, the policies that have resulted in the most significant departure from the prohibition model of cannabis control have only indirectly leaned on Indigenous-rights rationales.

Over the years, and particularly in recent years, several member states to the Single Convention have made domestic legislative changes to permit non-medical and non-scientific use of cannabis, also known as 'recreational' or 'adult' use. According to the dominant doctrine and the practice of the majority of member states in prohibiting non-medical and non-scientific uses of cannabis, these reforms are situated within the context of non-compliance with the Convention. This dominant interpretation, also endorsed by the INCB[6], argues that cannabis continues to be scheduled under the Single Convention, and that permitting other than medical and scientific uses constitutes a violation of treaty obligations.

However, implementation practice shows that there is a degree of leniency within the drug control regime. The basic position of the states that have legalised recreational cannabis is that legalisation aligns with the fundamental objectives of the Single Convention, albeit not necessarily with all of its provisions. They argue robust regulation, including legalisation of recreational use, best supports the health and justice outcomes of their citizens.

In recent years, the legal status of cannabis changed, following its deletion from Schedule IV of the Single Convention (Riboulet-Zemouli & Krawitz 2022). Some scholars argue that this new international legal status allows member states to regulate a "non-medical cannabis industry" in compliance with the Single Convention, under its article 2 (9).[7]

6 While INCB holds institutional and political power, it does not hold any mandate to interpret the Conventions (which remains the sole competence of member states; see Csete et al., 2016; FAAAT et al, 2021; Hallam, 2010; Riboulet-Zemouli and Krawitz, 2021; Riboulet-Zemouli and Jeanroy, 2022).

7 Article 2 (9) allows member states to regulate the industries of narcotic drugs listed in Schedule I used for "other than medical and scientific purposes" as long as authorities reduce the risks of "abuse" by appropriate means (harm reduction) and report industry statistics annually to the INCB (Riboulet-Zemouli, 2022). While legal analysis of the interface between the Single Convention and domestic legal frameworks enabling adult use of cannabis is beyond the scope of this paper, there is substantial extant literature on the subject that interested readers can consider to gain deeper understanding of these issue (e.g., see a primer on these issues in Transform, 2013, Riboulet-Zemouli and Jeanroy, 2022),

Some examples of policies allowing for non-medical and non-scientific use (adult use) of cannabis

— The Netherlands was one of the first countries to adopt a more permissive policy on the non-medicinal and non-scientific use of cannabis. The policy embedded elements of a harm reduction approach and allowed the sale and consumption of cannabis (as well as initially certain parts of psilocybin-containing fungi) through licensed coffee shops, though cultivation remained illegal. The Dutch government distinguishes between 'soft' drugs such as cannabis and fungi, and 'hard' drugs that include many opioids and stimulants.[8] The policy focuses on enforcement for 'hard' drugs, and regulating 'soft' drugs to reduce harm and prioritise public health through means such as regulating sales and product control.

— In the United States of America, the federal law classifies cannabis as a Schedule 1 controlled substance.[9] Despite this, in 2014, the Colorado state government legalised the recreational use of cannabis. As of 2023, 21 states in the US have legalised the recreational use of cannabis (Manthey et al., 2023). The federal government has taken the position that state laws that permit recreational cannabis use are not in conflict with its international treaty obligations. The argument used leans on an understanding that the federal laws comply with the international obligations, and the federal government is not in the position to prevent state laws from implementing differing policies. This rationale has generally been received critically by the civil society sector (Transform, 2023).

— In 2013 the Government of Uruguay passed Law 19.172 legalising use, manufacture, and supply of cannabis for medical use and adult recreational use. Since the passing of the law, Uruguay has argued that the reform was dictated by the fact that illegal trafficking and organised crime involving cannabis had had a devastating impact on its citizens (Wright, 2018). The government insisted that regulating the production and sale of cannabis was necessary to enable the protection of its citizens and achieve the Single Convention's fundamental aims to improve the health and welfare of mankind.

— In 2021, the island nation of Malta regulated "the use of cannabis for purposes other than medical or scientific purposes and to carry out work [...] to implement harm reduction from the use of cannabis" using the exact language of the Single Convention's article 2 (9), thereby advancing what could be the first regulation of adult use cannabis in compliance with the Single Convention (Riboulet-Zemouli 2022, p. 82, 118; Riboulet-Zemouli and Jeanroy, 2022, p. 34). Malta's non-medical cannabis industry is exclusively composed of the non-profit "cannabis social club" model (Pardal, 2023). In 2023, Germany followed the same model, albeit not aligning with the Single Convention's article 2 (9).

8 This differentiation is typically considered inaccurate and arbitrary in scientific literature (Janik et al., 2017).

9 There is a process ongoing to change the scheduling status of cannabis.

The Convention on Psychotropic Substances 1971

The Convention on Psychotropic Substances 1971, or 1971 Convention (UNODC, 2013), expands the coverage of the international drug control regime to regulate psychoactive substances not previously scheduled. Like the Single Convention, it divides the substances under its control into four schedules (although their order differs). Schedule 1 of the 1971 Convention has similarities with Schedule 4 of the Single Convention, listing the substances deemed most harmful and with the fewest medical applications.

The 1971 Convention widens the scope of controlled substances to include other substances derived from plants and fungi, many of which are widely known to be used by Indigenous peoples for cultural, medicinal, and spiritual purposes. Examples of these include:

— Peyote (Lophophora williamsii), San Pedro cactus (Trichocereus macrogonus var. pachanoi), Peruvian torch cactus (Trichocereus macrogonus), and Bolivian torch cactus (Echinopsis lageniformis). These are common types of cacti used in the Americas by Indigenous peoples for cultural, medicinal, and spiritual purposes. They contain mescaline – a Schedule 1 substance.

— Ayahuasca brew. The preparation is traditionally used in ceremonies in South America. It is made up of a variety of plants including the bark of the Banisteriopsis caapi vine, which is typically mixed with Psychotria viridis, a flowering shrub containing the psychoactive compound dimethyltryptamine (DMT), which is listed under Schedule 1.

— Psilocybin-containing fungi. These are widely used by Indigenous people, with most documented use in Central America as part of Indigenous practices. The active compounds, psilocybin and psilocin, are listed under Schedule 1.

It is important to note that the legal provisions of the 1971 Convention only apply to the pure compounds listed in its schedules, and not to the plants and fungi that these are extracted from. The Commentary on the Convention on Psychotropic Substances provides the following guidance on this issue:

> *Schedule I does not list any of the natural hallucinogenic materials in question, but only chemical substances which constitute the active principles contained in them. The inclusion in Schedule I of the active principle of a substance does not mean that the substance itself is also included therein if it is a substance clearly distinct from the substance constituting its active principle. ... Neither the crown (fruit, mescal button) of the Peyote cactus nor the roots of the plant Mimosa hostilis, Peganum Harmala that contains Harmala alkaloids or Syrian Rue, or Hawaiian Baby Woodrose plant and morning glory flowers that contain LSA or Lysergic Acid Amide or the Chacruna, a psychotropic shrub or plant which is used for making the Ayahuasca brew, nor Psilocybe mushrooms themselves are included in Schedule I, but only their respective active principles, mescaline, DMT and psilocybin (psilocine, psilotsin). (United Nations, 1976, p. 387)*

In 2001 this view was affirmed in a letter from the Secretary of the INCB to the Dutch Ministry of Health, which stated that "preparations made of these plants [containing psilocin and psilocybin] are not under international control and, therefore, not subject of the articles of the 1971 Convention" (INCB, 2001). More recently however, the INCB has tended away from that position; for example, it has invited consideration of the preparation of ayahuasca brew as the manufacture of a psychotropic substance.

Although the plants and fungi themselves are not prohibited by the 1971 Convention, their use remains a grey area. Each state must therefore make decisions on whether to regulate these plants or fungi under the national law. For instance, Aotearoa New Zealand has chosen to list Psilocybe species as prohibited plants under the Misuse of Drugs Act 1975 (MoDA).

Reservations for traditional use of organisms containing psychotropic substances

Similar to the mechanism under the Single Convention, Article 32(4) of the 1971 Convention allows states to make reservations at the time of signature, ratification, or accession (however, contrary to the Single Convention's Article 49, the 1971 Convention's Article 32[4] is not limited in time in its application). These can cover plants growing wild that contain psychotropic substances listed in Schedule 1, and which are "traditionally used by certain small, clearly determined groups in magical or religious rites" (UNODC, 2013, p. 105). The 1971 Convention (under Article 32[3]) also allows states to make other reservations upon accession, unless a third of the member states object to them.

Four countries made reservations under Article 32(4) of the 1971 Convention:

— **Peru:** utilisation of two plant species used traditionally that contain Schedule 1 substances: ingredients of the ayahuasca brew and San Pedro cactus.

— **Mexico:** protection of "certain indigenous ethnic groups which, in magical or religious rites, traditionally make use of wild plants which contain psychotropic substances from among those in Schedule 1" (United Nations, 1971).

— **United States of America:** harvesting and distribution of peyote for use by the Native American Church in religious rites.

— **Bangladesh:** a broad reservation; no specified purpose.

Despite the wish to register reservations under Article 32(4), Canada could not have applied for reservations under Article 32(4) because peyote does not grow in the wild in its territory. Because of that, Canada used Article 32(3) to ensure the legality of continued use of peyote by Indigenous groups. The reservation found no objections and was accepted.

The UN Convention Against Illicit Traffic in Narcotic Drugs and Psychotropic Substances 1988

The United Nations Convention Against Illicit Traffic in Narcotic Drugs and Psychotropic Substances 1988 (1988 Convention) lays down measures against drug trafficking, including provisions against money laundering and the diversion of precursor chemicals. It provides for international cooperation through, for example, creating a framework for extradition of drug traffickers, controlled deliveries of scheduled substances, and rules of transfer of proceedings. It also includes clauses that require each member state to prohibit personal possession of substances, "subject to its constitutional principles and the basic concepts of its legal system."

Article 14 of the 1988 Convention requires states to take measures to prevent illicit cultivation of narcotic plants and to eliminate illicit demand for narcotic drugs and psychotropic substances. It is further specified in Article 14(2), however, that states must do so with respect to the human rights and recognising traditional licit uses "where there is historic evidence of such use, as well as the protection of the environment." Article 14 can be considered as offering, in principle, a degree of protection against the destruction of cultivation practices and wild-growing plants with established traditional use. It also recognises the potential impacts on biodiversity.

The primary focus of the 1988 Convention is on the mechanisms of enforcement and international cooperation, and not on regulating specific substances or organisms. Despite some of those detailed provisions on eradication of certain plants, in this report we pay less attention to its content and implementation and instead focus on the other two Conventions.

Agreements promoting the rights to sustain and develop Indigenous practices

Considering the health and criminal justice outcomes of the current global drug regime among Indigenous communities globally, it is clear that the existing policy settings have failed to protect Indigenous people (Burger & Kapron, 2017).

The tension between the drug control regime and the rights of Indigenous communities is also apparent at the level of preservation of cultural practice. According to the International Bill of Human Rights (IBHR), states ought to guarantee the right of ethnic, religious, or linguistic minorities to enjoy their own culture, practise their own religion, and to use their own language. Other international agreements focus specifically on the rights of Indigenous people and contain explicit references to the range of rights that should be guaranteed by domestic and international laws.

Some of the relevant agreements use relatively weaker, non-binding mechanisms to exert 'soft' pressure on governments to implement policies that strengthen the rights of Indigenous people. However, whether they are binding or declarative, they are an expression of international consensus on expectations from each state and can have a supportive role in safeguarding Indigenous rights, including the right to use and develop cultural, medicinal, and spiritual practices.

In Table 1, we briefly outline the key international agreements that promote the Indigenous rights to preservation and development of cultural practice and the specific clauses through which this is achieved.

① **TABLE 1.** SELECTED INTERNATIONAL DECLARATIONS AND CONVENTIONS THAT SUPPORT THE RIGHTS OF INDIGENOUS PEOPLE TO MAINTAIN INDIGENOUS PRACTICE.

