



The Asian Cannabis Report™

MAY 2019



PROHIBITION
PARTNERS

About Prohibition Partners



Advancing the global cannabis industry.

Data, analytics and business intelligence on the international cannabis industry.

ABOUT US

Prohibition Partners was founded in 2017 with a mission to open up the international cannabis industry through reliable data and intelligence. Within two years, we have become the world's leading provider of market insights and strategic consultancy for this emerging frontier. We firmly believe that data, insights and education will unlock the societal and commercial potential of cannabis. Our research and content teams routinely share the latest legislative developments and key trends in the industry - information that is regularly cited by political leaders, investment banks and Fortune 500 companies. Our consultancy team works with investors, operators and regulators to identify and execute opportunities across multiple jurisdictions. We advise our private clients on licensing, regulatory and business opportunities.

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PROHIBITION PARTNERS TEAM:

Our research and content teams routinely share the latest legislative developments and key trends in the industry—information that is regularly cited by political leaders, investment banks and Fortune 500 companies.



Daragh Anglim
Managing Director



Alexandra Curley
Head of Insights



David Attwood
Head of Consulting



Eoin Keenan
Head of Content

CONTACT DETAILS:

London

A: PP Intelligence Ltd, 33 Foley Street,
W1W 7TL, London, United Kingdom
E: info@prohibitionpartners.com
T: +44 020 7409 5042
TW: @prohibition_p

Barcelona

A: Carrer d'Estruc 9, 08002,
Barcelona, Spain
E: info@prohibitionpartners.com
T: +34 936 818 019
TW: @prohibition_p

Dublin

A: 23, Trinity Technology & Enterprise
Campus, Grand Canal Dock, D02 WR66,
Dublin, Ireland
E: info@prohibitionpartners.com
T: +353 87 1200539
TW: @prohibition_p

PARTNERSHIP OPPORTUNITIES



Prohibition Partners is the number one source for data and information on established and burgeoning cannabis markets. Read by over 150,000 global cannabis investors and entrepreneurs, and creating more than 6 million social impressions annually, Prohibition Partners produces thought-leading industry reports and we are seeking partners to support with the content, promotion and distribution of the report.

This is a unique opportunity to promote your business to key players in the cannabis industry, particularly those who have a keen interest in the cannabis market. As companies and investors scramble to get a foothold in the market, this is an invaluable opportunity to put your brand front and centre in one of the industry's most influential reports.



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**“
Cannabis
is winning
everywhere.
It is just a question
of time. We will
see the same
in Asia.”**

Viki Vaurora,

Founder of The Great Legalisation Movement, India



INTRODUCTION

Our inaugural issue of The Asian Cannabis Report™ takes a deep dive into the many commercial and entrepreneurial opportunities in the cannabis industry in the world's most populous region. Our exclusive and comprehensive research shows that parts of Asia are on the cusp of embracing the advantages of medical cannabis. We calculate this market alone could be worth as much as US\$5.8 billion by 2024.

Countries in Asia already benefit from an ancient cultural and religious relationship with cannabis, used in ayurvedic medicine and holy festivals. Research from our team of analysts indicates that over the next five years, Asia will cast aside decades-old prohibition policies as global blueprints accelerate the production of safe, regulated cannabis industries worldwide. We anticipate Asia will also be influenced by new international legislation and regulation which has swung in favour of legal cannabis in Europe and the North America.

Just as China has established its global dominance in hemp, countries in Asia will exploit climatological advantages and pro-business frameworks to diversify their economies and become significant players in industrial cannabis production and hemp-derived cannabidiol (CBD).

As The Asian Cannabis Report™ demonstrates, historic legislative changes are already afoot. In Thailand, the legalisation of medical cannabis was made official by royal decree in February 2019. In Malaysia, in February 2019, the health ministry stated that it would consider allowing the use of medical cannabis. Governments in other countries are also debating a switch from a law enforcement approach to one which treats drugs as a public health issue.

Over 100 pages of analysis and insights, The Asian Cannabis Report™ highlights the innumerable business, research and legislative opportunities available to lawmakers, industry leaders and entrepreneurs. Once an area of criminalisation and taboo, Asia's emerging cannabis industry now presents one of the most valuable business and medical opportunities of the last decade.

Daragh Anglim
Managing Director
Prohibition Partners





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EXECUTIVE SUMMARY



ur first report on the Asian cannabis industry explores the intersection of government policy and research and the impact of international legislative

developments on the region's burgeoning cannabis industry. While some countries still take a draconian view and impose the death penalty for even minor drug misdemeanours, others, such as Myanmar, are working closely with the UN to change the approach of law enforcement agencies to regard drugs as a public health issue rather than one for the criminal justice system.

As our report demonstrates, cannabis use is deeply rooted in some of the region's ancient medical practices, and we expect to see medicinal cannabis gain favour ahead of any acceptance of recreational.

Just as China has established global dominance in hemp, producing nearly half the world's supply, we expect the region to become a major player in industrial cannabis and in hemp-derived cannabidiol (CBD).

Home to some 4.5 billion inhabitants and the fastest growing economy for the next decade, Asia is the world's most populous region. With a sizeable population and rising standards in education come valuable market opportunities, and the international cannabis industry is keeping a close eye on legislative developments throughout the region.

These major developments include:

- In Thailand, the legalisation of medical cannabis was officialised by royal decree in *The Royal Gazette* on 18 February 2019. Recreational cannabis, however, remains illegal.
- In Malaysia, in February 2019, the health ministry stated that it would consider allowing the use of medical cannabis. Deputy Health Minister Dr Lee Boon Chye said: 'If there is enough information to show it [medical cannabis] is safe and effective for use for certain conditions, then the ministry will be able to consider based on the particular indication.'
- Under the zero-tolerance policies of President Rodrigo Duterte, recreational cannabis remains illegal in the Philippines, whilst medicinal cannabis is governed by the *Compassionate Medical Cannabis Act*. This means that it can be accessed only through a licensed Medical Cannabis Compassionate Centre within a hospital. Patients require authorisation from a doctor to be eligible to receive treatment for conditions such as arthritis, epilepsy, cancer, HIV and multiple sclerosis (MS).
- In Laos, it is unlikely that medical cannabis will be legalised in the near future. In November 2018, the government published the new *Penal Code*, which increased penalties and stipulated additional acts that constitute offences. Laos continues to enforce the death penalty for certain crimes, in stark

contrast to neighbouring nations such as Cambodia and the Philippines, which have abolished the punishment.

The legislative history of Asia:

Historically, Asia's legal systems have been influenced by British rule, the geopolitical footprint of the US and the international community, with pressure being applied on countries to adhere to international treaties such as the *International Opium Convention*.

“Asia is widely regarded as having conservative attitudes towards drugs.”

The convention was revised in 1927 to include cannabis as a prohibited substance.

Shortly after, a wave of countries in Asia began to take a zero-tolerance approach to cannabis and other substances. Indonesia first banned cannabis in 1927 while under Dutch colonial rule; Thailand criminalised it in 1935; and other nations, including Japan and South Korea, followed with their own *Cannabis Control Acts*. As the global war on drugs intensified, countries felt pressure to sign the *Single Convention on Narcotic*

Drugs of 1961, and the US provided legislative and field support throughout the 1960s and 1970s to prevent the cultivation of cannabis in the region, most notably in Vietnam and Afghanistan. In more recent decades, crop substitution schemes have been rolled out in countries such as Pakistan and Afghanistan to encourage local economic alternatives to cannabis farming.

While North America, Europe and Oceania increasingly look to the economic and societal benefits of cannabis, for the moment at least, Asia is widely regarded as having conservative attitudes towards drugs.

In contrast, some countries, for example, South Korea, Japan and China, have adopted such a strict approach to cannabis that, in the face of legalisation in North America, they have reminded citizens not to indulge even if they are in a country where cannabis is legal. More recently, the *World Health Organisation* (WHO) has proposed that cannabis be rescheduled to take into account the mounting evidence of its medical benefits. Any push to reschedule cannabis will need to take into consideration the region's fight against organised crime and corruption, as well as the legislative imprint of religion in countries such as Pakistan and China. In our view, while Asian investors and start-ups continue to keep an eye on legal developments in Europe and North America, Western-based cannabis companies are getting ready to explore new opportunities in the Asian market.

As Asia is culturally, religiously and politically diverse, the journey to legalisation of cannabis will be as varied as the countries themselves are. Cannabis has long held a place in traditional medicines across the region; it has been used in Ayurvedic medicine in India to treat a range of conditions from blood pressure to skin conditions and glaucoma and in China, cannabis seeds were recorded in ancient medical texts as long as 2,000 years ago. It is clear that the reason for outlawing cannabis in the region came from international pressure rather than from within indigenous governments, although local religious groups will have had a bearing in directing debates about public morality.

Asia is also heavily influenced by its large Muslim, Hindu and Buddhist populations. Buddhism views mind-altering substances as a hindrance to enlightenment, meaning that Buddhist states such as Bhutan are unlikely to legalise recreational and possibly medicinal cannabis in the foreseeable future. In contrast, Buddhist-majority Thailand has elected to legalise medical cannabis while still keeping recreational cannabis illegal.

Some countries have even sought to find a compromise, with India preserving cultural traditions by ensuring that the leaves and seeds of the cannabis plant were omitted from the 1961 treaty.

However, as our report explains, there are uses for the cannabis plant outside of the recreational and medicinal sectors. Cannabis is

listed in the Kingdom of Bhutan as a product of economic importance and it is of increasing significance to a number of Asian countries. Large amounts of hemp are grown commercially in China, India, Nepal, South Korea and Thailand. India has a growing number of agricultural training programmes and practices across the farming communities that are committed to spreading knowledge about hemp with the aim for all cultivated hemp to contain less than 0.3% tetrahydrocannabinol (THC).

China's hemp production is thriving in the Yunnan and Heilongjiang provinces, accounting for about half of the world's legal commercial croplands, according to the *National Bureau of Statistics*.

Therefore, although consumption of cannabis may remain at odds with religious and cultural beliefs in some Asian countries, the use of hemp for non-consumable items such as fibre, textiles, rope and netting indicates the potential for a booming industry, which could provide ancillary jobs and taxes throughout the region.

”

**In China,
cannabis seeds
were recorded in
ancient medical
texts as long as
2,000 years ago.**



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METHODOLOGY

The market sizing contained within this report assumes that by 2024 all the countries profiled here will have legalised medical cannabis and that, in the same timeframe, all countries (with the notable exception of China) will have regulated its recreational use. It is our view that Moore's law is currently at play within the global cannabis industry; consumer and business momentums are building pace and reaching a critical mass. At Prohibition Partners, we anticipate that medical cannabis consumption in Asia (as a percentage of the population) will increase faster than seen in other early-adopter nations and regions.

Market size and segmentation have been calculated following extensive analysis of the dynamics and performance of fully regulated cannabis markets in other countries, including Uruguay, Canada and some states in the US.

Quantitative analysis of socio-economic data, consumption trends, cannabis requirements and pricing has been informed by a wide range of reputable datasets including, but not limited to, the *World Health Organisation* (WHO), *United Nations Office for Drug Control* (UNODC), the *World Bank*, the *Organisation for Economic Co-operation and Development* (OECD) and the *International Narcotics Control Board* (INCB).

Our qualitative intelligence collects the most authoritative information from published reports and papers from the world of

academia, business and medicine. We also draw on a range of research techniques, including digital tracking, discourse analysis and in-depth interviews and verification with our international network of industry experts.