TITLE	DESCRIPTION	KEY RELEVANT CLAUSES
International Bill of Human Rights (IBHR) 1948–1966, including the International Declaration of Human Rights and the two core Human Rights Covenants	IBHR is a term referring to three key international documents: — the Universal Declaration of Human Rights (1948); — the International Covenant on Civil and Political Rights (ICCPR, 1966) and its two Optional Protocols; — and the International Covenant on Economic, Social and Cultural Rights (ICESCR, 1966). The IBHR documents are fundamental in defining and protecting a set of human rights. The Covenants, in particular, contain references to the rights of ethnic groups to preserve their identity and culture.	Article 18 guarantees the right to freedom of thought, conscience, and religion – exercised as an individual or as part of a community. These rights may be only limited if prescribed by law to protect "public safety, order, health, or morals or the fundamental rights and freedoms of others" (United Nations, 1966, p. 10). Article 27 guarantees the right of ethnic, religious, or linguistic minorities to enjoy their own culture, practise their own religion, and to use their own language.

→ TABLE CONTINUED PAGE 22

→ TABLE CONTINUED FROM PAGE 21

① **TABLE 1.** SELECTED INTERNATIONAL DECLARATIONS AND CONVENTIONS THAT SUPPORT THE RIGHTS OF INDIGENOUS PEOPLE TO MAINTAIN INDIGENOUS PRACTICE.

TITLE	DESCRIPTION	KEY RELEVANT CLAUSES
International Labour Organization's Indigenous and Tribal Peoples Convention 1989 (ILO Convention 169)	A legally binding international instrument adopted in 1989. It sets forth the rights of Indigenous and tribal peoples and establishes standards for their protection and wellbeing. The Convention strengthens Indigenous and tribal peoples' right to self-determination by outlining and guaranteeing a set of related rights that require protection by the states.	Article 2 calls for collaboration with Indigenous peoples to protect Indigenous rights and promote the full realisation of Indigenous social, economic, and cultural rights with respect to cultural identity, customs, traditions, and institutions. Article 4 requires the states to adopt appropriate measures to safeguard Indigenous institutions, cultures, and environments. Article 5 requires the states to recognise and protect the social, cultural, religious, and spiritual values and practices of Indigenous peoples with integrity and respect. Article 6 requires consultation with Indigenous people and their inclusion in decision-making processes if any administrative or legislative measure enacted may directly impact them. It also emphasises the need for states to robustly support the Indigenous initiatives and institutions and, in some cases, provide the necessary resources for these purposes. Article 7 affirms the rights of Indigenous peoples to determine their own priorities for development in accordance with their beliefs, institutions, and spiritual wellbeing. According to this article, Indigenous people should be involved in the formulation and evaluation of national and regional development plans that may impact them. Articles 8 and 10 require that the application of national law and regulations to Indigenous peoples considers Indigenous customs and customary laws. It is also required that penalties give account for the economic, social, and cultural circumstances, and that states implement a broad preference for non-imprisonment in criminal sentencing.

→ TABLE CONTINUED FROM PAGE 22

① **TABLE 1.** SELECTED INTERNATIONAL DECLARATIONS AND CONVENTIONS THAT SUPPORT THE RIGHTS OF INDIGENOUS PEOPLE TO MAINTAIN INDIGENOUS PRACTICE.

TITLE	DESCRIPTION	KEY RELEVANT CLAUSES
United Nations Declaration on the Rights of Indigenous Peoples 2007 (UNDRIP)	A non-binding United Nations resolution that calls for the protection and promotion of the rights of Indigenous peoples globally. The UNDRIP lays out "the minimum standards for the survival, dignity and well-being of the indigenous peoples of the world" (Article 43). UNDRIP does not create new rights, but explains how the existing fundamental human rights included in the core and legally binding IBHR unfold in the specific case of Indigenous peoples. The central tenets of UNDRIP include equity and non-discrimination, respect for cultural diversity, participation, and consultation. The rights protected by UNDRIP include the rights to self-determination, rights to lands, territories and resources, rights to maintain and strengthen their Indigenous institutions, rights to participate in decision making on matters that concern Indigenous peoples, rights to culture, language and identity, rights to development, rights to education and health, and rights to free, prior, and informed consent.	A number of collective rights are recognised across multiple articles of UNDRIP (also the UN Declaration on the Rights of Peasants and the UN Declaration on the Right to Development), including: — The right to prior and informed consent: UNDRIP Art. 11, 19, 28, 29 — The right to the protection of and access to natural heritage and cultural heritage: UNDRIP Art. 8, 11, 29, 31 [+ UNDROP Art. 5, 18, 26] — The right to participation in policy making: UNDRIP Art. 18, 23; UNDROP Art. 2(3), 10, 11, 15(4) — The right to non-discrimination: UNDRIP Art. 2, 46(3); UNDROP Art. 4; UN Declaration on the Right to Development Art. 6 — The right of religion and belief: UNDRIP Art. 11, 12, 24, 35; UNDROP Art. 8 Article 8. "Indigenous peoples and individuals have the right not to be subjected to forced assimilation or destruction of their culture." Article 11.1. "Indigenous peoples have the right to practise and revitalize their cultural traditions and customs. This includes the right to maintain, protect and develop the past, present and future manifestations of their cultures." Article 24. "Indigenous peoples have the right to their traditional medicines and to maintain their health practices, including the conservation of their vital medicinal plants." Article 24(1) affirms the rights to traditional medicines, to maintain Indigenous health practices, and to ensure conservation of vital medicinal plants. Article 24(2) affirms the right to attain the highest levels of physical and mental health.

→ TABLE CONTINUED PAGE 23

→ TABLE CONTINUED FROM PAGE 23

① **TABLE 1.** SELECTED INTERNATIONAL DECLARATIONS AND CONVENTIONS THAT SUPPORT THE RIGHTS OF INDIGENOUS PEOPLE TO MAINTAIN INDIGENOUS PRACTICE.

TITLE	DESCRIPTION	KEY RELEVANT CLAUSES
		Article 29. "Indigenous peoples have the right to the conservation and protection of the environment and the productive capacity of their lands or territories and resources. States shall establish and implement assistance programmes for indigenous peoples for such conservation and protection, without discrimination." Article 31(1) affirms the right to maintain, control, protect, and develop their cultural heritage, traditional knowledge, and traditional cultural expressions, as well as the manifestations of Indigenous sciences, technologies, and cultures, including human and genetic resources, seeds, medicines, knowledge of the properties of fauna and flora, oral traditions, literatures, designs, sports and traditional games, and visual and performing arts. The Article also affirms the right to maintain, control, protect, and develop Indigenous intellectual property over such cultural heritage, traditional knowledge, and traditional cultural expressions. Article 31(2) requires that, in conjunction with Indigenous peoples, states must take effective measures to recognise and protect the exercise of the rights affirmed under Article 31(1). For more details see Riboulet-Zemouli & Krawitz (2021). This paper connects the Articles of the Covenants (IBHR) that are legally binding and that reinforce these principles in practice. It also focuses on the requirement of Inter-Governmental

Civil-society guidelines

Outside of the international treaties regime, good-practice guidelines have been developed by international organisations and the civil society. While states do not influence their development, nor are they in any way expected to adhere to the guidance, the recommendations may serve as points of reference for what sensible drug regulation should look like, both at an international and domestic level. Table 2 presents some of the key relevant points from the International Guidelines on Human Rights and Drug Policy 2019 (International Guidelines 2019).

② **TABLE 2**. INTERNATIONAL GUIDELINES ON HUMAN RIGHTS AND DRUG POLICY 2019.

BACKGROUND OF THE DOCUMENT	KEY RELEVANT GUIDELINES
A document created by the International Centre on Human Rights and Drug Policy. The International Guidelines were developed in collaboration with the United Nations Development Programme, the Joint United Nations Programme on HIV/AIDS (UNAIDS), the Office of the United Nations High Commissioner for Human Rights, and the World Health Organization. They provide recommendations on how to develop drug policies that are consistent with international human rights standards. The Guidelines promote a non-discriminatory human rights approach that focuses on health instead of criminalisation in drug policy. They highlight the need for international collaboration in addressing drug-related challenges, with respect to local public health priorities. The key objectives of the Guidelines include: ensuring access to essential medicines, avoiding disproportionate penalties for drug-related offences, protecting the rights of vulnerable populations, prioritising public health interventions and harm reduction measures, promoting alternatives to convictions for low-level offences, and ensuring access to justice and due process.	Guidelines II(1.3) and II(2) recommend that people should have access to controlled substances as medicines without discrimination, to benefit from scientific progress and its applications. Guideline II(2)(iii) calls for a review of the Single Convention and 1971 Convention schedules of substances to reflect current evidence and to prioritise scientific research with controlled substances. Guidelines II(10), II(10)(i), and II(10)(ii) affirm the right to freedom of thought and religion, and the right to manifest religion or beliefs. This includes the right to use drugs in religious or spiritual practices. States are encouraged to utilise the full extent of allowances within the international drug regime to decriminalise the possession, purchase or cultivation of controlled substances for personal consumption, as well as consider exemptions in drug criminalisation to enable religious or spiritual use. Guideline II(11) supports the rights to enjoy cultural life without discrimination, to use controlled drugs for spiritual, religious, and medical purposes, and to cultivate controlled drug crops as a traditional way of life. States should refrain from unnecessary interference with cultural practices on the grounds of drug laws. Opportunities should be provided for people to be involved in the protection of their cultural heritage and conservation of their controlled plants and substances. Guidelines III(4.1–4) explicitly protect the rights of Indigenous peoples. This includes the rights to practise and revitalise cultural traditions, to develop and teach cultural, spiritual, and religious traditions, including the use and cultivation of plants and substances with psychoactive effects where these are a part of cultural, spiritual, or religious practices. Indigenous people should have the right to control, cultivate, use, and protect all medicinal plants and seeds connected to cultural identity, and cultural medicinal and spiritual practices. The Guidelines explicitly support the rights of Indigenous peoples to access and develop traditional medicine and Indigenous health practices, which include the conservation of vital medicinal plants. Specifically, Guideline II(4.4)(ii) recommends that states should: *Repeal, amend, or discontinue laws, policies, and practices that inhibit Indigenous Peoples' access to controlled psychoactive substances for the purposes of maintaining or increasing the overall health and well-being of their communities, and consider adopting appropriate legislative, administrative, and other measures to guarantee the exercise of the right to traditional medicines and health practices. (International Centre on Human Rights and Drug Policy, 2019, p. 21)*

Protection of Indigenous biological heritage

Convention on Biological Diversity and the Nagoya Protocol

The Convention on Biological Diversity (CBD) is an international agreement that was introduced at the Rio de Janeiro United Nations Conference on Environment and Development (Rio Earth Summit) in 1992. Its primary objectives are the conservation of biological diversity, sustainable use of biological resources, and fair and equitable sharing of benefits arising from biological resources.

In its preamble, the CBD explicitly recognises the reliance of Indigenous communities and cultures on biological resources, and the imperative to equitably share any benefits from the utilisation of such resources. Through acceding to the Convention, the states commit to:

> *respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and 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. (United Nations, 1992, p. 8)*

The 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 (Nagoya Protocol) is a supplementary agreement to the CBD. It came into force in October 2014. The Protocol aims to provide a transparent legal framework for the effective implementation of one of the three objectives of the CBD: the fair and equitable sharing of benefits arising out of the utilisation of genetic resources.

The Nagoya Protocol applies to genetic resources within the scope of Article 15 of the CBD, and to the benefits arising from the utilisation of such resources. It also applies to traditional knowledge associated with genetic resources within the scope of the Convention and to the benefits arising from the utilisation of such knowledge.

Lack of international protection of taonga in Aotearoa New Zealand

Aotearoa New Zealand has an interest in the Nagoya Protocol as both a user and provider of genetic resources. The domestic economy, particularly the agricultural, horticultural, and forestry sectors, is highly dependent on foreign genetic resources. Aotearoa's unique flora and fauna result in a high level of domestic and international interest in accessing our genetic resources and, in some cases, the associated Mātauranga Māori (traditional knowledge), for research and other purposes (including commercialisation).

Aotearoa has neither signed nor ratified the Nagoya Protocol. If the Protocol was to be ratified, the government would need to consider what legislation was required for implementation. A bioprospecting regime with associated legislation and regulations would be required. When the Protocol was being negotiated, Aotearoa's stated approach was to ensure flexibility, allowing the government to maintain the ability to meet its Treaty of Waitangi obligations.

In the absence of ratification of the Nagoya Protocol and without any substantive response to the subsequent Waitangi Tribunal claim WAI262, there is a regulatory vacuum in relation to bioprospecting. From a legal perspective, the genetic resources of Aotearoa are open to exploitation by any company, organisation, group, or individual who wants to utilise them for any purpose. This situation is unacceptable to Māori, but, aside from public pressure, very few (if any) mechanisms exist to ensure protection of taonga species. This is essential to ensure that utilisation of taonga is consistent with tikanga, te Tiriti o Waitangi, and the rights of Indigenous Peoples as expressed in global agreements such as the Nagoya Protocol, UNDRIP, and the recent World Intellectual Property Organization (WIPO) Treaty on Intellectual Property, Genetic Resources and Associated Traditional Knowledge (GRATK Treaty).

Upholding Indigenous rights

In the original preamble to the Single Convention, the member states recall their concerns for "the health and welfare of mankind" (UNODC, 2013, pp. 20, 23). It has often been argued, including by the UN High Commissioner for Human Rights (United Nations Office of the High Commissioner for Human Rights, 2024), that the global drug policy framework has not only been ineffective at preventing drug harms, but it has aggravated health and human-rights issues globally (Csete et al., 2016; Godlee & Hurley, 2016).

In fact, much scholarship maintains that drug prohibition is a de facto if not de jure colonial endeavour, inconsistent with the efforts to restore Indigenous autonomy (Dertadian, 2024).

Rights to Indigenous cultural practices

There are several countries in which Indigenous use of controlled plants and fungi is permitted. These countries have rich traditions of Indigenous use of these organisms as a part of life in their communities.

As we outlined in earlier sections, several states successfully exempted certain Indigenous uses of controlled plants and fungi from the international conventions' regimes. Notably, the Indigenous uses are sometimes permitted in countries that have not registered reservations (e.g., ayahuasca in Brazil). In this subsection, we present some examples of jurisdictions where Indigenous uses of controlled organisms are permitted.

Ayahuasca

The Indigenous use of DMT-containing ayahuasca brew has a long history among the peoples of Mexico and the Amazon basin. Because of this, several countries in the region have provisions allowing its use. Ayahuasca brew is legal in Costa Rica, Mexico, and Peru, where it can be used for sacramental and health purposes. Ayahuasca brew consumption is permitted in Bolivia, Brazil[10] Colombia, Ecuador, and the United States for religious use.

Peyote and San Pedro cacti

The legality of mescaline-containing cacti varies throughout the world. Several countries, including Aotearoa New Zealand, allow the cultivation and possession of certain of these cacti for ornamental purposes only. A very small number of countries allow the cultivation and possession of these cacti for preparation and consumption.

The peyote and San Pedro cacti have been used by Indigenous peoples for sacramental and therapeutic purposes in the Central Americas for thousands of years. In the recent centuries, the sacramental use of peyote has spread to Indigenous groups in North America and Canada.

— In Mexico, the Indigenous use of peyote has been maintained among the Huichol people. Under Mexican law, the use of peyote is legally allowed solely by the members of this Indigenous group, and the cacti are under environmental protection to enable continued Indigenous use.

— San Pedro cacti have been traditionally used in shamanic and spiritual practices in Peru (Santos et al., 2021) and among the Indigenous peoples of the Andean region for centuries. The cultivation, possession, supply, and consumption of peyote and San Pedro cacti is legal in Peru, Bolivia, and Ecuador.

10 Although DMT as a chemical compound is prohibited in Brazil, ayahuasca is authorised for use in ritual and religious contexts via regulations of the National Council on Drug Policy (Labate & Feeney, 2012).

Psilocybin-containing mushrooms in Latin America and the Caribbean

Ceremonial and spiritual use of psilocybin-containing mushrooms among Indigenous peoples of Central and South America have been extensively described (Goel & Zilate, 2022). The legal status of psilocybin-containing mushrooms in Latin America varies by country, reflecting a spectrum from prohibition to decriminalisation or legal use in specific contexts.

PSILOCYBIN-CONTAINING MUSHROOMS IN THE LATIN AMERICAN AND CARIBBEAN REGION – EXAMPLES OF SPECTRUM OF REGULATION.




JAMAICA	BRAZIL	MEXICO	ARGENTINA
Possession, use, supply, and cultivation of psilocybin-containing mushrooms are completely legal in Jamaica. This has created a growing industry centred around psychedelic tourism and therapeutic use.	Brazil has a permissive stance on psilocybin-containing mushrooms. They are not specifically listed as controlled substances, which allows for their legal use. While psilocybin is a controlled substance, possession or supply of psilocybin-containing mushrooms is rarely prosecuted (de Freitas Morais et al., 2024).	Indigenous groups such as the Mazatec people of Mexico have used psilocybin-containing mushrooms in shamanic rituals, medicinal healing, and spiritual exploration (Thoricatha, 2018). While the Indigenous use of psilocybin-containing mushrooms is tolerated by the law enforcement, psilocybin and psilocin are generally prohibited in Mexico. In 2024 a reform proposal to decriminalise 'entheogenic uses' received criticism from Indigenous groups for threats of unleashing 'psychedelic tourism'.	Argentina maintains a similar level of de jure control over psilocybin-containing mushrooms, as with other controlled substances. The laws continue to impose criminal penalties for possession and other activities related to scheduled substances.

Indigenous uses of controlled plants and fungi by Indigenous diaspora

The three conventions regulate international trade and transport of controlled substances. While certain states permit Indigenous uses within their territories and have registered relevant reservations to the conventions, these provisions do not apply to international transport of controlled substances or international travel. This means that, typically, the rights of Indigenous people to utilise the substances can only apply in their countries of origin.

This lack of legal protection under international law creates a legal vulnerability for Indigenous people who travel to another state and wish to continue exercising their rights to cultural practice. For example, while Indigenous people in certain territories are permitted to use substances such as coca leaves or ayahuasca, when carrying the substance while traveling or importing it into countries without legal protections for Indigenous uses, they are likely to face criminal prosecution. Such activities are typically

Occasionally, criminal charges are dropped because of legal protections outside of the conventions regime, such as those protecting the right to free religious practice. A number of such cases have involved ayahuasca, which is illegal in the United States but legal in several countries of the Americas. As of 2021, the International Center for Ethnobotanical Education, Research, and Service (ICEERS), and the Ayahuasca Defence Fund (ADF) have assisted in 129 legal incidents in 28 countries (Weiss, 2021). Arrests were mostly for importation, trafficking or possession of the Schedule 1 psychoactive compound DMT, found in ayahuasca brews.

A 2010 case involved Taita Juan Bautista Agreda Chindoy, a Colombian citizen and Cametsa traditional healer who was held at a Houston airport and arrested for possession of ayahuasca. He was charged with possession and intent to distribute DMT, carrying a maximum penalty of 20 years in federal prison.

While no Indigenous practice protections in relation to ayahuasca exist in the USA, the freedom to practice religion is protected by the First Amendment to the Constitution. Under certain circumstances, religious freedom exemptions may be gained from otherwise generally applicable laws, such as drug control laws (Labate & Gayle, 2011). In Agreda Chindoy's case, his defence effectively argued for an exemption to prosecution based on possession of ayahuasca for religious reasons, resulting in his release.

Rights to religious practice

The right to religious practice is a fundamental aspect of human rights (see Table 1), allowing individuals and communities to worship, observe, and live according to their beliefs. Certain religious or spiritual practices among Indigenous people involve the use of psychoactive substances, which include substances such as cannabis, coca, a broad variety of naturally occurring psychedelics, tobacco, alcohol, and others.

However, Indigenous communities have faced legal challenges when engaging in religious practice with substances that are illegal in their jurisdictions due to drug legislation. While several international agreements set out a clear expectation that religious practices must be protected, these protections are often insufficient when contrasted with the drug control mechanisms. In this section we discuss examples where religious practices involving controlled plants and fungi have been tested under domestic laws.

- Case Study: Indigenous use of peyote in the United States

The USA registered reservations to the 1971 Convention in relation to the use of peyote by the Native American Church (NAC)[11] in religious rites. This reservation recognises the ceremonial use of peyote by the communities who are part of the NAC and protects its legitimate use.

At a domestic level, in the USA, the First Amendment to the Constitution guarantees religious freedom. However, it required a long judicial process to effectively guarantee the rights of NAC members to use peyote as part of religious ceremonies.

In 1970 the Controlled Substances Act listed peyote as a Schedule 1 drug, making it a restricted substance. While ceremonial uses were meant to be exempted based on the federal administration's assurances, individual states have not offered sufficient legal protections to church members (Feeney, 2007).

In 1978 the US government introduced the American Indian Religious Freedom Act (AIRFA). The aim of the Act was to preserve traditional cultural practices, and address issues of access to sacred sites and the possession of sacred materials.

The AIRFA was first tested in connection with the ceremonial use of peyote in the court case Employment Division, Department of Human Resources of Oregon v. Smith, 494 U.S. 872 (1990). At the time, under Oregon state law, peyote was a prohibited substance. The case involved two members of the NAC who were dismissed from their employment following their participation in peyote ceremonies. They were denied unemployment compensation because their use of peyote was deemed misconduct. Through lengthy court proceedings, it was determined that the state could deny unemployment benefits to a person dismissed for violating a state prohibition on the use of peyote, even for legitimate religious ceremonies. The US Supreme Court held that the First Amendment right to free exercise of religion does not allow a person to use religious motivation to place themselves beyond reach of state drug laws.

In 1994 the US Congress found that without additional legislation, the First Amendment does not protect Indian practitioners who use peyote in religious ceremonies. The Congress further declared that "the lack of adequate and clear legal protection for the religious use of peyote by Indians may serve to stigmatise and marginalise Indian tribes and cultures" (Section [a][5], American Indian Religious Freedom Act Amendments of 1994).

In response to this and other cases connected to AIRFA and the freedom of religious practice by Native Americans on Indigenous lands, the Religious Freedom Restoration Act 1993 was introduced. Its aim was to ensure that religious freedoms guaranteed under the First Amendment were protected. This Act was followed closely by an amendment to AIFRA – the American Indian Religious Freedom Act Amendments of 1994. Together, the legislation created a system of protective measures for the use, possession, or transportation of peyote by Native Americans and Alaskans for ceremonial purposes. According to the Amendments Act:

> *Notwithstanding any other provision of law, the use, possession, or transportation of peyote by an Indian for bona fide traditional ceremonial purposes in connection with the practice of a traditional Indian religion is lawful, and shall not be prohibited by the United States or any State. (Section [b][1], American Indian Religious Freedom Act Amendments of 1994)*

11 The Native American Church (NAC) was established in 1918 by certain southern Great Plains tribes in Oklahoma, although Native Americans had been using peyote in ceremonies since the late 17th century.

- Case Study: Ayahuasca use by União do Vegetal and Santo Daime in the United States

The União do Vegetal (UDV) and Santo Daime are international religious organisations founded in Brazil, that use ayahuasca (Portuguese: hoasca) as part of cultural religious ceremonies. In the UDV, hoasca tea is also known as 'vegetal'.

The UDV currently has 212 centres located in all Brazilian states and in ten other countries[12] (Centro Espírita Beneficente União do Vegetal, 2023). Santo Daime has been reported to be involved in ceremonies in at least 43 countries (De Assis & Labate, 2014). Both organisations have faced criminal and administrative proceedings in various jurisdictions, for the importing, trafficking, and possession to supply of ayahuasca, because of its DMT content.

In the United States, ayahuasca that contains DMT is generally illegal to import, consume, possess, sell, and distribute (ICEERS, 2023). However, the UDV was granted exemptions to legally use ayahuasca due to religious freedoms through the Supreme Court ruling in the case of Gonzales v. O Centro Espírita Beneficente União do Vegetal, 546 U.S. 418 (2006). In the decision, the Supreme Court found that the federal government had not demonstrated it had a compelling interest in preventing a genuine religious practice (Pew Research Center, 2006).