The 'Commercial Opportunities' section of each country profiled represents our best estimate of market size, segmentation and future performance. However, market size, segmentation and performance, as well as cannabis prevalence and consumption volume, may change as new legislation is introduced in each country and more data becomes available.

MEDICINAL

The medicinal market-size estimates and forecasts contained within this report include medical and pharmaceutical cannabis. They represent a calculation of average price per gram of cannabis multiplied by expected usage, multiplied by estimated potential patient population. The price per gram of medicinal cannabis differs from street value costs and has been modelled on post-legalisation pricing trends from a number of other legal medical markets. This has been factored into the future market-size calculations with price modelling incorporated into year-on-year forecasts.

Our figures for patient numbers have been modelled on existing markets where medicinal cannabis has already been legalised and regulated. As individual countries allow different medical conditions to be treated, the figures not calculated simply as the sum of patients who suffer from qualifying conditions.

Value forecasts can include pharmaceutical and CBD medical products.

RECREATIONAL

Our study of the recreational cannabis market sizes in Asia takes into account existing black markets. Taking the UNODC prevalence figures as a starting point, our calculations have been arrived at by multiplying average annual consumption and average prices for cannabis.

Individual growth rates have been modelled on existing trends seen around the world, and pricing trends have been informed by research published in more mature markets. We have also taken into account the impact of legalisation and regulation on the average cost per gram on the black market.

We have assumed that in future years the price per gram of cannabis will either be the same or lower than the most recently available pricing data.

MARKET VALUE

For the purposes of this report, medicinal market sizes include those for pharmaceutical cannabis and medical cannabis sold in the form of flowers, oils, topicals, etc. Please note that the market value estimated is the sum total of markets profiled within this report, and not that of the entire continent.

LEGALITY

Our research shows that a simple 'legal' or 'illegal' classification of cannabis is inadequate and at times misleading. For this reason, we have introduced a new scale of legality for each country profiled, defined as follows:

**LEGAL,
with an established formal
access programme**

**LEGAL,
but no formal access
programme**

**TECHNICALLY LEGAL,
but not legally available**

**ILLEGAL TO CONSUME,
but legal to cultivate
(with licence)**

**ILLEGAL,
but decriminalised**

**ILLEGAL,
but unenforced**

ILLEGAL

DEFINITIONS

MEDICINAL CANNABIS

Medicinal cannabis refers to both medical and pharmaceutical cannabis products. Please see definitions below for more detail.

MEDICAL CANNABIS

Medical cannabis refers to plant-based or plant-derived cannabis products prescribed by a medical practitioner for the treatment of specific conditions or diseases such as epilepsy, pain or MS. Medical cannabis uses the whole unprocessed plant, the processed plant or the chemicals contained within it. It can include high levels of CBD and low levels of THC (the psychoactive property of the cannabis plant) products, though CBD products may also appear as consumer goods. Medical cannabis products are currently prepared as plant materials, oils, tinctures, edibles or capsules.

PHARMACEUTICAL CANNABIS

For the purposes of this report, pharmaceutical cannabis refers to products formulated using pure cannabinoids (either plant-extracted or synthetic) that have been through full clinical trials and are licensed as a medicine. Examples of such products include Sativex, Epidiolex, Cesamet, Marinol and Syndros.

RECREATIONAL CANNABIS

Recreational cannabis refers to any cannabis used for non-medical purposes and includes products available on the black market. Recreational cannabis ordinarily has a higher concentration of THC. It is illegal in many countries and states. People tend to smoke recreational cannabis, use it in the form of oils and vaporiser products or consume it in edible form. For the purposes of this report, recreational cannabis users are assumed to be over the age of 15.

CBD

Throughout this report, reference is made to CBD. While there is an emergent market for CBD-infused consumer goods, capsules and oils, these have been excluded from the market-size calculations due to a lack of available sales data. Although these products may be used for wellness purposes, such as aiding sleep, for pain or for anxiety management, they do not require a prescription and have, therefore, been excluded from the medicinal market sizing.

HEMP

Hemp refers to a variety of the cannabis sativa strains cultivated specifically for fibre used for clothing and construction materials, for oils and topical ointments, as well as for nutritional benefits and a wide variety of other purposes, all of which do not cause any side effects.

ASIAN INSIGHTS

1

From widespread use to Western-style prohibition – Asian nations have been heavily influenced by the international community. Cannabis was largely legal and used in traditional medicines until the 1930s. The US was a key player in the prohibition of cannabis in the region in the 1960s and 1970s, but as attitudes in the US have now changed, Asia needs to keep up or risks being out of step with the international community.

2

Protecting intellectual property – patenting hybrids is big business in the West, but in Asia it is forbidden to patent living organisms. Although this might be out of kilter with developed cannabis markets elsewhere, safeguarding the cannabis plant in Asia will be key to preventing neo-colonialism within the industry.

3

Softening attitudes towards legalisation – a number of Asian nations have traditionally held a zero-tolerance view on drug use. However, under the guidance of the UN, countries such as Myanmar are increasingly moving closer to countries such as New Zealand in regards to viewing cannabis use as a public health issue rather than one requiring engagement with the criminal justice system. This softening of attitudes could help to make the region more open to the legalisation of recreational cannabis in the medium to long term.

4

New laws could unleash a new Asian economy – There has been a global increase in the number of medical applications of cannabis, and in early 2019 the WHO proposed that cannabis should be rescheduled within international law. This marks a significant U-turn on a doctrine that has been codified in international and local laws for the past 60 years and could be the key to fast-tracking legalisation of Asia's medicinal cannabis market.

5

The importance of hemp – China is the world's largest producer of hemp, and its crops make up almost half of the global legal hemp market. Hemp cultivation is also legal in India. Fears over nuclear poisoning in the aftermath of the 2011 Fukushima reactor accident in Japan means that South Korea has developed an interest in hempseed as a substitute for fish protein after its citizens became wary of eating fish. Outside of the medicinal or recreational markets, hemp could be where Asia leads the world in the short term.

6

Patent protection – We see huge potential for a range of businesses and investors in Asia in areas of patent protection. China holds 309 of the current 606 international cannabis-related patents that have been filed, including methods of administering the drug, according to data from the United Nations' *World Intellectual Property Organization* (WIPO).



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MARKET OVERVIEW

KEY STATISTICS FOR THE ASIAN CANNABIS INDUSTRY



ESTIMATED POPULATION, 2019

4.5BESTIMATED CANNABIS USERS,
2018 (AGED 15–64)**85.5M**ESTIMATED NO. CANNABIS
PATIENTS, 2024**>1.6M**TOTAL ESTIMATED CANNABIS
MARKET VALUE, 2024****US\$>8.5B**

GDP, 2018

US\$28.2TESTIMATED MEDICAL CANNABIS
MARKET VALUE, 2024****US\$>5.8B**TOTAL HEALTHCARE
EXPENDITURE, 2014***US\$2.6T**ESTIMATED RECREATIONAL
CANNABIS MARKET VALUE, 2024****US\$>2.7B**TOTAL PHARMACEUTICAL
EXPENDITURE, 2014***US\$517B**

*WHO 2014 Health Atlas

**Estimates assume that by 2024 all countries in the region will have legalised medical cannabis and all (with the exception of China) will have regulated recreational use.

Source: World Bank/ UNODC/ Prohibition Partners



In terms of both land mass and population, Asia is the largest continent in the world. Comprising over 48 countries, the region covers some 17 million square miles with a population of almost 4.5 billion. For the purposes of this report, we follow the regional breakdown as prescribed by the OECD.

The region is divided as follows:

◆ SOUTH ASIA

Afghanistan, Bangladesh, Bhutan, India, Iran, the Maldives, Nepal, Pakistan, Sri Lanka

◆ EAST ASIA

China, Hong Kong, Japan, Macau, Mongolia, North Korea, South Korea, Taiwan

◆ SOUTHEAST ASIA

Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, Timor-Leste, Vietnam

◆ WESTERN ASIA

Armenia, Azerbaijan, Bahrain, Cyprus, Georgia, Iraq, Israel, Jordan, Kuwait, Lebanon, Oman, Palestine, Qatar, Saudi Arabia, Syria, Turkey, United Arab Emirates (UAE), Yemen

◆ CENTRAL ASIA

Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan

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2019

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OF MEDICAL CANNABIS IN EUROPE.**

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The cannabis plant, thought to be one of the earliest plants cultivated in the region, grows widely across Asia and is indigenous to Central and South Asia. Both medicinal and recreational cannabis remain illegal in the majority of Asian countries; however, cannabis is widely used and there are indications that there is a significant shift underway towards legalisation in a number of countries.

The ever-widening acceptance and decriminalisation, or legalisation, of cannabis across global markets, particularly in North America, may be one of the key factors behind the future relaxation of both attitudes and laws in South and Southeast Asia. Examples include Thailand's recent legalisation of medical cannabis and Iran's sometimes progressive approach to drugs, which penalises traffickers rather than users.

In Sri Lanka, cannabis prohibition was initially introduced by the British, who colonised Ceylon (as it was then known) in the late nineteenth and early twentieth centuries.

Cannabis restriction in Malaysia dates back to an era before independence from Britain in 1957 and the *Dangerous Drugs Ordinance* 1952. Following their acquisition of Dutch Malacca in 1824, the British raised taxes on the production of cannabis (referred to locally as 'bhang').

UPDATING LAWS

With a number of Asian countries in East and Southeast Asia already taking steps to decriminalise medical cannabis, the region is thought to be on course to become a major global production and supply hub.

Thailand, Singapore and China are all pursuing research into the healthcare applications of cannabis. Elsewhere, Malaysia, historically recognised as having some of the most severe penalties worldwide for cannabis possession, trafficking and use, has also shown a recent shift in official attitudes:

- Last year, a young Malaysian man sentenced to death by hanging for selling medical cannabis oil to patients was taken off death row. The case has prompted a national dialogue about the death penalty, and last September the Malaysian government was reported to be considering revising existing laws to allow the medical use of cannabis.
- In October 2018, Malaysia's Minister for Legal Affairs, Liew Vui Keong, stated the government intended to abolish capital punishment – including for drug-related violations – adding that where drugs such as cannabis were being used to treat cancer patients, their status would also be reviewed. The promise to abolish the death penalty has since been revised. The government now says the death penalty will not be mandatory for 11 offences, but courts will have discretion to impose such sentences for those crimes. In a major legislative step forward, South Korea's legalisation of medical cannabis came into effect on 12 March 2019; however, there are currently no plans to fully legalise the cannabis market. Indeed, following Canada's legalisation of recreational cannabis use in October 2018, South Korea followed Japan in warning its citizens against smoking cannabis in Canada, saying it was still an offence under South Korean law.
- Thailand's legalisation of cannabis for medical purposes has drawn attention to the potential for exploitation of the new law, and the government has taken steps to warn the public that the general use of cannabis is still strictly illegal. In addition, aspects of the new law remain unclear, specifically those pertaining to requirements for obtaining medical licences, and also the actual diseases that cannabis may be prescribed for. It is feared that this may leave the legal framework open to abuse and lead to a black market for medical cannabis prescriptions.

UPCOMING CHANGES

There are also signs of change in Singapore:

- In February 2019, the government announced its intention to allow the legal sale and use of pharmaceutical products containing cannabinoids. The Ministry of Home Affairs and the Ministry of Health clarified their position in a joint statement, which said: It is important to differentiate between products containing unprocessed or raw cannabis and pharmaceutical products containing cannabinoids.
- In January 2018, Singapore's *National Research Foundation* (NRF) announced a new five-year US\$18.2 million (25 million Singapore dollars) synthetic biology research initiative, which also includes a Synthetic Cannabinoid Biology Programme that aims to identify cannabinoid genes for the sustainable production of medicinal cannabinoids, without needing to cultivate the plant.