Santo Daime has been granted certain limited exemptions to legally use ayahuasca, also based on the rights to religious freedom (ICEERS, 2023). Three churches of the Oregon branch of Santo Daime benefitted from the ruling in Church of the Holy Light of the Queen v. Mukasey. The case followed an arrest of a church member, whose ayahuasca was also seized. The favourable ruling was based on the Religious Freedom Restoration Act, which requires a high threshold before a government intervention into a religious practice. Santo Daime is able to import and distribute ayahuasca among its congregations in Oregon and Los Angeles (ICEERS, 2023).

- Case study: Religious cannabis use in the Caribbean by Rastafari

The Rastafari faith is a cultural and spiritual movement with membership predominantly in the Caribbean region. Cannabis ('ganja') plays a significant role in its religious practices, and smoking it is considered a religious sacrament (Pretorius, 2006).

Several Caribbean governments have made allowances to permit Rastafarians to use and access cannabis for religious and sacramental purposes. For example, while non-medicinal use of cannabis is generally prohibited in Barbados, the Sacramental Cannabis Act 2019 makes exemptions for Rastafari to consume cannabis for sacramental purposes.

- Case study: Cannabis use in India for religious and sacramental purposes

The consumption of cannabis in India has a long history. Among numerous spiritual practices involving different cannabis parts and products, a famous preparation of cannabis leaves (bhang) continues to be consumed during many Hindu religious celebrations, especially Holi. Indian governments have made active efforts to protect the cultural practice, despite long-standing pressures from the British colonial influence. While the British Empire relied on cannabis for naval vessels (sails and rope) and traded extensively in hemp, there were eventually at least four attempts to ban cannabis consumption in India during the colonial period from 1838 to 1894 (Ballotta et al., 2008).

The Indian government registered temporary reservations under the Single Convention. In addition, because the Convention's definition of cannabis specifically excludes the seeds and leaves (bhang) when these are not accompanied by the tops (ganja), the Indian government considered the practice of bhang consumption consistent with the international drug control regime, and this is still reflected in domestic legislation. Under the Narcotic and Psychotropic Substances Act (1985), the production of cannabis resin and flowers is illegal in India, but activities relating to leaves remain unregulated and they are left to the Indian state legislatures to determine.

While many states prohibit bhang consumption, possession, production, and supply, some exclude it from prohibition policies. For example, in 2017 the state of Gujarat exempted bhang from the newly introduced stricter measures of the regional legislation, with the relevant minister citing religious reasons:

> *Bhang is consumed only as prasad of Lord Shiva. The state government has received complaints of misuse of prohibition act against those found drinking bhang. Hence, keeping in view the sentiments of the public at large, the government has decided to exempt bhang from the ambit of Gujarat Prohibition Amendment Act. (Times of India, 2017)*

12 The United States, Canada, Peru, Portugal, Spain, the United Kingdom, Switzerland, Italy, the Netherlands, and Australia.

Rights to choose and develop traditional medicine

Indigenous medicine is a pivotal component of Indigenous self-determination. Rooted in Indigenous worldviews, it combines a holistic approach to healing and connects individuals to their land, ancestry, and spirituality.

UNDRIP directly affirms the rights of Indigenous peoples to traditional medicine, and this is also expressed through a number of provisions under ILO Convention 169 and the IBHR dealing with the rights to freedom of cultural practice and expression. Indigenous medicine is not a static concept, and the direction of its development should be guided by Indigenous communities. However, despite the international recognition of Indigenous rights to traditional practices, many communities face systemic injustices that inhibit their ability to not only develop, but even to preserve and pass on, their cultural knowledge (Celidwen et al., 2022).

Right to choose Indigenous-led healthcare and traditional medicine

Indigenous health has been severely impacted by inadequate healthcare services that do not meet the cultural and spiritual needs of Indigenous peoples. This and other systemic factors with colonial roots have led to major disparities in health outcomes in Indigenous communities (Sheridan et al., 2024).

Research demonstrates that Indigenous people see the need for the revival of Indigenous culture and traditions, and the return to Indigenous medical practices, as well as more control over healthcare being held by Indigenous communities (Li, 2017). This is particularly important considering the distrust placed in the mainstream medical system, caused by the barriers to access Indigenous people face (Bingham, 2013).

The broad international recognition of the right to access Indigenous medicine should guarantee that Indigenous peoples can use interventions that strengthen their self-autonomy and improve health and wellbeing. This is not always the case, and only a handful of states have frameworks that robustly protect Indigenous medical practices (Celidwen et al., 2022).

- Case study: Aotearoa New Zealand te Tiriti o Waitangi principle of 'Options'

The New Zealand government recognises a number of principles guaranteed to Māori under te Tiriti o Waitangi (the Treaty of Waitangi), signed between the Crown and Māori in 1840. While the application of these principles continues to be critically debated (e.g., Hobbs et al., 2019), the Ministry of Health formally recognises and vows to apply these within the health system. One of these principles is that of 'Options', formally expressed by the New Zealand government as:

> *The principle of options, which requires the Crown to provide for and properly resource kaupapa Māori health and disability services. Furthermore, the Crown is obliged to ensure that all health and disability services are provided in a culturally appropriate way that recognises and supports the expression of hauora Māori models of care. (Ministry of Health, 2020, p. 73)*

This formal recognition means that the Crown not only has to ensure that the entire health system is capable of providing appropriate care to Māori, but that Māori are guaranteed the right to receive Indigenous-led care, should they choose to. However, numerous breaches have been found by the Waitangi Tribunal (a judicial body considering the Crown's compliance with te Tiriti o Waitangi), and further inquiries are ongoing (Waitangi Tribunal, 2019).

Right to undertake and benefit from scientific research on culturally significant substances, including controlled substances

As we outlined earlier, both the Single Convention and the 1971 Convention recognise the medicinal and scientific value of controlled drugs. The Conventions affirm that adequate provision must be made to ensure the availability of these substances for medical or research purposes.

Most permitted medical and scientific research with controlled substances is undertaken by research institutions and pharmaceutical companies. While there has been undoubtable scientific progress from this research, the medical advancements have not been distributed equitably, adversely affecting Indigenous communities (e.g., Nolan-Isles et al., 2021).

The ethical principle of offering options to Indigenous people to choose to use traditional or mainstream medical approaches implies that a combination of these approaches can be an effective way to engage with healthcare for many Indigenous communities. In this paper, we are of the view that Indigenous culture, including Indigenous medical practice, is not a still image of a culture from pre-colonial times, but it is a living body that responds to the dynamic world and the changing needs of its owners. This includes the advancements of empirical science, which can then inform autonomous decision-making of Indigenous practitioners to apply it to their practice. This cannot eventuate, however, if Indigenous people are not able to meaningfully participate in the development of scientific research.

Case study: Guiding principles to researching psychedelics within Western frameworks

There have been major concerns that Indigenous voices and leadership have been missing from the so-called 'psychedelic renaissance' in global research. A recent paper by Celidwen et al. (2022) describes the Indigenous-led process of development of ethical principles to guide Western psychedelic research and utilisation. Eight interconnected principles were developed, along with examples of actions that can be undertaken to strengthen their realisation (Table 3).

③ **TABLE 3**.ETHICAL PRINCIPLES FOR PSYCHEDELIC RESEARCH – CELIDWEN ET AL. (2022).

ETHICAL PRINCIPLE	DESCRIPTION
Reverence for Mother Nature	Sustainable production and application of research, and strengthening the natural and social environments – both in the places of origin of psychedelic therapies and globally.
Respect Indigenous ways of knowing and being	Appropriate and respectful acknowledgment of the contributions of Indigenous peoples and their traditions in psychedelic applications and research. This includes free, prior, and informed consent-seeking for any new uses of Indigenous knowledge.
Responsibility for use, benefits, harms	Organisations should be held accountable for the utilisation of Indigenous knowledge in research and its practical application. This includes any potential appropriation of Indigenous traditions related to psychedelics, such as rituals, ceremonies, etc.
Relevance of Indigenous knowledges in psychedelic medicine	Building up Indigenous leadership in research, as well as strengthening the role of Indigenous methodologies in formal research and its applications.
Regulation of tangible and intangible use of traditional Indigenous medicines	Inclusion of mechanisms that ensure protection of Indigenous knowledge at national and international level. This includes regulating intellectual property rights ownership by Indigenous holders of knowledge.
Reparation and sharing of benefits	Benefits should be shared fairly and equitably. This includes compensatory mechanisms for illegal or previously unconsented appropriation of Indigenous resources or knowledge.
Restoration of Indigenous authority	Indigenous leadership and Indigenous guiding roles should be elevated in the field of development of medicines or practices associated with Indigenous knowledge.
Reconciliation of Indigenous–Western relations	Build collaboration between the state and non-state institutions with Indigenous communities through meaningful and just engagement. This must be done with respect to Indigenous autonomy.

Right to develop commercial products

There is a growing interest on the part of Indigenous peoples to develop and commercialise traditional medicines and natural therapeutic products, including an emerging interest in Indigenous-led bioprospecting. There is also interest in developing other products such as foods or nutraceuticals based on controlled plants and fungi. In addition, many controlled plants and fungi also have industrial applications, such as cannabis plants (often known as 'industrial hemp') and coca plants.

The development of a new controlled drug-containing product is very challenging under the existing drug control regimes of most countries. In the case of medical research, strict and costly regulations have to be abided by; in the case of research for other than medical purposes, the situation lacks legal certainty. Where research is permitted or facilitated, there have been some examples of Indigenous-led processes that could inform future policy pathways for therapeutic product development.

- **Case study: Utilising taonga to treat eczema in Aotearoa New Zealand and beyond**

While eczema is a common skin disorder, both globally and in Aotearoa New Zealand, Māori children carry a disproportionate burden of the disease (Clayton et al., 2013). In response to this health need, a community enterprise (Hikurangi Bioactives Limited Partnership) in Tairāwhiti sought to develop a product to effectively treat the condition. Rongoā Māori (traditional Māori medicine) has long utilised the kānuka tree for treatment of skin conditions, which led the company to formally investigate its oil. The clinical trials, co-funded by Hikurangi Bioactives, confirmed the product's anti-inflammatory and antimicrobial properties and its utility in the treatment of eczema. The studies demonstrated that the kānuka oil formulation alleviates the discomfort associated with eczema, promotes skin healing, and reduces the frequency of flare-ups (Shortt et al., 2022). Considering the high prevalence of eczema worldwide, new treatment modalities may have a significant commercial potential. The development of the product is hoped to produce significant income and employment opportunities for Māori landowners involved in the research and development process from the outset, as well as those who join later. The product is now being licensed internationally.

Right to protection of traditional knowledge and biological heritage

Around 40% of pharmaceutical products today draw from nature and traditional knowledge (World Health Organization [WHO], 2023) using an ethnobotanical approach. This is an approach that takes into account the traditional uses of a plant when considering its potential for pharmaceutical development (Cicka & Quave, 2019).

Without active protection, the traditional knowledge associated with controlled plants and fungi is under threat. The risks may stem from commercially focused regulation of controlled plants and fungi, and the exploitation of provisions for their cultural use by non-Indigenous peoples and bioprospecting. This is especially the case when these plants and fungi are used outside of their cultural context. Active protection is also needed to ensure the conservation and sustainable uses of biological heritage.

The use of peyote and ayahuasca by non-Indigenous peoples

Some psychedelic compounds have the potential to address treatment-resistant depression and anxiety, as well as post-traumatic stress disorder and addictions (Andersen et al., 2021; Gründer & Jungaberle, 2021; Yehuda & Lehrner, 2023). These findings have contributed to the decriminalisation of psychedelics in some jurisdictions and new regulatory approaches in others. However, the resurgence in interest in the therapeutic potential of psychedelics associated with Indigenous use has caused concerns over the impacts on Indigenous bioheritage (Williams et al., 2022).

To be effective, provisions enabling undisturbed Indigenous practices should be enacted in a way that prevents appropriation of these practices. This is especially important in a context of commercial players who may seek market advantage through appropriating Indigenous 'branding'. Furthermore, the perceptions of exploiting an 'Indigenous loophole' by non-Indigenous people may trivialise these cultural practices and undermine Indigenous-rights movements.[13]

The risks to the continuity of Indigenous practices are particularly notable in the cases of the peyote cactus and the ayahuasca brew.