The government of India is in early discussions about whether to legalise the medicinal cannabis market. An Indian non-profit group called the *Great Legalisation Movement* (GLM) has harnessed social media and recruited ambassadors across the country to push for meaningful reform to aid the use of cannabis in Ayurvedic treatment.

In 2018, Sri Lanka launched its first plantation to produce cannabis for medical use locally and also for export to the US. The 100-acre farm, located in the Anuradhapura and Polonnaruwa districts, is estimated to produce more than 25 tonnes of cannabis a year.

UNLIKELY TO LIBERALISE

Despite the positive steps that have been taken toward legalisation and/or decriminalisation, the Asian cannabis market cannot, in any sense, be considered liberalised. In January 2019, Saudi Arabia (Western Asia) executed one Pakistani national and two Egyptians who had been caught smuggling heroin. Other countries such as the UAE, Qatar, Kuwait and Bahrain still enforce strict anti-drugs legislation.

In addition, elements of new laws in a number of countries still lack clarity:

- President Rodrigo Duterte of the Philippines has unleashed a violent war on drugs that has been criticised by human rights groups worldwide. Government data indicates that approximately 5,000 people have died in operations related to the crackdown. In March 2019, Duterte withdrew his support for the legalisation of medical cannabis, reversing his previous stance, and said that while legalisation might go ahead it would not happen during his time in office.

MEDICINAL



Estimated market value

US\$>5.8b (2024)

Asia is on track to have the oldest population in the world in the next few decades. Japan currently has the largest population of elderly people at 33.1% and this is set to bring about an unprecedented rise in healthcare costs in the long term. A high incidence of smoking and obesity throughout Asia will further compound demand for effective healthcare. The region's spending on healthcare is estimated to reach US\$2.7 trillion by 2020.

Medicinal cannabis is legal in approximately only one in five of the region's countries, but within the last year significant developments have included legalisation, the launch of medicinal cannabis plantations, and investment into research to investigate the therapeutic benefits of cannabis. In this respect, Malaysia, Thailand, Sri Lanka, Singapore and South Korea are at the vanguard of change in the region.

South Korea has taken steps to allow imports of cannabis-derived medicines that have already been approved for use overseas. In July, state-sanctioned clinical trials to test cannabis oil in sublingual drop format on selected patients suffering from chemotherapy-induced nausea and vomiting (CINV) are planned to begin in Thailand. These developments all suggest that the availability of medicinal cannabis could experience a significant leap forward in 2019 and beyond.

Prohibition Partners estimates that the Asian medicinal cannabis market could be worth an estimated US\$5.8 billion by 2024, assuming that it is legalised in the countries profiled in this report within this timeframe. China and Japan would be the biggest value markets accounting for an estimated 75% share in 2024. However, according to our analysis, this estimate could quadruple by 2027.

RECREATIONAL




Estimated market value

US\$>2.7b (2024)

In Western markets, recreational cannabis is expected to outperform medicinal cannabis in market forecasts, but in Asia the opposite is likely to be true. With an estimated value of US\$2.7 billion in 2024, legal recreational cannabis is predicted to account for less than half of the value of the medicinal market in the same year. This is largely owing to the proliferation of legislation against the recreational use of cannabis in the region. However, if cannabis was to become legalised for recreational use in countries such as India, the market forecast would be substantially higher. Assuming prevalence rates remain unchanged from current estimates (0.4% in China, 0.3% in Hong Kong and 0.5% in Macau), the Asian market for recreational cannabis could be worth some US\$18.6 billion in 2024.

With harsh punishment for drug possession, cultivation and trafficking, Asian nations are unlikely to be as accepting of recreational cannabis, but they may be more likely to accept medicinal cannabis if it is supported with evidence-based research (something Singapore's government has invested millions in).

One glimmer of hope for players in the recreational cannabis space is that a number of countries in Asia banned cannabis mostly because of Western influence. It is highly possible that as Asian markets mature and governments grow more confident, attitudes towards cannabis will alter the course of legislation in the region once more.



”
At 2% of the total
population, the
prevalence of
cannabis use is
low in the region;
however, this is
the equivalent of
an estimated 85.5
million people.

Alexandra Curley,
Head of Insights, Prohibition Partners

CBD

China makes up a large segment of the global CBD market and the country is exploring the potential of hemp strains with high CBD. The country's *Yunnan Academy of Agricultural Sciences* has been promoting the cultivation of hemp for pharmaceutical use and has developed a host of new cultivars with the goal of maximising CBD yields. More Chinese farmers are producing hemp in order to extract CBD, and the number of new specially developed high-CBD cultivars is on the rise in the country.

In 2016, Japan legalised CBD oil, but it was only in 2018 that the company—*Elixinol*—was first allowed to advertise its product. While CBD oil is legal in Japan, products made in the country or legitimately imported for the Japanese market must contain less than 0.3% THC.



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HEMP

Hemp is commercially produced in China, India, Nepal, South Korea and Thailand. Japan is currently piloting hemp production.

China is the largest global exporter of hemp paper and textiles. In 2016, Chinese authorities began formally regulating hemp production, with the bulk of cultivation located in the Shandong and Yunnan provinces. A very small part of its cultivation is used for hemp-derived CBD. Chinese authorities have currently publicised a campaign to increase the amount of land under cultivation, not only to reduce financial dependence on cotton as a cash crop, but also to provide much-needed work for the rural labour force.

Hamme Investment Group states in an article on their website that total hemp under cultivation in China reached almost 82,000 acres in 2017. According to the *China Agricultural Statistical Yearbook* and the statistics of the *UN Food and Agriculture Organization (FAO)*,

China has become the largest industrial cannabis planting area, accounting for about half of the world's legal commercial cropland under hemp cannabis cultivation.

In India, hemp production is legal with a licence only. The Indian authorities issue licences to cultivate hemp for fibre; the use of hemp seeds and flowers is not yet legalised in India. So far, only two regions in India have received hemp cultivation licences – Uttar Pradesh and Uttarakhand, both in northern India.

Hemp Trade (kg)	1997		2007		2017	
	IMPORT		EXPORT		IMPORT	
CHINA	220,722	308	136,742	3,140	96,492	469,404
HONG KONG	308	3,386	2,094	7,500	0	3,888
INDIA	1,589	0	22,393	76	3,660	0
JAPAN	339	71,984	2,409	273,158	97	22,115
MALAYSIA	0	0	0	8,055	0	0
S. KOREA	230	75,635	1,956	38,480	11,615	0
THAILAND	820	152	0	5	0	2,300
VIETNAM	0	1,250	0	8,331	975	0

Source: UN Comtrade

LEGISLATION AND REGULATION

OVERVIEW

Our analysis shows that 2019 has all the hallmarks of being a significant year for the cannabis industry in Asia. It is our view that this year will mark a turning point in Asia's legal cannabis industry, most notably medicinal cannabis. Throughout 2018, a number of countries took steps to either legalise medicinal cannabis, fund research into the benefits of cannabis or begin cultivating cannabis for scientific and research purposes. Thailand, South Korea, Malaysia and Singapore are leading the way, although other countries such as Myanmar have softened their approach to drug crime.

In Thailand, clinical research trials are scheduled to start this year, and cannabis-based medicines that have been approved in Western markets such as the US, UK and Australia are gaining a foothold in the region.

Some countries have bowed to international pressure to relax the penalties for those falling foul of drug laws. Israel decriminalised recreational cannabis in April 2019, but other countries, such as Saudi Arabia, continue to enforce strict penalties.

LEGAL STATUS

Pharmaceutical Cannabis

Pharmaceutical cannabis refers to products formulated using pure cannabinoids (either plant extracted or synthetic) that have been through full clinical trials and licensed as a medicine. Pharmaceutical products containing cannabinoids are permitted, providing that there is evidence that they are viable treatment options and that they are dispensed in a safe and controlled environment.

Medical Cannabis

Medical cannabis refers to plant-based or plant-derived cannabis products prescribed by a medical practitioner. Medical cannabis products are prepared as plant materials, oils, tinctures, edibles or capsules. Medical cannabis is not widely available in Asia, but there is a growing openness to exploring it as an option.

Recreational Cannabis

Recreational cannabis refers to any THC cannabis used for non-medicinal purposes. Currently illegal across all of Asia, it is tolerated or has been decriminalised in three of the region's countries.

CBD

Cannabis (THC <0.3%) and hemp are widely used across Asia, making cannabis a 'fibre of economic importance' in some of the region's countries. Furthermore, CBD is commonly used in Traditional Chinese Medicine.



”

A number of countries in Asia banned cannabis as a result of Western influence, and the sea-change in Western attitudes towards the drug could alter the course of legislation in the region once more.

Daragh Anglim,
Managing Director, Prohibition Partners

Medicinal (Pharmaceutical and Medical)

The past 24 months have seen significant developments in the legislation surrounding medicinal cannabis in Asia.

- Thailand has legalised medicinal cannabis and, in February 2019, the country's governmental pharmaceutical agency unveiled its first legal cannabis greenhouse in the Pathum Thani province.
- In November 2018, South Korea's National Assembly approved an amendment to the *Narcotics Control Act* to make provisions for medical cannabis. The law came into effect in March 2019.
- The Ministry of Health in Malaysia has also demonstrated commitment to moving legislation forward, and in early 2019 formally announced that it was considering legalising medicinal cannabis.
- In March 2019, Japan approved the cannabis compound Epidiolex for clinical trials in epileptic patients with Dravet and Lennox-Gastaut syndromes.

Other countries across the region have been reviewing their positions, with the Singaporean government clarifying its stance on pharmaceutical cannabis in 2019. The country maintains its zero-tolerance policy against drugs, but is considering legalising cannabis provided it is used as an evidence-based medical treatment option.

Recreational

Recreational cannabis remains largely illegal across the region, but demand for synthetic cannabis is on the rise, and it has been reported that in Japan the use of synthetic cannabinoids ('dappo habu' or 'herbs that skirt the law') is on the increase. As seen in other regions, the lack of public awareness regarding the harmful effects of synthetic cannabinoids has led to accidental deaths and public warnings about consumption.

Our analysis indicates Western Asia is more progressive with regard to its laws on recreational cannabis, which has been decriminalised or legalised in Georgia and Armenia, tolerated in Lebanon, and decriminalised in Israel in April 2019.

CBD and Hemp

CBD oils, including hemp-based CBD, are legal in China and are widely used in traditional Chinese medicines. Even in countries where the consumption of cannabis is illegal, hemp is regarded as a crop of economic importance. Its use in textiles, netting and ropes is prevalent across the region, although given current consumer trends in the West, demand is likely to be higher for CBD than it is for hemp.

Growing interest in environmentally friendly building materials has seen demand for hempcrete increase and, with China's dominance as the world's leading producer of hemp, the region is set to benefit from a boom in demand. Additional uses for hemp, such as biodiesel or hemp fuel (which can be made from the oils in hemp seeds and stalks), and alcohol fuel (which is made by fermenting the whole plant), may help boost taxable incomes to the region.

LEGAL STATUS OF CANNABIS

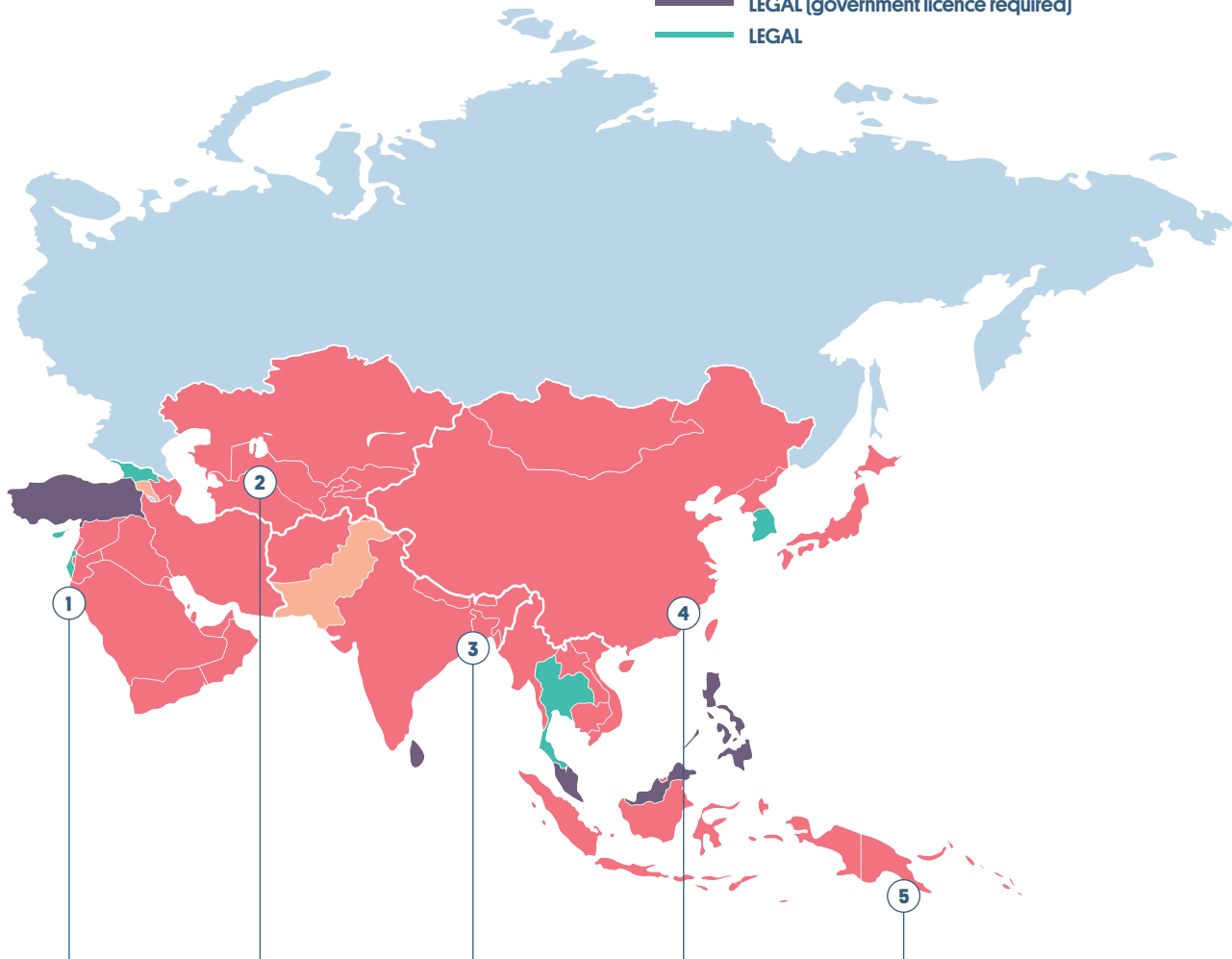
The following maps provide a headline overview of the legal status of cannabis across South, East and Southeast Asia.

- A legal market may range from one where cannabis is technically legal, but not legally available; legal, but with no formal access programme; or it may be fully legal and regulated with a formal access programme.
- An illegal market may refer to illegal; illegal, but decriminalised and not regulated; or illegal to consume, but legal to cultivate.

Legal Status of Cannabis in Asia, by Subregion

✚ Medicinal

- ILLEGAL
- ILLEGAL (government licence is required for cultivation of cannabis for medical, scientific or industrial use)
- LEGAL (government licence required)
- LEGAL



WESTERN ASIA

- Armenia
- Azerbaijan
- Bahrain
- Cyprus
- Georgia
- Iraq
- Israel
- Jordan
- Kuwait
- Lebanon
- Palestine
- Qatar
- Saudi Arabia
- Syria
- Turkey

CENTRAL ASIA

- Kazakhstan
- Kyrgyzstan
- Tajikistan
- Turkmenistan
- Uzbekistan

SOUTH ASIA

- Afghanistan
- Bangladesh
- Bhutan
- India
- Iran
- The Maldives
- Nepal
- Pakistan
- Sri Lanka

EAST ASIA

- China
- Hong Kong
- Japan
- Macau
- Mongolia
- North Korea
- South Korea
- Taiwan

SOUTHEAST ASIA

- Brunei
- Cambodia
- Indonesia
- Laos
- Malaysia
- Myanmar
- Philippines
- Singapore
- Thailand
- Timor-Leste
- Vietnam

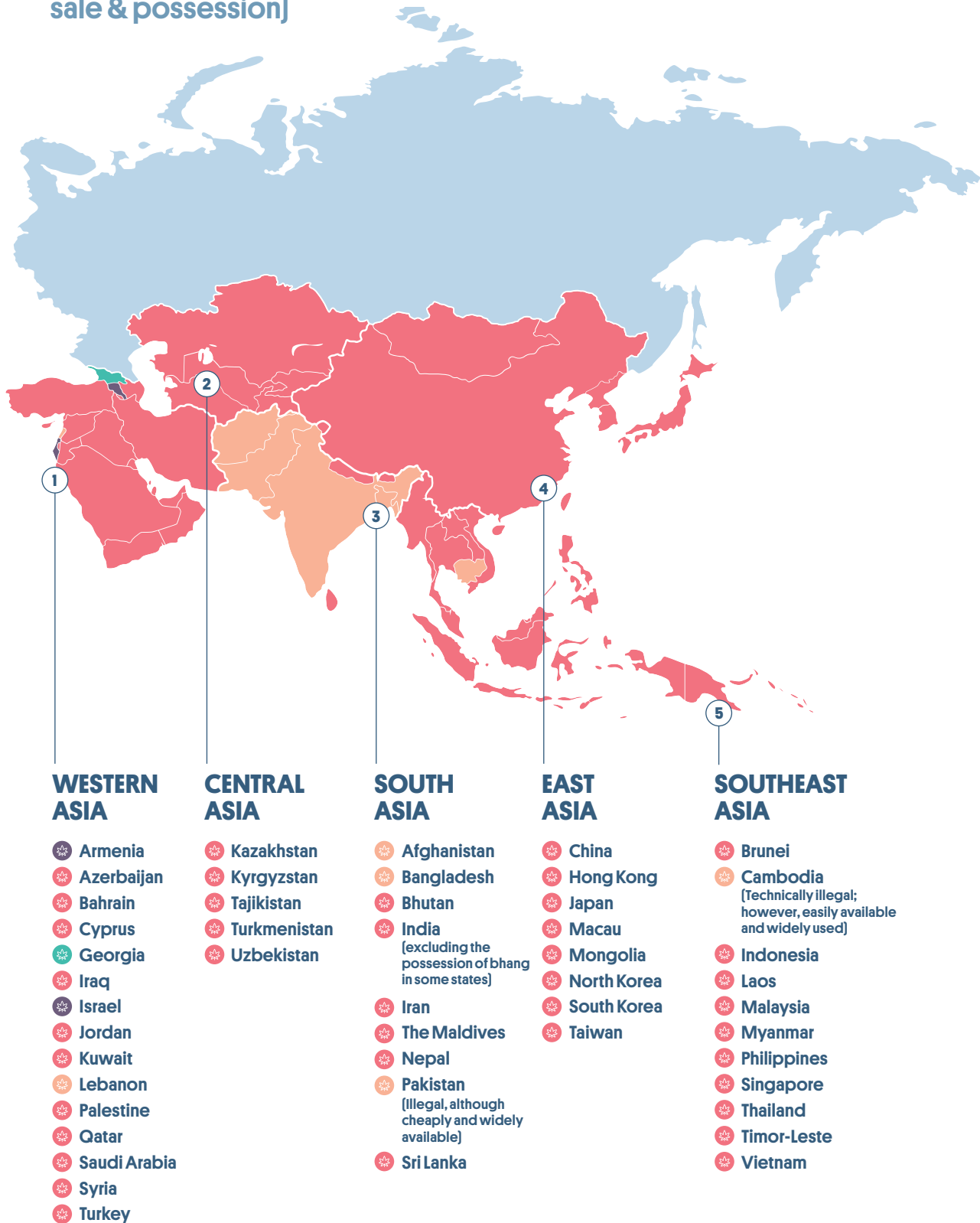
*Legal refers to those countries or territories where it is possible to acquire cannabis through a special permit or licence.

Source: Prohibition Partners

Legal Status of Cannabis in Asia, by Subregion

☺ **Recreational** (cultivation, sale & possession)

- ILLEGAL
- ILLEGAL but unenforced
- DECRIMINALISED
- LEGAL (with restrictions)



Source: Prohibition Partners

For the purposes of this report, we have categorised three tiers of reform as follows:

LEADING THE WAY

No single subregion of Asia appears to be leading the way on cannabis reform, although Western Asia appears somewhat more progressive in that a number of countries have scheduled or intend to schedule the decriminalisation of cannabis.

Although there was competition between Thailand, South Korea and Malaysia to see who would be the first country to legalise cannabis for medical and research purposes, legal progress is not unified in the region. Only Israel has already legalised medical cannabis and decriminalised recreational cannabis.

POISED TO MOVE

Although several neighbouring nations in Western Asia fall into Tier 3, Georgia, Israel and Turkey possess progressive medicinal cannabis legislation. While recreational cannabis remains illegal across much of Asia, it has either been decriminalised or is quietly tolerated in several nations, including Afghanistan, Bangladesh, Armenia and Lebanon.

Developments are anticipated in a number of southern and south-eastern countries. Singapore is expected to follow the example of Thailand and South Korea by allowing the use of medicinal products containing cannabinoids.

In addition, the Indian government and the Philippine government are independently debating whether to legalise medical cannabis. Sri Lanka has launched its first plantation for domestic medical use and for exports to the US.

NOT YET READY FOR CHANGE

Central Asian countries (Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan), in particular, are unlikely to move towards either medicinal or recreational cannabis legalisation over the forecast period to 2024. Western Asia's Arabian countries, most notably Bahrain, Iraq, Kuwait, Qatar and Saudi Arabia, have similarly not shown any signs of progress on the issue.

China is also unlikely to fully legalise cannabis in the next 5–10 years. Despite widespread use of cannabis amongst locals, China's authorities continue to view the drug in anti-social terms. Its neighbour to the west, Vietnam, has extremely oppressive anti-drug policies that are unlikely to change in the foreseeable future.

CANNABIS USAGE

COUNTRY	YEAR	AGE	ANNUAL PREVALENCE
CHINA	-	-	-
HONG KONG	2008	15-64	0.4%
INDIA	2000	15-64	3.2%
JAPAN	2011	15-64	0.3%
MALAYSIA	2003	15-64	1.6%
SOUTH KOREA	2004	15-64	0.3%
THAILAND	2007	12-65	1.2%
VIETNAM	2002	15-64	0.3%

Source: UNODC

Latest available data from the *United Nations Office on Drugs and Crime* (UNODC) (2016) suggests that prevalence rates of cannabis stand at almost 2% in the Asian region. Assuming usage has remained static in the last three years, this is equivalent to almost 86 million people.