Peyote

Where regulated plants and fungi become a valuable resource, commercial interests may incentivise stronger market players to aggressively seek access to them. Such concerns have been raised for peyote in the United States. The peyote cacti are slow-growing wild plants. In addition to environmental and ecosystem degradation, which already put at risk the cacti's natural ecosystems, greater demand and associated over-harvesting mean Indigenous people face increased risk of being unable to source them to maintain their cultural practice (Golden, 2022).

In 2020 the National Council of Native American Churches (NCNAC) and the Indigenous Peyote Conservation Initiative (IPCI) issued a public statement asking that peyote not be decriminalised (IPCI, 2020). The intentions behind this statement have been further clarified by the IPCI:

> *This is not due to opposition to decriminalization efforts in general, but because there is an entire conservation strategy already underway. This conservation effort includes regulatory and legal measures designed to ensure biocultural conservation. It is important this effort not be interrupted or diluted. Individual, state, or local decriminalization efforts that include peyote can be disruptive to the nation-wide strategy driven by Native American people to protect, conserve, and ensure the spiritual and ecological sustainability of peyote. (IPCI, 2021)*

In 2024 Mexico excluded peyote (Lophophora williamsii) and San Pedro cactus (Echinopsis pachanoi) from the list of illicit drugs, psychotropic substances, and precursors, meaning possession and use are not prohibited.

Ayahuasca

There have been reports that the increasing popularity of ayahuasca among non-Indigenous people and the growing demand from the 'boutique' experience market have been contributing to deforestation in the Brazilian and Peruvian Amazon regions. This puts at risk the sustainability of the native plants used for making the ayahuasca brew (Meyer, 2021). The loss of rainforest and these culturally significant indigenous plants threatens not only the cultural practices of Indigenous people in the region, but also their survival.

13 In this report, we take a position that protecting the rights to maintain and develop cultural practices is a unique policy issue. While decriminalisation of use and regulation of psychedelics (and many other

Bioprospecting and biopiracy

Bioprospecting is the activity of collecting natural organisms to research their components or properties that can be commercially developed as products, often involving intellectual property mechanisms at different stages of the products' development. The traditional knowledge passed on by Indigenous peoples is also often accessed during bioprospecting activities, and subject to the same mechanisms.

While bioprospecting can lead to new discoveries and benefits, it carries the risk of unethical practices that can marginalise Indigenous peoples and local communities.

In bioprospecting, upon creating a successful product or securing a biological specimen, commercial entities seek to legally secure their ownership of something derived from the organism. Ownership can be secured through intellectual property rights – this intellectual property can also be held confidentially as a trade secret.

Intellectual property laws have resulted in the exploitation of Indigenous communities and raise serious ethical concerns of environmental justice (Mackey & Liang, 2012). This has also been the case for psychedelic substances, where a substantial number of patents have been granted to non-Indigenous entities. These patents have been granted for fungi-derived compounds (Gerber et al., 2021) and substances derived from ayahuasca (Bosse, 2024).

When traditional knowledge and Indigenous organisms have been used or taken without free, prior, and informed consent from Indigenous peoples, this is known as biopiracy.

Biopiracy results in the expropriation of genetic materials and knowledge in ways that ignore the rights of Indigenous people as guardians of the resources, without whom access to these would not have been possible; it creates an unethical way of accessing Indigenous resources with no or insufficient sharing of benefits. This often results in unauthorised appropriation of knowledge and biological resources for exclusive control and ownership.

New developments in protecting Indigenous communities against biopiracy

In 2024 the WIPO Treaty on Intellectual Property, Genetic Resources and Associated Traditional Knowledge (WIPO GRATK Treaty) was negotiated at the United Nations with significant involvement of Indigenous peoples. The WIPO GRATK Treaty places the onus on a patent applicant to disclose the country of origin or source of resources. If there is an element of involvement of traditional knowledge with a resource, the applicant must further disclose the Indigenous peoples or local community providing this. Resulting from two decades of negotiations led by African countries, the treaty contains provisions for its future strengthening and expansion to other areas of intellectual property beyond patents.

The GRATK Treaty is the first international instrument against biopiracy to be adopted by WIPO, the UN body in charge of intellectual property treaties; it also includes the first mention of UNDRIP in a legally binding instrument. Some have also argued the treaty contains elements of partial retroactivity with regards to access to genetic resources, which would be a significant step in international law (Cannabis Embassy, 2024). Nevertheless, it has been argued that without further strengthening, the GRATK Treaty will not meaningfully boost the level of protection of Indigenous knowledge (Jefferson et al., 2024). While it may be effective in preventing inappropriate patents from being granted, the Treaty does not mandate compensation, access and benefit-sharing (ABS) agreements, or a specific process to ensure free, prior, and informed consent (FPIC) before benefits are gained.

Also in 2024, the Convention on Biological Diversity COP16 adopted a voluntary arrangement for the commercial users of digital sequence information (DSI; genomic data) to pay a percentage of their revenue or profits into a global fund designed to be shared by Indigenous peoples and local communities that have been the source of DSI from genetic resources (United Nations Environment Programme [UNEP], 2024).

The Cali Fund for the Fair and Equitable Sharing of Benefits from the Use of Digital Sequence Information on Genetic Resources (DSI) – the Cali Fund' – which will receive contributions from private-sector entities making commercial use of DSI, was launched in Rome during the reconvened COP16 meeting held in late February 2025. Recognising their role and contributions as custodians of biodiversity, 50% of the resources of the Cali Fund will be allocated to the self-identified needs of Indigenous peoples and local communities, including women and youth. A number of companies interested in contributing to the Cali Fund have already expressed a commitment to donate based on a small percentage of their profit or revenue.

- Case study: Kava in the Pacific Islands

While not controlled under the international drug control regime, kava (Piper methysticum) is a plant that exerts noticeable sedative and mood-altering psychoactive effects on the consumer. Also known as 'awa, ava, yaqona, and under other names in the Pacific Islands, it has a long history of Indigenous use, with evidence suggesting use in Vanuatu dating to 3,000 years ago (Aporosa, 2019a). It has several cultural and ceremonial uses in Indigenous Pacific cultures. The use of yaqona or 'grog' in Fiji has been described as a crucial part of the Indigenous identity (Aporosa, 2019a). Kava holds a special cultural significance among many, if not all, Indigenous Pacific Island communities both in the islands and among the diaspora (Nosa & Ofanoa, 2009).

Kava has been compared favourably to alcohol in that it can serve similar purposes as a pro-social drug of choice. However, its preparations have much lower toxicity and propensity to withdrawal effects, and are not considered addictive (Aporosa, 2019b). Kava's anxiolytic effects have also been appreciated by the pharmaceutical and medical supplement industries. Kava is already being sold in 'kava bars', especially in the US, typically in isolation from its cultural context.

Currently, there are no intellectual property protections for the preparations or extracts of kava. Some sources have projected kava market value to exceed US$210 billion by 2026 (Pacific Trade Invest, 2021). While this may present a commercial opportunity for the Pacific Island economies, the lack of international protection seriously threatens both the commercial and cultural interests of the Indigenous communities. Industrial cultivation of kava in the US is being explored, which will likely undermine the profits of smaller-scale producers in the Pacific Islands (Fonua, 2024). Furthermore, the commercialisation of products that are stripped from cultural meaning can deprive Indigenous communities and the diaspora of the transgenerational connections with their ancestral cultures (Luaitalo, 2024).

Rights to benefit from the use of biological heritage

Access and benefit sharing

The concept of 'fair and equitable access and benefit sharing' (ABS) refers to the way in which genetic resources and/or associated traditional knowledge may be accessed, and how the benefits that result from their utilisation (commercial use) can be shared between their beneficiaries and their original providers (Secretariat of the Convention on Biological Diversity, 2001). The users or providers can be defined as countries, people, communities, organisations, and other groupings. This concept is enshrined in the Convention on Biological Diversity (CBD) and further developed in the Nagoya Protocol.

ABS also includes the traditional knowledge associated with genetic resources that comes from Indigenous peoples and local communities. The benefits to be shared can be monetary, such as sharing royalties when the resources are used to create a commercial product, or non-monetary, such as the development of research skills and knowledge (see Table 4). ABS arrangements can also include protection and disclosure clauses, and patent regulation, as well as sustainable use and conservation by resource users, upheld by legal protections.

④ **TABLE 4.**ANNEX OF THE NAGOYA PROTOCOL

MONETARY BENEFITS	NON-MONETARY BENEFITS
Monetary benefits may include, but not be limited to: a. Access fees/fee per sample collected or otherwise acquired; b. Up-front payments; c. Milestone payments; d. Payment of royalties; e. Licence fees in case of commercialisation; f. Special fees to be paid to trust funds supporting conservation and sustainable use of biodiversity; g. Salaries and preferential terms where mutually agreed; h. Research funding; i. Joint ventures; j. Joint ownership of relevant intellectual property rights.	Non-monetary benefits may include, but not be limited to: a. Sharing of research and development results; b. Collaboration, cooperation and contribution in scientific research and development programmes, particularly biotechnological research activities, where possible in the Party providing genetic resources; c. Participation in product development; d. Collaboration, cooperation and contribution in education and training; e. Admittance to ex situ facilities of genetic resources and to databases; f. Transfer to the provider of the genetic resources of knowledge and technology under fair and most favourable terms, including on concessional and preferential terms where agreed, in particular, knowledge and technology that make use of genetic resources, including biotechnology, or that are relevant to the conservation and sustainable utilisation of biological diversity; g. Strengthening capacities for technology transfer; h. Institutional capacity-building; i. Human and material resources to strengthen the capacities for the administration and enforcement of access regulations; j. Training related to genetic resources with the full participation of countries providing genetic resources, and where possible, in such countries; k. (Access to scientific information relevant to conservation and sustainable use of biological diversity, including biological inventories and taxonomic studies; l. (Contributions to the local economy; m. Research directed towards priority needs, such as health and food security, taking into account domestic uses of genetic resources in the Party providing genetic resources; n. Institutional and professional relationships that can arise from an access and benefit-sharing agreement and subsequent collaborative activities; o. Food and livelihood security benefits; p. Social recognition; q. Joint ownership of relevant intellectual property rights.

ABS arrangements are among the crucial measures to ensure traditional and Indigenous knowledge holders are recognised and active participants in all activity involving their knowledge, and consent to utilising their biological heritage. Since the inception of the Nagoya Protocol, more than 60 ABS agreements between Indigenous peoples and resource users have been recorded in the ABS Clearing House hosted by the CBD Secretariat. However, an unpublished survey of these agreements conducted by the New Zealand Institute of Plant and Food Research in 2023 suggests that only one in 20 involves financial benefit-sharing arrangements.

Free, prior, and informed consent

The principles of ABS are fundamental to the ethical engagement with Indigenous knowledge and resources. Likewise, policies requiring FPIC help ensure that Indigenous peoples have the right to give or withhold consent to projects affecting their lands, cultures, and traditions. While ABS principles ensure that benefits derived from the use of their resources are shared fairly and equitably, FPIC is a cornerstone in respecting the rights of Indigenous communities. FPIC is a safeguard against exploitation and marginalisation, empowering communities to assert control over their traditional knowledge and biological resources.

The importance of FPIC lies in its role in promoting autonomy and self-determination. By requiring that consent be given freely, without coercion or manipulation, Indigenous communities can protect their interests, maintain their cultural integrity and avoid resources being expropriated for the benefit of others. Prior consent ensures that communities are consulted at the earliest stages of research and project planning, allowing them to influence decision-making processes and outcomes. Informed consent guarantees that they receive comprehensive and comprehensible information about the potential impacts and benefits of the proposed activities.

FPIC is essential for ethical research and commercial use of Indigenous organisms and traditional knowledge. It fosters trust and cooperation between Indigenous communities and external entities, with outcomes more likely to ensure that benefits, such as monetary compensation or knowledge exchange, are equitably shared. Ultimately, FPIC helps to uphold human rights, promotes biodiversity conservation, and supports sustainable development by respecting Indigenous peoples' connection to their ancestral lands and water bodies, flora, fauna, and knowledge.

- Case study: South African San People's ABS arrangements

In South Africa, the National Environmental Management (Biodiversity) Act of 2004 mandates a requirement for fair and equitable sharing of benefits arising from bioprospecting involving Indigenous biological resources. This created conditions for the South African San Council to enter negotiations with the rooibos industry. The San people of the Kalahari Desert have been a party to a number of ABS and FPIC arrangements since the inception of the CBD and Nagoya Protocol. These relate to a number of plants with traditional uses.