Cannabis usage varies across Asia with cultural factors playing a significant role with prevalence rates ranging from 0.6% in the Philippines (2012) to 27% in Israel (2016) (according to data from the UNODC). Some countries maintain a staunch anti-cannabis stance, and following the legalisation of recreational cannabis in Canada in November 2018 the governments of South Korea, Japan and China have all advised their citizens to abstain from cannabis consumption when travelling to countries where it is legal. The governments have said it would still be regarded as a criminal offence and citizens could face arrest on their return.

In India, cannabis is integral to Hindu festivals such as the spring festival of Holi. As a result, bhang (the seeds and leaves of the cannabis plant) is legal. Data from India's Ministry of Social Justice and Empowerment would suggest that there are as many as 35 million cannabis users in the country.

Great steps were taken to safeguard the traditional and religious uses of bhang in India by ensuring that reference to the leaves and seeds of cannabis were omitted from the *Single Convention on Narcotic Drugs* of 1961. Cannabis is also used within Ayurvedic medicine across the Indian subcontinent where it purportedly treats a range of conditions including:

- **High blood pressure**
- **Glaucoma**
- **Issues of the nervous system**
- **Ear infections**
- **Digestive issues such as diarrhoea**
- **Problems with appetite**
- **Skin conditions such as eczema and dandruff.**

However, usage is lower in countries, such as Bhutan, where Buddhism is strictly adhered to. In these nations, cannabis is still used (albeit not consumed) for pig feed, textiles, netting and rope, etc.

CHANGING ATTITUDES

In Malaysia in 2018, a death sentence was given to 29-year-old Muhammad Lukman for selling cannabis oil to patients suffering from a range of ailments. The case prompted widespread outcry and led to a review, which raised hopes of the eventual abolition of the death penalty. But in March 2019, this was reduced to abolition of only the mandatory death penalty, not total abolition, and drug traffickers may still face sentences that mandate decades in jail.

In Indonesia, UK citizen Pip Holmes is currently facing up to 15 years in prison after being caught in possession of three grams of cannabis oil, which he claims was used to help treat his arthritis. He claims he is facing between 5 and 15 years in prison.

In China, around nine million people are thought to suffer from epilepsy, and, although orthodox medicines are available to treat a wide range of health issues, there are some indications that the country has been moving towards 'natural' forms of medicine, such as a growing demand for hemp-based CBD and other hemp products.

In Thailand, legalisation resulted in controversy over patent requests by foreign firms that could potentially result in their dominating the market and making it more difficult for Thai patients to access medicines and for Thai researchers to access cannabis extracts.

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CONSUMER GROUPS/ LOBBY GROUPS/HIGH- PROFILE CAMPAIGNERS

Thailand

Highland Network is a non-governmental cannabis advocacy group campaigning to legalise recreational cannabis in Thailand. The group describes its role as ‘to spread knowledge about cannabis’ and to ‘make sure that we are always in the public sphere raising awareness and knowledge about cannabis’. *Highland Network* organises cannabis think tanks, seminars and innovation, patents and various solutions for cannabis products.

South Korea

The *Korean Cannabinoid Association (KCA)* is a non-profit organisation that has been pushing for the legalisation of medical cannabis in South Korea. KCA President Kwon Yong-hyun stated in August 2018: ‘The government keeps repeating that there are no clinical studies that can prove the efficacy of cannabis in Korea ... Since no institutions have come forth to take this role, our group plans to run a pilot project that will prove cannabis’ therapeutic properties.’

India

The *Great Legalisation Movement (GLM)* in India was founded in Bengaluru in 2014 with the aim of legalising cannabis and hemp production. In support of Member of Parliament Dharamvir Gandhi’s private bill to legalise the medicinal use of cannabis and opium, the movement held marches in several cities in late 2018. Gandhi and other MPs argue that the ban on cannabis is ‘elitist’ and that the drug should not be treated the same way as harder intoxicants by the law. The GLM has two agendas: to discreetly provide cannabis oil to cancer patients, and to press the government to lift the ban on using cannabis.

The GLM uses social media actively and has expanded its reach by recruiting ambassadors in states across India. These ambassadors distribute educational material and talk about the benefits of cannabis among friends or local spheres of influence.

Malaysia

In early 2019, Nadzim Johan, leader of the *Malaysian Consumers Association (PPIM)*, stepped forward in support of legalising medical cannabis in Malaysia. State-run news agency *Bernam* quoted Johan, in February 2019, stating that a large number of clinical trials have found medical cannabis to be efficient in pain relief for cancer patients as well as in treating symptoms of a growing list of illnesses: ‘It’s just that we have to look into how far the use of the products can be controlled, and at the same time to carry out more clinical research on the plant and how it can be used as alternative medicine. It’s a huge loss if we refuse to make optimal use of the plant when it has been proven effective in the treatment of various illnesses, including cancer and nerve diseases.’



COMMERCIAL OPPORTUNITIES

Market Segmentation of the Cannabis Industry

CORE SEGMENT

» Sub-segment

PRODUCTION

» Commercial seed growers and suppliers

Production equipment manufacturers & suppliers

Cultivation of medical grade cannabis

Cultivation of recreational grade marijuana

Cultivation of industrial grade hemp

Testing & quality control

PROCESSING

» Industrial processing

Industrial manufacturing

Medicinal processing

Medicinal manufacturing

Recreational processing

Recreational manufacturing

DISTRIBUTION & RETAIL

» Distribution

Transport (standard and secure)

Online (ecommerce)

Off line (bricks & mortar)

DIGITAL

» Information

Communities

Data

Marketing

Software

ANCILLARY

» Real Estate

Legal

Finance

Consulting

Technology

Source: Prohibition Partners

PRODUCTION

Over time cannabis will become a valuable commodity in Asia, where a number of countries could potentially become low-cost producers with high production capacity. These advantages could capture a significant share of the global market.

There are, however, concerns over potential corruption and/or criminal activity should there be a significant shift in laws, with cartels currently trafficking drugs simply continuing to exert their influence in future regulated markets.

While China still accounts for the majority of the world's commercial hemp production, India is expected to grow its production. The *Indian Industrial Hemp Association* (IIHA) wants to use native Indian hemp strains with more than 0.3% THC and is seeking to raise the federal limit to 1.5% THC.

INTELLECTUAL PROPERTY AND PATENTS

China holds 309 of the current 606 international cannabis-related patents that have been filed, including methods of administering the drug, according to data from the United Nations *World Intellectual Property Organization* (WIPO). The country is widely expected to become the biggest global supplier of CBD and is likely to benefit significantly from market growth and rising global demand, as it currently produces over half of the world's cannabis.

Chinese investors are warming up to the cannabis market, but legalisation faces hurdles including negative social stigmas and a lack of knowledge. Media reports state that over the last five years, China has invested significant amounts in cannabis research and development. Media reports further describe how the Chinese government conducted underlying cannabis research and development well before the US pushed through its cannabis legislation.

In January 2019, in response to strong objections from local interested parties, including producers, it was reported that the Thai government ordered the Department of Intellectual Property (DIP) to revoke cannabis-related patent applications from foreign companies within three months. This unusual move was a response to local concerns that international companies could use patents to squeeze out Thai cannabis companies.

International analysts have said that while the Thai government's approach is unusual, it would be of concern only if other countries in this region followed suit. Any move by Asian countries to consolidate their resources could potentially impact the operations and profitability of any foreign companies.

The vice president of *Thai Cannabis Corporation*, which describes itself as the first legal cannabis company in the country, has reported that some of the country's growers are reviving the famous strains that have particularly high THC and/or CBD content. 'Landraces', or pure cannabis strains, have developed in Thailand in their natural environment over many generations. They are said to be very stable and show few variations from one plant to another.

The United Kingdom's *GW Pharmaceuticals* and its Japanese partner *Otsuka Pharmaceutical* have patents pending with the DIP involving medical cannabis. At the time of publication, neither request has been approved nor rejected. The two companies received a patent-pending status from Thailand for certain cannabis extracts. Media reports state that the DIP expedited the first inspection of the companies' applications despite Thai law stating that plant extracts cannot be patented.

Cannabis advocates are reportedly arguing that the filed patents breach the law, even if some of the applications are legitimate applications of medicine. *Highland Network's* Chokwan Kitty Chopaka has been quoted as commenting: 'It actually violated the patent policies of Thailand, but the fact that the actual application is still pending within the actual patent application process without being cancelled, that's a big problem that we are having right now [sic].'

Despite cannabis being illegal in China, the government is encouraging medical cannabis research, with Israeli, Canadian and US companies already active in the country. In January 2019, it was reported that a Chinese business and research delegation visited Israel to explore opportunities in the medical cannabis sector.

COMPANY ACTIVITY

The steps taken by a number of Asian companies in pursuit of research into the health-related uses of medical cannabis and/or CBD has put the region on course to potentially become a major production/supply hub.

- Shares of *Asia Cannabis Corp.* (CSE:ASIA) began trading on the Canadian Securities Exchange in January 2019. *Asia Cannabis Corp.* is an early-stage international agri-technology company focusing on the planting, growing and harvesting of new and valuable strains of hemp and related crops in commercial quantities in South Asia.

- The CEO of Singapore-based *CannAcubed*, Glenn Davies, announced that the company is working with China's state-owned health fund to build an industrial hemp park in Yunnan province, with 100,000 hectares of land.
- In September 2018, *Elixinol Global Limited (Australia)* increased its ownership in *Elixinol Japan* to 50.5% at a cost of US\$2.2 million. The funds provided working capital to scale *Elixinol Japan* for anticipated growth in the Japanese market for hemp-derived CBD, food products and skincare.
- In March 2019, it was reported that investors had given US\$150 million to the *Indian Industrial Hemp Association (IIHA)*. The IIHA is set to expand on the booming global hemp industry, while also looking to incorporate more native Indian hemp strains. As most wild hemp in India contains more than 0.3% THC, the IIHA is seeking to raise the federal limit to 1.5%.
- In April 2019, Australian medical cannabis grower *THC Global* formed a partnership with Malaysian biotech company *Heleogenics*. *THC Global's* main aim is to liaise with the Malaysian government and push for the legalisation of medical cannabis, as well as the development of new policy frameworks and legislation. The company will also work with *Heleogenics* to explore entry options in other Asian countries.

While legalisation may still be restricted to just a few countries, cannabis-related activity is increasing, particularly in terms of medicinal cannabis, evidenced in part by the number of conferences taking place in the region.

INVESTORS

Attendance at the Hong Kong Cannabis Investor Symposium, which took place in November 2018, was sold out, and the event attracted more than 200 participants from some of the world's most innovative cannabis firms. Speakers included executives from global players including *GTEC Holdings* (British Columbia); *Wayland Group Inc* (Canada & Germany); *The Supreme Cannabis Company* (Toronto); *Creso Pharma* (Australia); *The Flowr Corporation* (Canada); *CannAcubed Private Ltd* (Singapore); *iCAN* (Israel Cannabis); *Moxie 710* (US); *Province Brands* (Canada) and *Hiku Brands* (Ontario).

Some companies attended hoping to attract Asian investors. *Province Brands*, a Toronto-based company developing cannabis beer, was expecting investors in the region to buy at least a third of a 40% stake in a US\$23 million deal to take the firm public later this year. By the end of the event, investors from Hong Kong and Japan were reported to have already committed themselves to the project. At the time of publishing, it was not possible to ascertain whether *Province Brands* had reached their target.

Chinese investors, including state-owned investment funds, were drawn to the forum because of a significant rally in cannabis stocks at the time. One major player, who confirmed he was researching Western producers of medical hemp expanding into China, said that he expected an increase in hemp cultivation for industrial and medical use, and that foreign firms with advanced processing technology stood to benefit.

Future events include:

- The 3rd International Conference on Cannabis and Medicinal Research (15–16 July 2019) in Bangkok, Thailand will be themed around 'challenges and barriers in agronomy, medicinal and upshot of cannabis'.
- *CannaBiz Invest Asia* will be held on 29–30 August 2019, also in Bangkok, Thailand.
- Thailand Medical Marijuana Conference (20 April 2019), Krung Thep Maha Nakhon, Thailand. This will be the first annual conference in Thailand to help educate those who are likely to become leaders in this industry as well as help build networking opportunities.

China

MARKET OVERVIEW

POPULATION

1.4B

GDP

US\$12.2T

RULING
GOVERNMENT PARTY

COMMUNIST PARTY OF CHINA
UNITED FRONT LED BY CPC

PARTY STANCE
ON CANNABIS

ILLEGAL

TOTAL ESTIMATED
HEALTHCARE
EXPENDITURE*

US\$892B

TOTAL ESTIMATED BEAUTY
& WELLBEING
EXPENDITURE

US\$36B

ALCOHOL
CONSUMPTION
(LITRES PER CAPITA
PER YEAR)

7.2

PREVALENCE OF
TOBACCO USERS

25.6%

PREVALENCE OF
CANNABIS USERS

5.6M

AVERAGE COST PER
GRAM OF CANNABIS

US\$26.8

*Estimate based on most recent healthcare expenditure as % of GDP

Source: World Bank/ WHO/ UNODC/ Prohibition Partners

Cannabis use in China dates back millennia, with some of the earliest references from 2900 BC, when Emperor Fu Xi deemed cannabis (or ‘ma’) a ‘popular medicine that possessed both yin and yang’.

China signed the *UN Convention on Psychotropic Substances* in 1985, resulting in cannabis being made illegal. However, as far back as 10,000 BC, the country was responsible for a significant percentage of global cannabis production. China’s industrial hemp market was worth an estimated US\$1.1 billion in 2017 and sales were forecast to rise to US\$1.5 billion (+36%) by 2020.

Hemp cultivation was formally regulated by the Chinese authorities in 2016, and the bulk of cultivation is located in the Shandong and Yunnan provinces. China has been referred to as ‘an emerging global cannabis superpower’, leading the world in hemp production; however, over two thirds of hemp is used in textile production with the remainder destined primarily for industrial applications and personal care products.

Hanma Investment Group stated in an article on their website that total hemp under cultivation in China reached almost 82,000 acres in 2017. According to the *China Agricultural Statistical Yearbook* and statistics from the *UN Food and Agriculture Organization (FAO)*, China hosts the world’s largest industrial cannabis planting areas, accounting for about half of the world’s legal commercial cropland.

The Chinese government has been investing in health-related cannabis featuring <0.3% THC, known to be of benefit to those suffering from a range of afflictions including Parkinson’s, MS and cancer.

REGULATORY ENVIRONMENT

China metes out harsh punishments for all drug-related crimes. People are still executed for drug possession and trafficking, although in terms of cannabis the severity of the sentence can depend on the quantity, i.e. 10 kilograms of resin (hashish) or 150 kilograms of herbal cannabis.

Current legislation in China makes no distinction between medical and recreational cannabis, and the cultivation, possession and/or use of cannabis with a THC content >0.3%, for medical or other purposes, are prohibited.

There is currently no indication that this is likely to change, despite positive developments elsewhere in the region. However, as Chinese companies begin to explore business opportunities in the medical cannabis sector for investment purposes, there may be increased support for a review of the current legislation.

The cultivation of hemp, which is cannabis with less than 0.3% THC content, is only legal in Yunnan and Heilongjiang provinces, and the breeding, planting and processing of industrial hemp are governed by the anti-drug bill passed by the People's Congress on 1 May 2017.

- **Under Section Seven of the Criminal Law of the People's Republic of China (ROC), Article 345, individuals who smuggle, traffic, transport or manufacture narcotic drugs are sentenced to either 15 years in prison, life imprisonment or death, and will have their property confiscated.**
- **Anyone caught with more than 5 kilograms of processed cannabis leaves, 10 kilograms of resin or 150 kilograms of fresh leaves can face the death penalty under Chinese criminal law. In 1985, China joined the UN's Convention on Psychotropic Substances and identified cannabis as a dangerous narcotic drug, illegal to possess or use. According to the Law on Public Security Administration Punishments, the penalty for consuming cannabis in China is 10 to 15 days imprisonment and a maximum fine of 2,000 yuan (US\$288).**
- **China's drug control strategy is implemented by the National Narcotics Control Commission (NNCC) and mandates prevention, education, illegal crop eradication, interdiction, rehabilitation, commercial regulation and law enforcement. The Commission includes the Ministry of Public Security, whose Narcotics Control Bureau (NCB) is China's primary national narcotics enforcement entity and works in cooperation with provincial public security bureau offices.**

LICENCES AND AVAILABILITY

Hemp manufactured products such as ropes and clothing accounted for over half of China's hemp exports in 2017, and key destinations included Italy, South Korea and Germany. The Chinese government also funds research into hemp for military use, including fabric for uniforms. The Chinese army uses socks, underwear and towels made from hemp.

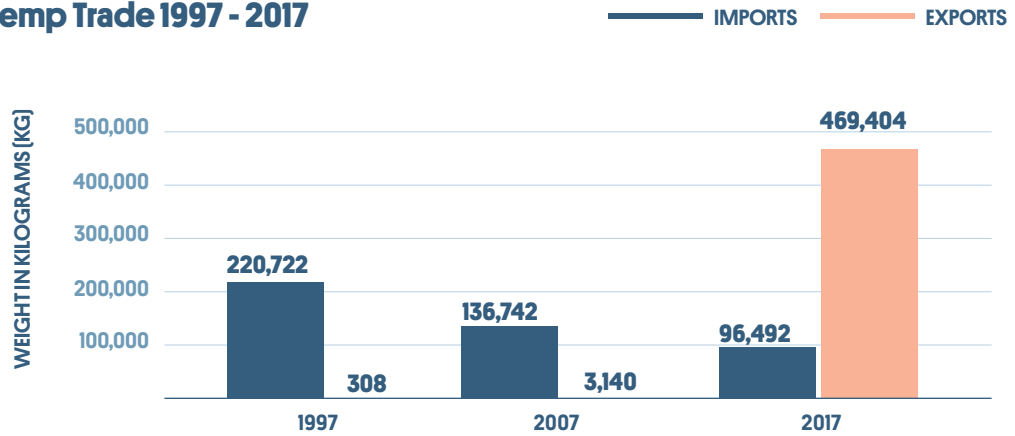
The *China Food and Drug Administration* allows hemp leaf extraction for cosmetic use, and seeds are harvested for processing in oils, creams and beauty products as well as for use in traditional herbal medicines. Hemp seeds, flowers, leaves, husks, stems and roots are used in the creation of composite materials and synthetic biofuels.

Cannabis research in China is currently being conducted by *Harbin Medical University*, the *Chinese Academy of Medical Sciences*, the *Heilongjiang Academy of Sciences*, the *Academy of Military Medical Sciences* and the *National Research Institute of Food and Fermentation Industries*. China is home to the world's largest cannabinoid extraction plant, which opened in Kunming in Yunnan Province in November 2016. The plant obtained its legal processing licence from the NNCC in eight weeks and around five extraction licences have been awarded thus far.

The country's demand for hemp-derived CBD is increasing, with importers sourcing their products almost exclusively from Europe. Importers do not require a licence and the largest growth area is for companies reselling European-based products.

Currently, only three companies in Yunnan have government licences to process industrial hemp flowers and leaves. One of these is the unicorn *Hanma Investment Group*, the only legal investment company in China focusing on 'the whole industrial chain investment of industrial hemp, from breeding, planting, extraction, R&D, to production and sales worldwide, covering areas of biopharmaceuticals, health food, beauty and cosmetics, new materials and more.'

Hemp Trade 1997 - 2017



Source: UN Comtrade

Data provided by the Yunnan provincial government shows that since 2010, when the government of the province implemented regulations for the cultivation and processing of industrial hemp, more than 36,300 acres have been licensed for hemp cultivation.

Local police departments are in charge of issuing industrial hemp cultivation licences, processing licences and monitoring all work associated with hemp production.

Criteria that must be met in order to apply for a hemp research cultivation licence include:

- **Certification of a related research programme**
- **Employment of at least three researchers/technicians**
- **THC testing facilities and operators.**

In order to apply for a licence for commercial hemp cultivation, the individual or entity is required to provide evidence of the following:

- **Business capital of at least one million RMB (about US\$150,000)**
- **Currently employment of at least three researchers/consultants**
- **Ownership of THC testing facilities and operators**

- **Secure storage facilities for hemp seeds**
- **No other crops should be cultivated within a three-kilometre radius of the hemp being grown or processed**
- **A management statement that guarantees the efficacy of the facility's hemp testing, storage and financial situation.**

To apply for a hemp cultivation licence for research purposes, the individual or entity is required to provide evidence of the following:

- **Completed application form for cultivating hemp**
- **Valid certification of the related research programme being conducted**
- **Operation licence or operation register certification**
- **Qualifications of the cultivation researchers and testing technicians**
- **A list and photograph of testing and storage facilities**
- **A management statement that guarantees the efficacy of the research facility's hemp testing, storage and financial situation.**

HEALTHCARE ANALYSIS

TOTAL ESTIMATED HEALTHCARE EXPENDITURE

US\$892B

TOTAL ESTIMATED PHARMACEUTICAL SPENDING

US\$153.4B

TOTAL ESTIMATED REQUIREMENT OF CANNABIS 2019

5 grams

APPROVED CANNABIS-BASED PRODUCTS



*Sum of Hong Kong Special Administrative Region (4),
Macao Special Administrative Region (8) and China (5)*

Source: WHO/ IFPMA/ INCB/ Prohibition Partners

Healthcare Coverage

China offers its citizens universal health coverage, with basic medical insurance covering an estimated 1.35 billion people. Expanding universal health coverage is a clear policy goal, and access to basic medical insurance and serious disease insurance benefits are both being increased by the government. There are also plans to expand the coverage of inter-provincial settlement of medical bills, aimed particularly at migrant workers. The government has pledged to strengthen the general practice workforce, improve the primary care system and increase per capita government subsidies for basic public health services.

As the pace of modernisation quickens, China has a number of significant health challenges, not least of which is pollution. The disease burden is dominated by non-communicable diseases, with tobacco use a major problem.

Although smoking is on the decline in China, the country is still home to more than 300 million smokers who are responsible for consuming more than a third of the world's cigarettes, according to a 2017 WHO report. Currently, tobacco is the cause of more than one million deaths a year, a figure expected to reach two million by 2030.

Figures from the OECD show that in 2015 there were an estimated 1.8 doctors and 2.3 nurses per 1,000 inhabitants. According to *World Bank* figures, this is broadly in line with the global average. Data from the WHO estimated that there was a total of 2,508,408 physicians and 3,241,469 nursing and mid-wifery personnel in China in 2015, as well as 423,294 pharmaceutical personnel.