Hoodia gordonii. A succulent plant with appetite- and thirst-suppressing properties, used traditionally by the San people to curb hunger and thirst during long hunting trips. The first benefit-sharing arrangement relating to the plant was signed in 2003 between San communities and the South African Council for Scientific and Industrial Research (CSIR), which was interested in developing a weight-loss agent.

As part of ABS arrangements, CSIR arranged payments to the San through a trust – the San Hoodia Trust. In return, CSIR received patents on any products developed from the research. CSIR then out-licensed the patents to Pfizer and Unilever, but because no product was developed, the licenses returned to CSIR (Schroeder et al., 2019).

Kanna. A second benefit-sharing arrangement was formulated in 2008 between the San people and HG&G Pharmaceuticals. The arrangement related to traditional knowledge and use of Mesembryanthemum tortuosum (syn. Sceletium tortuosum; more commonly known as kanna). This resulted in the development and commercialisation of a product under the brand name Zembrin. The product is marketed to healthy people experiencing stress, and is purported to have mood-enhancing, anxiolytic, and cognitive-enhancing properties (HG&H Pharmaceuticals, 2023).

The product is distributed in South Africa, the USA, Canada, Brazil, Malaysia, and Japan. A percentage of sales of the extract and a fee for the use of the San people's emblem are paid into a trust for the Indigenous beneficiaries (Schroeder et al., 2019).

Rooibos. The third benefit-sharing arrangement of the South African San Council was signed in 2019 and relates to Aspalathus linearis, more commonly known as rooibos, typically consumed as tea.

The South African San Council was later joined by another Indigenous group, the Khoi Council, in negotiating a government-facilitated ABS agreement that sought recognition as shared traditional-knowledge rights holders.

In March 2019 an agreement was formulated. The Rooibos Access and Benefit Sharing Agreement (RBSA) recognises the San and Khoikhoi peoples as the traditional knowledge holders of the uses of rooibos. A percentage contribution from the commercialisation of rooibos by the industry will be distributed to the two councils representing the interests of around 30 Indigenous communities.

The RBSA stands as the world's first comprehensive and industry-wide benefit-sharing agreement (Schroeder et al., 2019).

Concluding remarks and recommendations

This report has explored the intersection of global drug regulation, Indigenous rights, and the use of controlled plants and fungi. We have covered the traditional and contemporary uses of these substances, particularly within Indigenous cultures, and examined the international legal frameworks that govern them, including the Single Convention and the 1971 Convention. The report has discussed how these treaties impact the protection of Indigenous biological heritage and cultural practices, while also highlighting specific reservations and exceptions for the traditional use of substances such as opium, cannabis, coca, peyote, and ayahuasca.

The importance of Indigenous rights to sustain and develop traditional practices has been highlighted, including Indigenous peoples' right to use culturally significant plants and fungi for medicinal, spiritual, and religious purposes. Through a series of case studies — such as the use of ayahuasca by Brazilian religious groups in the United States, Indigenous use of peyote in North America, and cannabis for religious use in the Caribbean — we have demonstrated the tensions between drug control laws and the rights of Indigenous peoples to maintain their cultural and religious practices.

We have also discussed the Convention on Biological Diversity and the Nagoya Protocol, stressing the need for international protections of traditional knowledge and biological resources. Based on the principles in these documents, we advocate for Indigenous rights to control and benefit from their cultural heritage, including the development of traditional medicine, and participation (and leadership) in scientific and medical research related to these substances.

We need stronger international frameworks that respect Indigenous sovereignty and protect traditional knowledge, ensuring that Indigenous peoples can safely use, develop, and benefit from their biological heritage.

Enablers for Indigenous rights actualisation in relation to controlled plants and fungi

Through our analysis, we have identified a set of enablers for the actualisation of Indigenous rights in regards to controlled plants and fungi. These contain legal and policy protections, as well as other enablers.

① Legal and policy protections:

— International agreements such as the Convention on Biological Diversity, UNDRIP, and the Nagoya Protocol go some way to enabling frameworks for Indigenous communities to control and benefit from their biological heritage at the domestic and international levels.

— Some countries have incorporated Indigenous exemptions within their drug policies, allowing for traditional uses of substances such as peyote, ayahuasca, and coca.

— While global drug treaties such as the Single Convention impose prohibitions that outlaw or marginalise Indigenous rights and cultural practices relating to controlled plants and fungi, some countries choose to give precedence to Indigenous rights and take a more permissive position on access to some natural substances such as cannabis, peyote, coca leaf, and psychoactive mushrooms.

— UNDRIP and other international human rights instruments affirm the rights of Indigenous peoples to practise their traditional medicine and religious ceremonies.

— Case studies on the decriminalisation of personal possession and cultivation of controlled substances for spiritual or medicinal use may help regulators explore how it has been done safely and effectively elsewhere.

② **Access to scientific research and healthcare:**

— A number of examples in this report provide evidence of Indigenous peoples' participation and leadership in medical research on culturally significant substances, allowing Indigenous knowledge to shape modern medicine.

— Some jurisdictions allow Indigenous communities to use traditional medicine within national healthcare frameworks.

③ **Sustainable resource management and benefit sharing:**

— ABS agreements under international law are designed to ensure that Indigenous communities gain financial and non-financial benefits from commercial use of their biological resources. Some countries are yet to sign up to the multilateral agreements that require domestic regulation to ensure such ABS agreements are in place for any related activities.

— Indigenous-led conservation efforts help maintain controlled plants and fungi that are integral to spiritual and medicinal traditions.

Barriers to these enablers

① **Restrictive drug laws:**

— Global drug treaties impose prohibitions that do not accommodate Indigenous cultural practices, and are interpreted by many regulators in ways that contravene Indigenous rights and other human rights.

— Criminalisation of possession and transport across borders puts Indigenous users at risk of prosecution.

② **Biopiracy and commercial exploitation**:

— Traditional knowledge and biological resources are often exploited without proper compensation or recognition, leading to loss of control over Indigenous intellectual property.

— Increased global interest in psychedelic therapy risks further appropriation of Indigenous practices.

③ **Environmental threats and overharvesting:**

— The commercialisation of Indigenous plant-based medicines, such as ayahuasca, risks environmental degradation and scarcity of these resources.

— Overharvesting due to external demand threatens the sustainability of sacred plants such as peyote. Indigenous peoples have been resisting moves to broadly liberalise regulation on some organisms because the conservation and cultural protections are insufficient or missing entirely.

④ **Exclusion from policy and scientific decision-making:**

— Indigenous communities are often excluded from decision-making processes regarding drug policy and scientific research, limiting their ability to influence regulations that affect their cultural practices.

— Research on controlled substances is dominated by conservative public regulators, commercial interests and scientific institutions, often side-lining Indigenous perspectives.

Recommendations

Based on the findings of this report, a road map for next steps and recommendations should include the following:

Recommendations for tangata whenua

① Strengthen advocacy for law reform

— Mobilise whanāu, iwi, hapū, and Māori health organisations to push for amendments to the Misuse of Drugs Act 1975 that recognise the rights of Māori to utilise their taonga, including any indigenous plants and fungi the Crown has considered prohibited plants or controlled drugs.

— An Indigenous national coordinating group should engage with legal experts to draft potential legislative reforms.

② Develop Indigenous-led research and healthcare initiatives

— Establish Māori-led research collectives and institutions to study controlled plants and fungi for medicinal, spiritual, and developmental uses.

— Advocate for more government funding to support kaupapa Māori health services that integrate rongoā Māori and traditional healing – including safe and effective use of taonga considered prohibited plants or controlled drugs.

③ Create economic pathways for Indigenous-led enterprises

— Develop business models for Indigenous-controlled cultivation and affordable, safe, and effective use of controlled plants and fungi under tikanga Māori.

— Push for equitable access to research funding and commercial benefit-sharing agreements.

④ Strengthen Indigenous knowledge protection

— Advocate for stronger intellectual property rights and protections against biopiracy.

— Seek international recognition of mātauranga Māori related to medicinal plants and fungi through agreements such as the Nagoya Protocol.

Recommendations for Aotearoa New Zealand regulators

① Amend the Misuse of Drugs Act 1975

— Introduce exemptions for Indigenous medicinal, spiritual, and cultural use of controlled plants, similar to exemptions seen in some other jurisdictions.

— Align drug policies with te Tiriti o Waitangi obligations to support Māori self-determination in health and spirituality.

② Recognise and support Māori-led health and research initiatives

— Increase funding and policy support for kaupapa Māori health services that utilise taonga species.

— Implement regulatory pathways that allow Māori practitioners to provide culturally appropriate healthcare using traditional medicines including these taonga.

③ Strengthen Indigenous rights protections

— Ratify and implement the Nagoya Protocol and the WIPO Treaty on Genetic Resources and Associated Traditional Knowledge to protect Māori genetic resources and traditional knowledge.

— Develop ABS mechanisms that ensure Māori communities retain control over their biological heritage.

④ Engage in international Indigenous rights forums

— Advocate for Indigenous drug policy rights at United Nations forums including reform of the Single Convention, and through other international human rights mechanisms.

— Support collaborative agreements with other countries working on similar issues.

Recommendations for Treaty allies

① Support Māori-led initiatives

— Advocate for policy changes supporting Indigenous rights in drug policy.

— Educate others on the significance of controlled plants and fungi in Indigenous cultures.

② Engage in ethical consumption and research

— Support Indigenous-led businesses and research initiatives over commercial exploiters of Indigenous knowledge.

— Be mindful of cultural appropriation and support efforts to ensure Indigenous control over traditional medicines.

③ Promote international solidarity

— Collaborate with international activists advocating for similar policy changes.

— Participate in local, national, and global discussions on Indigenous sovereignty over natural resources.

References

Andersen, K. A. A., Carhart-Harris, R., Nutt, D. J., & Erritzoe, D. (2021). Therapeutic effects of classic serotonergic psychedelics: A systematic review of modern-era clinical studies. Acta Psychiatrica Scandinavica, 143(2), 101–118. https://doi.org/10.1111/acps.13249

American Indian Religious Freedom Act Amendments of 1994, 42 U.S.C. § 1996a. (1994). https://www.law.cornell.edu/uscode/text/42/1996a

Aporosa, S. A. (2019a). Kava and ethno-cultural identity in Oceania. In S. Ratuva (Ed.), The Palgrave handbook of ethnicity (pp. 1923–1937). Palgrave Macmillan. https://doi.org/10.1007/978-981-13-2898-5_134

Aporosa, S. A. (2019b). De-mythologizing and re-branding of kava as the new 'world drug' of choice. Drug Science, Policy and Law. https://doi.org/10.1177/2050324519876131

Ballotta, D., Bergeron, H., & Hughes, B. (2008). Cannabis control in Europe. In S. R. Sznitman, B. Olsson, & R. Room (Eds.), Cannabis reader: Global issues and local experiences. Volume 1 (pp. 97–118). European Monitoring Centre for Drugs and Drug Addiction. https://www.euda.europa.eu/publications/monographs/cannabis-volume1_en

Bingham, B. (2013). Aboriginal community-based primary health care research: Developing community driven primary health care research priorities. Aboriginal Health Services, Fraserhealth.