Traditional Chinese Medicine

China's history of herbal medicines can be documented to 1127–1270 AD, when the cannabis plant was used for over 100 conditions including pain, gout, rheumatism and malaria.

As China's population has moved to urban centres, there has been a majority shift towards adopting Western medical treatments. In an attempt to reverse the decline of traditional healing, the government introduced a new law, effective from July 2017, requiring local governments to launch Traditional Chinese Medicine (TCM) institutions in all medical centres as part of an initiative to increase funding for the development and scale of TCM education. Cannabis is regarded as a fundamental cornerstone of TCM, and is used widely, not only in China but in Hong Kong, Taiwan, Japan and South Korea.

Key challenges for TCM include the profit differential between Chinese medicine and Western medicine, and scepticism among Chinese people, particularly among the younger generation who are more familiar with Western medicine. Away from mainland China, the two medical traditions exist side by side in Hong Kong and both are generally covered by private health insurance policies.

CBD

As the demand for hemp-based CBD and other products increases, the legality of CBD in China is said to be causing a shift among residents' views. The financial information company *Chineseinvestors.com* (CIIX), which is also involved in the development and distribution of hemp-based products in the US and China, agreed a wholesale deal with a CBD health brand in December 2016. CIIX aims to provide accessible CBD-based products for sufferers of epilepsy, Alzheimer's

mer's disease, cirrhosis of the liver, and other health conditions. The potential health benefits are vast—around nine million people in China currently suffer from epilepsy.

CIIX has launched a subsidiary called *ChineseCBDoil.com*, focusing on legal CBD in China, which went live in January 2017. The site is the world's first Chinese-language online store for legal CBD health products and offers a wide range of products, including nutritional supplements containing CBD, to Chinese-speaking customers everywhere.

COMMERCIAL OPPORTUNITIES

Forecast Value of China's Cannabis Market, by Sector, 2024

	FORECAST MEDICAL CANNABIS MARKET VALUE 2024	FORECAST RECREATIONAL CANNABIS MARKET VALUE 2024	TOTAL 2024
CHINA	US\$4,381M	0	US\$4,381M
HONG KONG	US\$18.2M	0	US\$18.2M
MACAU	US\$1.3M	0	US\$1.3M
TOTAL	US\$4,401M	0	US\$4,401M

Source: Prohibition Partners

Our research shows that China is expected to account for a major share of the global hemp-derived CBD market by 2024. Domestic and foreign-owned investors and manufacturers have been positioning themselves to take advantage of the country's burgeoning cannabis industry amid expectations that the wider global liberalisation of policies and attitudes towards cannabis will also take hold in China.

In 2009, a new hemp-fibre processing plant with an annual capacity of 2,000 tonnes, owned by *China Hemp Industrial Holding Investment Co. Ltd*, was built in Dai Autonomous Prefecture in southern Yunnan. The Chinese

government also announced further cultivation bases in Xinjiang, Inner Mongolia, Heilongjiang, Gansu and Anhui provinces by 2020.

China is also exploring the potential of high-CBD strains of hemp. The *Yunnan Academy of Agricultural Sciences* has been promoting the cultivation of hemp for pharmaceutical use and has developed a host of new cultivars with the goal of maximising CBD yields.

More farmers are cultivating hemp to extract CBD, and the number of new specially developed high-CBD cultivars continues to increase.

Some of the local and foreign companies most active in this sector include:

- *Yunnan Industrial Cannabis Sativa Co.* – produces functional foods to improve the immune system
- *Zhang Hongq* – currently working on a medicinal remedy for the treatment of peptic ulcers
- *Dongguan Deheng Beverage & Food Co., Ltd* – produces vegetable protein beverages
- *Yunnan Industrial Cannabis Co., Ltd* – produces functional foods to enhance human immunity
- *Harbin Pharmaceutical Co., Ltd* – produces an oral medication to aid gastrointestinal function
- *Cannaclear and Hanyi Biotechnology (Beijing) Co., Ltd* – produces a skincare product for the treatment of acne
- *Hanma Investment Group Co., Ltd* (HMI Group) – produces maternity and children's clothing and toys, made from hemp
- *Yunnan Industrial Hemp Inc.* – a subsidiary of Yunnan Hanpu Health Products Co., Ltd – is the first company to obtain proper licensing for the processing of industrial hemp flowers and stems in China
- *Yunnan Hanmusen Ltd* – a biotech company located in Yunnan province. The company specialises in fibre production and CBD extraction
- *Yunnan Hansu Biotechnology Co., Ltd* – a biological extraction and research company with a legal hemp-extraction licence issued by the Chinese government
- *Yunnan Shaoxing Jincheng Yama Ltd* – specialises in fibre processing and also has a processing line for industrial hemp flowers and leaves

- *Beijing Hanyi Biotech Ltd* works closely with government agencies and research institutions in developing CBD products. Their first CBD-infused product is an energy drink called Sutiwa. The company plans to develop more edible products infused with CBD

Partnership and Investment Activities

China is home to a number of commercial partnerships that demonstrate attractive investment opportunities. Examples listed below:

In September 2018, *KuschCo Holdings Inc.* announced its second international expansion, with an office in the Jiangbei District of Ningbo, China. The company aims to develop stronger manufacturing relationships in China and establish itself as a leading innovator of child-resistant packaging options for the legalised cannabis industry.

In August 2018, *Kingdom Holdings Ltd* (Heilongjiang Kingdom Linen Textile Co., Ltd) and *China Hi-Tech Group Corporation* (China National Chemical Fibre Corporation) signed an agreement with the government of Qinggang country for strategic cooperation in the hemp textile industry, covering hemp plantation, production, marketing, study and research, industrial funding and promotion.

A cooperation agreement signed in April 2018 by *Yunnan Hua Fang Industrial Hemp* (HFIH) and Australian biotechnology company *Stemcell United* allows *Stemcell* to use the former's import-export licence and existing market network in China to explore further distribution of its dendrobium-related products. *Stemcell* also hopes to capitalise on future cannabis beauty products developed by HFIH.

HFIH has been granted an industrial hemp licence – directed towards high-CBD and low-THC cannabis strains – which facilitates the planting, processing and selling of industrial hemp-related products in China for medicinal purposes.

In February 2018, shares in Hong Kong-based pharmaceutical company *Meilleure Health International Industry Group* soared by up to 35% after it issued over 300 million new shares to Chinese hemp producer *Hemp Investment Group* for an estimated HK\$109 million (US\$13.92 million). The companies will explore medical uses for cannabis in China.

In 2017, Beijing-based *Hemp Investment Group*, a major Chinese firm exploring the commercial pharmaceutical uses of cannabis, partnered with the Chinese People's Liberation Army to create a drug to treat post-traumatic stress disorder (PTSD).

In November 2017, Australian cannabis company *Creso Pharma* entered a strategic partnership with Chinese hemp producer *Zhejiang Kingdom Creative*, providing the former with access to the Chinese market for its animal and human health hemp and cannabis-derived products. These also include nutraceuticals and cosmetics. *Kingdom Creative* is a subsidiary of Hong Kong listed *Kingdom Group*, an investment company with a diversified portfolio.

CannAcubed, headquartered in Singapore, in partnership with China's largest state-owned health fund (*China Health Investment Corporation*, or CHIC) is building an industrial cannabis eco-park to cultivate, process and manufacture cannabis in China on 100,000 hectares of land in the Yunnan province.

CHIC has a 15% stake in the project, which is also partnered with the Chinese internet giant *Tencent*. *CannAcubed* plans to grow 2,000 hectares of CBD, which, when exported, is expected to account for an estimated 6% of the total global market.

In April 2019, *Huaren Pharmaceutical*, based in Eastern China, teamed up with a biotechnology company in Southwestern China to produce industrial cannabis in greenhouses, reportedly the first such initiative in China. *Huaren* plans to lend technological support to ensure the joint venture can obtain all the necessary licences.

At the time of writing, the joint venture is still to receive official approval.

In January 2019, *Shanghai Shunho New Materials Technology Co.* stated that its subsidiary had been approved by a branch of the local public security bureau in Qujing, Yunnan Province to plant industrial cannabis.

In February 2019, three subsidiaries of *Conba Group*, a pharmaceutical company located in Eastern China, obtained a licence to grow industrial cannabis on a site of 100 square kilometres in Yunnan Province.

LOCAL EXPERT ANALYSIS:

GLENN DAVIES, GROUP CEO, CANNACUBED

According to estimates and media reports, China's industrial cannabis (hemp) market was worth an estimated US\$1.1 billion in 2017 – do you agree with this figure, and how does this compare with the rest of Asia?

I believe this represents the lower side of the true market worth in China, but it is a well-represented figure that has been mostly reflected by textile sales to date. Smaller revenues accounted for CBD in 2017 and 2018, and, with 2019 upon us, the China CBD market is heating up – this will drive revenue higher than ever before.

Further to textiles and CBD, we will see a strong push to other hemp-related vertical markets including cosmetics, food & beverage, construction & building, new materials & bio-plastics, and clean or green energy.

Asia has a long history with hemp, and, in most countries, it has been part of cultural tradition, whether in medicines, garments, animal bedding or housing. India is a large hemp producer but is mostly focused in the textiles' space, and Nepal, South Korea and Thailand all have long histories in hemp. As countries are again recognising the enormous value of hemp, there is a major attitude shift, and I think in the next three years we will have a booming hemp industry in the region.

What barriers, if any, did you experience when CannAcubed formed the partnership with China Health Investment Corporation to build the industrial cannabis eco-park in China?

CannAcubed's approach to business is all about 'Guanxi'. It is about respect, mutual benefit and aligning with the key drivers and policies of China. Our model and project are built around these policies, which include Poverty Alleviation 2020; Healthy China 2030; One Belt, One Road; Rural Environmental Impact 2030 and Healthy Tourism. We had a very clear mission and plan to impact some of China's, and ultimately the world's, most pressing issues around waste, disease, energy, poverty and environment. We're doing this all with hemp.

With that in mind, we have faced few barriers and, instead, have received full support across the board from all of our partners and strategic alliances in China. It is a very complex environment to navigate, but with much hard work and never forgetting the objective, we've stayed on track.

The full construction and development of our industrial cannabis 'Eco-Park' is underway, but is a three-year complex project. Set on three locations across Yunnan, the park will include high-tech research facilities for R&D into cannabis strain, a hemp bio-plastics & bio-fuel research facility, an eco-cosmetics

factory, a CBD & hemp nutraceuticals manufacturing factory, a new materials factory, a CBD industrial-scale processing plant, research-integrated growing labs, a hemp education facility, a world standards facility for testing cannabinoids, terpenes, pesticide contaminants and residual solvents, a secure seed-bank chamber, an eco-foods & nutraceuticals manufacturing factory, a high-tech data centre for cannabis traceability and a global logistics and distribution centre. With the completion of this project, *CannAcubed* is looking to make China the 'Centre of Excellence' for global cannabis cultivation, production, manufacturing & R&D.

How does working in China compare with Singapore and Israel?

I came to Asia over 25 years ago and have lived and worked in a lot of countries in the region. There's a reason I returned ten years ago and that I'm still here – it is an incredibly beautiful place, with amazing people, endless cultures and beliefs, and unlimited opportunity. China is really a unique country that, in my opinion, stands on its own. It is the world's biggest country with the most people, and yet it seems to work in unison. China does not talk much about what it can do – it just does it. And does it unbelievably well. It is the most technologically advanced country I have been

“You can't just say 'I'm now in cannabis': you have to have substance and tangibility to the business.

to, with a work ethic that cannot be faulted.