Boister, N. (2016). Waltzing on the Vienna Consensus on Drug Control? Tensions in the International System for the Control of Drugs. Leiden Journal of International Law, 29(2), 389–409. https://doi.org/10.1017/S0922156516000078

Borchers, A. T., Keen, C. L., Stern, J. S., & Gershwin, M. E. (2000). Inflammation and Native American medicine: The role of botanicals. The American Journal of Clinical Nutrition, 72(2), 339–347. https://doi.org/10.1093/ajcn/72.2.339

Bosse, J. (2024). Re-examining the "wild" story of the ayahuasca plant patent. Intellectual Property Quarterly, 2, 136–162. https://pureadmin.qub.ac.uk/ws/portalfiles/portal/591084834/2024_Bosse_-_Re-examining_the_wild_story_of_the_ayahuasca_plant_patent.pdf

Burger, J., & Kapron, M. (2017). Drug policy and Indigenous peoples. Health and Human Rights, 19(1), 269–278. https://pmc.ncbi.nlm.nih.gov/articles/PMC5473056/

Cannabis Embassy (2024). GRATK Cannabis Embassy delegation: Written Contribution to the Proceedings of the 2024 WIPO Diplomatic Conference Diplomatic Conference on Genetic Resources and Associated Traditional Knowledge; Circulated to Member States and the Secretariat for inclusion in the Proceedings, according to the Rules of Procedures of the Diplomatic Conference; Agenda item 13, 24 May 2024. Geneva: Cannabis Embassy. [online] Available from https://cannabisembassy.org/mexta/2024/05/gratk-dipcon-closing/

Caquet, P. (2015). Notions of addiction in the time of the first Opium War. The Historical Journal, 58(4), 1009–1029. https://doi.org/10.1017/S0018246X14000739

Celidwen, Y., Redvers, N., Githaiga, C., Calambás, J., Añaños, K., Chindoy, M. E., Vitale, R., Rojas, J. N., Mondragón, D., Rosalío, Y. V., & Sacbajá, A. (2022). Ethical principles of traditional Indigenous medicine to guide Western psychedelic research and practice. The Lancet. Regional Health: Americas, 18, 100410. https://doi.org/10.1016/j.lana.2022.100410

Cicka, D., & Quave, C. L. (2019). Bioprospecting for pharmaceuticals: An overview and vision for future access and benefit sharing. In N. Joshee, S. A. Dhekney, & P. Parajuli (Eds.), Medicinal plants (pp. 17–34). Springer. https://doi.org/10.1007/978-3-030-31269-5_2

Clayton, T., Asher, M. I., Crane, J., Ellwood, P., Mackay, R., Mitchell, E. A., Moyes, C. D., Pattemore, P., Pearce, N., & Stewart, A. W. (2013). Time trends, ethnicity and risk factors for eczema in New Zealand children: ISAAC Phase Three. Asia Pacific Allergy, 3(3), 161–178. https://doi.org/10.5415/apallergy.2013.3.3.161

Crocq, M-A. (2007). Historical and cultural aspects of man's relationship with addictive drugs. Dialogues in Clinical Neuroscience, 9(4), 355–361. https://doi.org/10.31887/dcns.2007.9.4/macrocq

Csete, J. (2012). Overhauling oversight: Human rights at the INCB. In J. Collins (Ed.), Governing the global drug wars (pp. 63–68). Special Report SR014. London School of Economics. https://eprints.lse.ac.uk/47122/1/Governing%20the%20global%20drug%20wars%28published%29.pdf

Csete, J., Kamarulzaman, A., Kazatchkine, M., Altice, F., Balicki, M., Buxton, J., Cepeda, J., Comfort, M., Goosby, E., Goulão, J., Hart, C., Kerr, T., Lajous, A. M., Lewis, S., Martin, N., Mejía, D., Camacho, A., Mathieson, D., Obot, I., ... & Beyrer, C. (2016). Public health and international drug policy. The Lancet, 387(10026), 1427–1480. https://doi.org/10.1016/S0140-6736(16)00619-X

de Assis, G. L., & Labate, B. C. (2014). Dos igarapés da Amazônia para o outro lado do Atlântico: A expansão e internacionalização do Santo Daime no contexto religioso global. Religião & Sociedade, 34(2), 11–35. https://doi.org/10.1590/s1984-04382014000200002

de Freitas Morais, G., Hirata, N., & Rocci, R. A. O. (2024, November 21). Psychedelic medicines 2024: Trends and developments. Chambers and Partners. https://practiceguides.chambers.com/practice-guides/psychedelic-medicines-2024/brazil/trends-and-developments

Dertadian, G. C. (2024). The coloniality of drug prohibition. The International Journal on Drug Policy, 126, 104368. https://doi.org/10.1016/j.drugpo.2024.104368

FAAAT think & do tank [and 180 other organisations] (2021). Voluntary contribution to INCB on transparency and accountability, 2 December 2021. [online] Available from https://kenzi.zemou.li/wp-content/uploads/2021/12/cannabis-initiative-2-dec-2021-INCB-contribution.pdf

Feeney, K. (2007). The legal bases for religious peyote use. In T.B. Roberts & M. J. Winkelman (Eds.), Psychedelic medicine: New evidence for hallucinogenic substances as treatments. Volume 1 (pp. 233–250). Praeger/Greenwood.

Fonua, F. (2024, April 8). 'It's a real treat': US grown kava sparks concern in Pacific. RNZ. https://www.rnz.co.nz/international/pacific-news/513710/it-s-a-real-treat-us-grown-kava-sparks-concern-in-pacific

Ganguly, K.K., Sharma, H.K. & Krishnamachari, K.A.V.R. (1995), An ethnographic account of opium consumers of Rajasthan (India): socio-medical perspective. Addiction, 90: 9-12. https://doi.org/10.1046/j.1360-0443.1995.90192.x

Gerber, K., Flores, I. G., Ruiz, A. C., Ali, I., Ginsberg, N. L., & Schenberg, E. E. (2021). Ethical concerns about psilocybin intellectual property. ACS Pharmacology & Translational Science, 4(2), 573–577. https://doi.org/10.1021/acsptsci.0c00171

Goel, D. B., & Zilate, S. (2022). Potential therapeutic effects of psilocybin: A systematic review. Cureus, 14(10), e30214. https://doi.org/10.7759/cureus.30214

Godlee, F., & Hurley, R. (2016). The war on drugs has failed: Doctors should lead calls for drug policy reform. BMJ, i6067. https://doi.org/10.1136/bmj.i6067

Golden, H. (2022, December 9). Inside the battle to save the sacred peyote ceremony: 'We're in dire straits.' The Guardian. https://www.theguardian.com/us-news/2022/dec/09/peyote-native-american-medicine-nacna-federal-protection

Gründer, G., & Jungaberle, H. (2021). The potential role of psychedelic drugs in mental health care of the future. Pharmacopsychiatry, 54(4), 191–199. https://doi.org/10.1055/a-1486-7386

Hadian, M., Jabbari, A., & Sheikhbardsiri, H. (2020). Exploring challenges of the health system in Iranian traditional medicine: A qualitative study. Ethiopian Journal of Health Sciences, 30(6). https://doi.org/10.4314/ejhs.v30i6.22

Hallam, C. (2010). Advocacy note: A call to the New Secretary of the International Narcotics Control Board: Ongoing challenges. International Drug Policy Consortium. http://dx.doi.org/10.2139/ssrn.1909986

HG&H Pharmaceuticals. (2023). Zembrin – The world's leading researched and clinically studied extract of Sceletium. https://www.zembrin.com/

Hobbs, M., Ahuriri-Driscoll, A., Marek, L., Campbell, M., Tomintz, M., & Kingham, S. (2019). Reducing health inequity for Māori people in New Zealand. The Lancet, 394(10209), 1613–1614. https://doi.org/10.1016/S0140-6736(19)30044-3

ICEERS. (2023). Ayahuasca country-by-country legal information. United States of America. The International Center for Ethnobotanical Education, Research, and Service. https://www.iceers.org/adf/

Indigenous Peyote Conservation Initiative. (2020). Statement from National Council of Native American Churches and the Indigenous Peyote Conservation Initiative regarding decriminalization of sacred plants ordinances at the city or other jurisdictional level, as they pertain to peyote. https://chacruna.net/wp-content/uploads/2020/03/DecrimStatementNCIPCIBOD.pdf

Indigenous Peyote Conservation Initiative. (2021). Open Letter to the Psychedelic Movement Regarding Peyote in Policy Efforts and How to be an Ally to Indigenous Peoples of North America. https://chacruna.net/ipci_open_letter_psychedelic_movement_peyote_decriminalization/

International Centre on Human Rights and Drug Policy. (2019). International Guidelines on Human Rights and Drug Policy. www.humanrights-drugpolicy.org

International Drug Policy Consortium (IDPC). (2011a). IDPC Advocacy Note – Correcting a historical error: IDPC calls on countries to abstain from submitting objections to the Bolivian proposal to remove the ban on the chewing of the coca leaf. https://idpc.net/publications/2011/01/idpc-advocacy-note-bolivia-proposal-coca-leaf

International Drug Policy Consortium (IDPC). (2011b). IDPC Advocacy Note – Bolivia's legal reconciliation with the UN Single Convention on Narcotic Drugs. https://idpc.net/publications/2011/07/idpc-advocacy-note-bolivia-withdraws-from-1961-convention

International Narcotics Control Board (INCB). 2001. [Letter to the Dutch Ministry of Public Health]. https://www.erowid.org/plants/mushrooms/mushrooms_law12.pdf

International Narcotics Control Board (INCB). (2011). Report of the International Narcotics Control Board for 2011. https://www.incb.org/incb/en/publications/annual-reports/annual-report-2011.html

International Narcotics Control Board (INCB). (2022). Report 2022. https://www.incb.org/documents/Publications/AnnualReports/AR2022/Annual_Report/E_INCB_2022_1_eng.pdf

Janik, P., Kosticova, M., Pecenak, J., & Turcek, M. (2017). Categorization of psychoactive substances into "hard drugs" and "soft drugs": A critical review of terminology used in current scientific literature. The American Journal of Drug and Alcohol Abuse, 43(6), 636–646. https://doi.org/10.1080/00952990.2017.1335736

Jefferson, D., Pirini, J., & Lai, J.C. (2024, June 10). Patently insufficient: A new intellectual property treaty does little to protect Māori traditional knowledge. The Conversation. https://theconversation.com/patently-insufficient-a-new-intellectual-property-treaty-does-little-to-protect-maori-traditional-knowledge-231264

Koia, J. H., & Shepherd, P. R. (2020). The potential of anti-diabetic rākau rongoā (Māori herbal medicine) to treat Type 2 diabetes mellitus (T2DM) mate huka: A review. Frontiers in Pharmacology, 11. https://doi.org/10.3389/fphar.2020.00935

Labate, B. C., & Feeney, K. (2012). Ayahuasca and the process of regulation in Brazil and internationally: Implications and challenges. The International Journal on Drug Policy, 23(2), 154–161. https://doi.org/10.1016/j.drugpo.2011.06.006

Labate, B. C., & Gayle. (2011). Why was Taita Juan released? Colombian shaman deported after ayahuasca charges dropped. The Vaults of Erowid. https://www.erowid.org/chemicals/ayahuasca/ayahuasca_law28.shtml

Li, R. (2017). Indigenous identity and traditional medicine: Pharmacy at the crossroads. Canadian Pharmacists Journal, 150(5), 279–281. https://doi.org/10.1177/1715163517725020

Luaitalo, A. (2024, January 12). Commercial growth could dilute kava's cultural significance. Pacific Media Network. https://pmn.co.nz/read/language-and-culture/commercial-growth-could-threaten-kava-s-cultural-significance

Mackey, T. K., & Liang, B. A. (2012). Integrating biodiversity management and indigenous biopiracy protection to promote environmental justice and global health. American Journal of Public Health, 102(6), 1091–1095. https://doi.org/10.2105/ajph.2011.300408

Manthey, J., Jacobsen, B., Hayer, T., Kalke, J., López-Pelayo, H., Pons-Cabrera, M. T., Verthein, U., & Rosenkranz, M. (2023). The impact of legal cannabis availability on cannabis use and health outcomes: A systematic review. The International Journal on Drug Policy, 116, 104039. https://doi.org/10.1016/j.drugpo.2023.104039

Meyer, M. (2021, December 22). Global ayahuasca trend drives deforestation in Brazil's Acre state. Mongabay Environmental News. https://news.mongabay.com/2021/12/global-ayahuasca-trend-drives-deforestation-in-brazils-acre-state/

Ministry of Health. (2020). Whakamaua: Māori Health Action Plan 2020–2025. https://www.health.govt.nz/publications/whakamaua-maori-health-action-plan-2020-2025

Moini, J., Koenitzer, J., & LoGalbo, A. (2021). The opioid epidemic. In J. Moini, J. Koenitzer, & A. LoGalbo (Eds.), Global emergency of mental disorders (pp. 401–418). Academic Press. https://doi.org/10.1016/B978-0-323-85837-3.00019-4

Morningstar, P. J. (1985). Thandai and Chilam: Traditional Hindu beliefs about the proper uses of cannabis. Journal of Psychoactive Drugs, 17(3), 141–165. https://doi.org/10.1080/02791072.1985.10472336

Narcotic and Psychotropic Substances Act 1985. https://narcoticsindia.nic.in/legislation/ndpsact.pdf

Natural Justice. (2020b, May 25). The Rooibos Access and Benefit-sharing Agreement. https://naturaljustice.org/the-rooibos-access-and-benefit-sharing-agreement/

Nolan-Isles, D., Macniven, R., Hunter, K., Gwynn, J., Lincoln, M., Moir, R., Dimitropoulos, Y., Taylor, D., Agius, T., Finlayson, H., Martin, R., Ward, K., Tobin, S., & Gwynne, K. (2021). Enablers and barriers to accessing healthcare services for Aboriginal people in New South Wales, Australia. International Journal of Environmental Research and Public Health, 18(6), 3014. https://doi.org/10.3390/ijerph18063014

Nosa, V., & Ofanoa, M. (2009). The social, cultural and medicinal use of kava for twelve Tongan-born men living in Auckland, New Zealand. Pacific Health Dialog, 15(1), 96–102.

Pardal, M., ed. (2023). The Cannabis Social Club. London and New-York: Routledge.

Pacific Trade Invest. (2021, December 2). Industry focus: Kava, the green gold of the Pacific. https://pacifictradeinvest.com/stories/focus/industry-focus-kava-the-green-gold-of-the-pacific/

Pego, C. M. (1995). Tobacco, culture, and health among American Indians: A historical review. American Indian Culture and Research Journal, 19(2), 152. https://escholarship.org/uc/item/2m07q7dr

Permanent Mission of Bolivia to the United Nations. (2009). Bolivia: Proposal of amendments by Bolivia to article 49, paragraphs 1 (c) and 2 (e). Depositary Notification. https://treaties.un.org/doc/Publication/CN/2009/CN.194.2009-Eng.pdf

Petrovska, B. B. (2012). Historical review of medicinal plants usage. Pharmacognosy Reviews, 6(11), 1. https://doi.org/10.4103/0973-7847.95849

Pew Research Center. (2006). The Supreme Court's decision in Gonzales v. O Centro Espirita: Unanimous court upholds group's right to use illegal drug in worship services. The Pew Forum on Religion & Public Life. https://www.pewresearch.org/wp-content/uploads/sites/7/2006/04/illegal-substance-decision.pdf

Pew Research Center. (2012). The global religious landscape: Hindus. https://www.pewresearch.org/religion/2012/12/18/global-religious-landscape-hindu/

Pietschmann T. A century of international drug control. Bull Narc. 2007;59(1-2):1-167. doi: 10.18356/4713aa6f-en. PMID: 21500740.

Pretorius, S. (2006). The significance of the use of ganja as a religious ritual in the Rastafari movement. Verbum et Ecclesia, 27(3), 1012–1030. https://doi.org/10.4102/ve.v27i3.199

Rahman, I. U., Afzal, A., Iqbal, Z., Ijaz, F., Ali, N., Shah, M., Ullah, S., & Bussmann, R. W. (2019). Historical perspectives of ethnobotany. Clinics in Dermatology, 37(4), 382–388. https://doi.org/10.1016/j.clindermatol.2018.03.018

Riboulet-Zemouli, K. (2022). High compliance, a lex lata legalization for the non-medical cannabis industry: How to regulate recreational cannabis in accordance with the Single Convention on narcotic drugs, 1961. FAAAT Editions. https://ssrn.com/abstract=4057428

Riboulet-Zemouli, K., Jeanroy, B. A. (2022). Treaty Compliance Options for Cannabis Regulations in the European Union: Models of decriminalisation and legal regulation compliant with International Law and EU acquis. Prague: Racionální politiky závislostí & CzecHemp. Available from https://www.researchgate.net/profile/Kenzi-Riboulet-Zemouli/publication/368487545_EU_Presidency's_Cannabis_Policy_Brief_Treaty_Compliance_Options_for_Cannabis_Regulations_in_the_European_Union/links/63eb8715eab072152f485847/EU-Presidencys-Cannabis-Policy-Brief-Treaty-Compliance-Options-for-Cannabis-Regulations-in-the-European-Union.pdf

Riboulet-Zemouli, K., & Krawitz, M. A. (2021). Voluntary contribution to INCB Guidelines on Medical Cannabis – due diligence, good faith, and technical concerns. FAAAT Editions. https://www.ohchr.org/sites/default/files/documents/issues/drug/cfi-hrc54-drug-policy/submission/subm-s-ohchrs-report-csos-faaat-mdc-13.pdf

Riboulet-Zemouli, K., & Krawitz, M. A. (2022). WHO's first scientific review of medicinal cannabis: From global struggle to patient implications. Drugs, Habits and Social Policy, 23(1), 5–21. https://doi.org/10.1108/DHS-11-2021-0060

Sadik, T. (2014). Literature review: Traditional use of tobacco among Indigenous peoples in North America. Chippewas of the Thames First Nation.

Santos, R. G. D., Bouso, J. C., Rocha, J. M., Rossi, G. N., & Hallak, J. E. C. (2021). The use of classic hallucinogens/psychedelics in a therapeutic context: Healthcare policy opportunities and challenges. Risk Management and

Healthcare Policy, 14, 901–910. https://doi.org/10.2147/rmhp.s300656

Schroeder, D., Chennells, R., Louw, C., Snyders, L., & Hodges, T. J. (2019). The Rooibos Benefit-Sharing Agreement – Breaking new ground with respect, honesty, fairness, and care. Cambridge Quarterly of Healthcare Ethics, 29(2), 285–301. https://doi.org/10.1017/s0963180119001075

Secretariat of the Convention on Biological Diversity. (2001). Theme: Access and benefit-sharing. https://www.cbd.int/abs/infokit/revised/web/factsheet-abs-en.pdf

Secretariat of the Convention on Biological Diversity. (2011). Convention on Biological Diversity. https://www.cbd.int/doc/legal/cbd-en.pdf

Shawanda, A. (2023). Pkwenezige (smudging ceremony): A First Nation right to ceremony. Asia-Pacific Journal of Canadian Studies, 29(1), 83–95.

Sheridan, N., Jansen, R. M., Harwood, M., Love, T., Kenealy, T., & Primary Care Models Study Group. (2024). Hauora Māori – Māori health: A right to equal outcomes in primary care. International Journal for Equity in Health, 23(1), 42. https://doi.org/10.1186/s12939-023-02071-6

Shortt, N., Martin, A., Kerse, K., Shortt, G., Vakalalabure, I., Barker, L., Singer, J., Black, B., Liu, A., Eathorne, A., Weatherall, M., Rademaker, M., Armour, M., Beasley, R., Semprini, A., & Medical Research Institute of New Zealand's Pharmacy Research Network. (2022). Efficacy of a 3% kānuka oil cream for the treatment of moderate-to-severe eczema: A single blind randomised vehicle-controlled trial. EClinicalMedicine, 51, 101561. https://doi.org/10.1016/j.eclinm.2022.101561

Thoricatha, W. (2018, October 28). History of psychedelics: How the Mazatec tribe brought entheogens to the world. Psychedelic Times. https://psychedelictimes.com/history-of-psychedelics-how-the-mazatec-tribe-brought-entheogens-to-the-world/

Times of India. (2017, February 23). Gujarat further tightens prohibition. https://timesofindia.indiatimes.com/city/ahmedabad/gujarat-further-tightens-prohibition/articleshow/57302748.cms

Turpin, G., Ritmejerytė, E., Jamie, J. F., Crayn, D. M., & Wangchuk, P. (2022). Aboriginal medicinal plants of Queensland: Ethnopharmacological uses, species diversity, and biodiscovery pathways. Journal of Ethnobiology and Ethnomedicine, 18(1). https://doi.org/10.1186/s13002-022-00552-6

Centro Espírita Beneficente União do Vegetal. (2023). Núcleos e distribuições. https://udv.org.br/organizacao/nucleos-e-distribuicoes/

United Nations. (1966). International Covenant on Civil and Political Rights. https://www.ohchr.org/sites/default/files/ccpr.pdf

United Nations. (1971). Status of treaties. Chapter IV. Narcotic drugs and psychotropic substances. https://treaties.un.org/pages/ViewDetails.aspx?src=TREATY&mtdsg_no=VI-16&chapter=6&clang=_en#EndDec

United Nations. (1976). Commentary on the Convention on Psychotropic Substances. https://www.unodc.org/documents/commissions/CND/Int_Drug_Control_Conventions/Commentaries-OfficialRecords/1971Convention/1971_COMMENTARY_en.pdf

United Nations Office on Drugs and Crime (UNODC). (2013). The International Drug Control Conventions: Single Convention on Narcotic Drugs of 1961 as amended by the 1972 Protocol, Convention on Psychotropic Substances

of 1971, United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988 with final acts and resolutions. United Nations. https://www.unodc.org/documents/commissions/CND/Int_Drug_Control_Conventions/Ebook/The_International_Drug_Control_Conventions_E.pdf

United Nations Environment Programme (UNEP). (2024) How a groundbreaking agreement could raise billions to protect the web of life. https://www.unep.org/news-and-stories/story/how-groundbreaking-agreement-could-raise-billions-protect-web-life

United Nations Office of the High Commissioner on Human Rights. (2024, March 14). The "war on drugs" has failed, says High Commissioner. https://www.ohchr.org/en/statements-and-speeches/2024/03/war-drugs-has-failed-says-high-commissioner

Uprety, Y., Asselin, H., Dhakal, A., & Julien, N. (2012). Traditional use of medicinal plants in the boreal forest of Canada: Review and perspectives. Journal of Ethnobiology and Ethnomedicine, 8(1). https://doi.org/10.1186/1746-4269-8-7

Waitangi Tribunal. (2019). Hauora: Report on stage one of the Health Services and Outcomes Kaupapa Inquiry – WAI 2575. https://forms.justice.govt.nz/search/Documents/WT/wt_DOC_195476216/Hauora%202023%20W.pdf

Walsh, J., & Jelsma, M. (2023). Coca chronicles: Bolivia challenges UN coca leaf ban. Washington Office on Latin America (WOLA). https://www.wola.org/analysis/coca-chronicles-bolivia-challenges-coca-leaf-ban/

Weiss, S. (2021, September 27). People are facing legal repercussions for serving plant medicine — here's what's being done to help them. DoubleBlind. https://doubleblindmag.com/ayahuasca-defense-fund/

World Health Organization. (2019). WHO global report on traditional and complementary medicine 2019. https://www.who.int/publications/i/item/978924151536

World Health Organization. (2023, August 10). Traditional medicine has a long history of contributing to conventional medicine and continues to hold promise. https://www.who.int/news-room/feature-stories/detail/traditional-medicine-has-a-long-history-of-contributing-to-conventional-medicine-and-continues-to-hold-promise

World Intellectual Property Organization. (2019). Documenting traditional knowledge – A toolkit. https://www.wipo.int/publications/en/details.jsp?id=4235

Williams, K., Romero, O. S. G., Braunstein, M., & Brant, S. (2022). Indigenous philosophies and the "Psychedelic Renaissance." Anthropology of Consciousness, 33(2), 506–527. https://doi.org/10.1111/anoc.12161

Wright, S. (2018, August 27). Uruguay's cannabis reform sparks re-evaluation of international drug regulations. Michigan State International Law Review. https://www.msuilr.org/msuilr-legalforum-blogs/2018/7/23/uruguays-cannabis-reform-sparks-re-evaluation-of-international-drug-regulations

Yehuda, R., & Lehrner, A. (2023). Psychedelic therapy: A new paradigm of care for mental health. JAMA; 330(9): 813–814. https://doi.org/10.1001/jama.2023.12900

Yuan, H., Ma, Q., Li, Y., & Piao, G. (2016). The traditional medicine and modern medicine from natural products. Molecules, 21(5), 559. https://doi.org/10.3390/molecules21050559

Indigenous Use of Controlled Plants and Fungi

Tū Wairua, 2025

An Overview of International Frameworks and Practices, with Recommendations for Māori, Regulators and the Public