What Is *CannAcubed* doing differently to other cannabis companies in Asia to ensure maximum success in the marketplace?

CannAcubed has a very unique and proprietary approach to the business. We have a three-point growth system, which includes cultivation and intelligent agriculture, product innovation and global distribution, and a technology platform that underpins the entire business around R&D, biotech and data. We have 'future-proofed' the business by diversifying into vertical and horizontal industries domestically, regionally and globally. We did not focus at all on what others were doing; we had our plan and we set out to execute it.

Do you think companies that follow in your footsteps will experience the same barriers, or how could regulation/legislation make the process smoother?

Regarding China, it is becoming more complex and much harder to enter the market. The country is experiencing the start of a cannabis boom across many industries as businesses of many sectors are realising the potential. But this is forcing the government to ensure policy and regulation are tightened and the eco-system is protected. You can't just say 'I'm now in cannabis': you have to have substance and tangibility to the business. This is great for *CannAcubed*, as we have gone through the process and are well established.

Regarding other markets in Asia, I think laws will be relaxed over time and regulation will move in a positive direction. The therapeutic, nutraceutical and medical effects of cannabis cannot be ignored, nor can the impact hemp can have on the environment and the thousands of industrial applications it brings.

What developments do you expect to see in legislation in the next 12 months/5 years?

In China, we expect to industrialise and commercialise hemp across the board with a strong push into textiles, recycling, auto-

“In Southeast Asia, we are already seeing positive steps, and so this trend is likely to continue across most countries in the next one to three years with a focus on medical applications.”

motive, furniture, food & beverage, paper, construction and personal care. I believe countries such as Korea and Japan will follow in similar footsteps with a stronger push in the cosmetics and food/beverage space. In Southeast Asia, we are already seeing positive steps, and so this trend is likely to continue across most countries in the next one to three years with a focus on medical applications.

With countries such as Singapore and Hong Kong, I would love to help open up the biotech space with a focus on R&D into bioplastics and new materials, green energy, and the medical and therapeutic effects cannabinoids can bring.

What impact do you see this having on the market in China and overall in Asia?

Any positive movement within the industry is a good thing. We are establishing the *Yunnan Industrial Hemp Association* in China and will work to support the industry and governments throughout the region to help them make informed decisions around where the industry needs to go.

What is your five-year view for the industry in Asia and why?

Asia is the world's largest consumption market. It is the world's largest textiles, garments and fabrics market, the largest cosmetics market, the world's largest nutraceuticals market, the largest construction market, and China and Japan are just behind the US in the world's largest pharmaceutical markets. China is also the world's largest energy market, closely followed by India. I think this lays the foundations for what will become the world's largest cannabis market by region when we consider product and industrial applications. We are fortunate to be pioneering this, and incredibly excited for what the future holds.

”

Asia has a long history with hemp, and, in most countries, it has been part of cultural tradition, whether in medicines, garments, animal bedding or housing.

Glenn Davies,
Group CEO, CANNACUBED

SPECIAL ADMINISTRATIVE REGIONS

Despite being illegal in Macau, cannabis commands a high price and the area is frequently used for trafficking cannabis.

Hong Kong's first ever Cannabis Investor Symposium was held in November 2018, and the industry hopes the region will legalise medical cannabis.

The Special Administrative Regions (SARs) are provincial-level administrative divisions of China that fall under direct control of the Central People's Government. They enjoy a high degree of autonomy, and little or no interference from either central government or the Communist Party of China.

Like China, SAR Macau makes no distinction between medicinal and recreational cannabis. Cannabis has been illegal in the region since 1969 and is subject to strict regulations.

Buying, selling or consuming cannabis carries a maximum sentence of seven years imprisonment and a fine of HK\$1 million (US\$127,594). Prison sentences for smoking are rare, but substantial fines are strictly enforced. Cannabis cultivation incurs a larger fine and usually carries a maximum 15-year jail sentence.

Despite its strict laws, the territory is frequently used for illicit smuggling of cannabis. This is related to the fact that Macau is an area where cannabis commands a particularly high price. In November 2018, the price per gram of cannabis was between US\$12 and US\$16, compared with mainland China where the cost per gram was significantly lower (US\$0.8 per gram).

While there are media reports of low-level debate on the possibility of legalising cannabis, this is unlikely to occur in the near future, as the area remains controlled by the Central People's Government.

HONG KONG

In Hong Kong, cannabis was classed as illegal under the 1969 *Dangerous Drugs Ordinance*. The manufacture of cannabis or any other drug is deemed the most serious of all drug-related offences:

No person shall cultivate any plant of the genus cannabis or the opium poppy, but nothing in this subsection shall prevent the Government Chemist, in his capacity as such, from cultivating a plant of the genus cannabis so far as may be necessary for the exercise of his employment. (Amended 62 of 1994 s. 3)

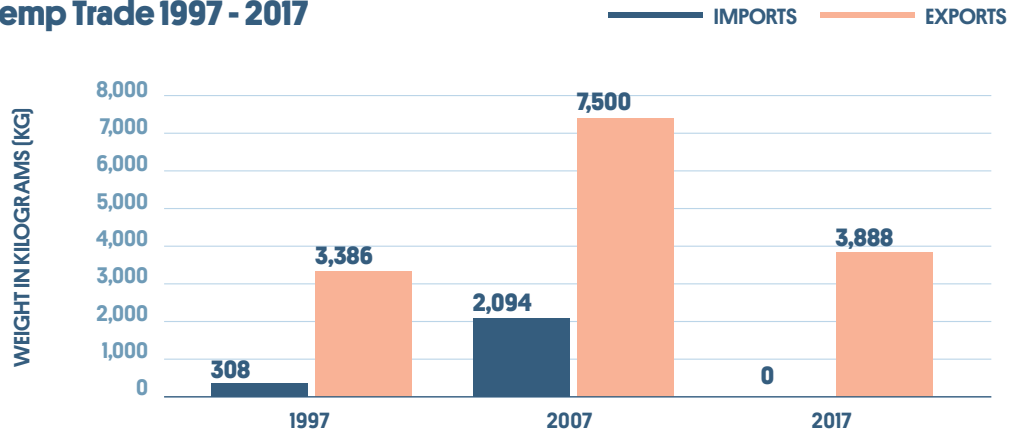
Anyone who cultivates any plant of the genus cannabis faces a HK\$100,000 (US\$13,000) fine and 15 years in prison. Prison sentences for consuming cannabis are rare, but substantial fines in the tens of thousands of HK\$ are not unheard of. The purchase or sale or consumption of cannabis carries a maximum sentence of seven years' imprisonment and a fine of HK\$1 million (US\$128,000). Trafficking carries a maximum sentence of life in prison.

In spite of these tough laws, the amount of cannabis seized by Hong Kong police increased by 238% between January and October 2017. According to official statistics, there was a decline in 2018 as local authorities confiscated 149 kilograms of cannabis in the first six months of 2018, a 74% drop from the 583 kilograms in the same period in 2017.

The *Hong Kong Food and Health Bureau* and the *Department of Health* have the following regulations regarding food products containing cannabis:

- THC is a cannabinoid present in cannabis plants and is a dangerous drug controlled under the *Dangerous Drugs Ordinance (Cap. 134)*. Any products, including food and drinks, that contain THC are also controlled under *Cap. 134*.
- Under *Cap. 134*, trafficking in dangerous drugs, or illicitly importing into and exporting from Hong Kong, procuring, supplying, manufacturing, or dealing in or with danger-

Hemp Trade 1997 - 2017



Source: UN Comtrade

ous drugs, constitutes a criminal offence. The maximum penalty is life imprisonment and a fine of \$5 million. Illicitly possessing, or smoking, inhaling, ingesting or injecting dangerous drugs is subject to a maximum penalty of imprisonment for seven years and a HK\$1 million (US\$128,000) fine.

- CBD is another cannabinoid present in cannabis plants but is not a dangerous drug controlled under *Cap. 134*. Pharmaceutical products containing CBD but not any dangerous drugs must be registered with the *Pharmacy and Poisons Board* in accordance with the requirements under the *Pharmacy and Poisons Ordinance (Cap. 138)* before they can be sold or distributed.
- Manufacturers, importers or distributors of pharmaceutical cannabis products must also obtain relevant licences from the Board. In addition, for importing pharmaceutical products, an import licence must be obtained under the *Import and Export Ordinance (Cap. 60)*. At present, no registered pharmaceutical products in Hong Kong contain CBD.
- According to Hong Kong's Security Bureau, three types of synthetic substances, namely, 'derivatives of piperazine', 'synthetic cannabinoids' and 'derivatives of cathinone' were added to the region's *Dangerous Drugs Ordinance* in 2015. As a result, these substances are subject to the same strict

controls as other dangerous drugs. Those prosecuted of illicit trafficking and manufacturing these substances are liable to a maximum penalty of HK\$5 million and life imprisonment. Those prosecuted of possession and consumption of these substances are liable to a maximum penalty of HK\$1 million and imprisonment for seven years.

Despite this climate, in November 2018, Hong Kong's first-ever Cannabis Investor Symposium took place in Kowloon. The one-day gathering was hosted by *CannaTech*, *The Arcview Group* and *URI Capital Management*.

Saul Kaye of *iCAN:Israel-Cannabis* stated through media outlets: 'Chinese investors are into cannabis, so Hong Kong was a natural choice to us as a gateway to change regulation in China. There is definitely less conversation [here] into the cultivation of cannabis and more interest with clinical trials to treat medical problems such as chronic pain and Parkinson's disease.'

Local authorities in Hong Kong snubbed the city's first international Cannabis Investor Symposium, despite the fact that the event was attended by 200 entrepreneurs, saying that there was no market in the city for the drug, not even for medicinal use. Hong Kong's Security Bureau has also stated that anyone dealing in either recreational or commercial cannabis, whether the drug itself is in the city or not, would be committing a crime.

Hoping for a change in the region's medical cannabis laws is Laurence Pak, founder of Hong Kong campaign group *Legalise Medical Cannabis*. Pak has been quoted in the media emphasising strong scientific evidence in support of medical cannabis.

**”
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India

MARKET OVERVIEW

POPULATION

1.4B

GDP

US\$2.6T

RULING
GOVERNMENT PARTY

NATIONAL DEMOCRATIC
ALLIANCE LED BY BHARATIYA
JANATA PARTY

PARTY STANCE
ON CANNABIS

UNKNOWN

TOTAL ESTIMATED
HEALTHCARE
EXPENDITURE*

US\$101B

TOTAL ESTIMATED BEAUTY
& WELLBEING
EXPENDITURE

US\$11.7B

ALCOHOL
CONSUMPTION
(LITRES PER CAPITA
PER YEAR)

5.7

PREVALENCE OF
TOBACCO USERS

11.5%

PREVALENCE OF
CANNABIS USERS

38M

AVERAGE COST PER
GRAM OF CANNABIS

US\$0.1

*Estimate based on most recent healthcare expenditure as % of GDP

Source: World Bank/ WHO/ UNODC/ Prohibition Partners

Cannabis is mentioned in the ancient body of religious texts called the Vedas, and has been used in India since around 2000 BC. It was described as one of the five sacred plants, and is purported by religious scholars to be a source of happiness and a liberator, given to humans to help them attain delight and lose fear, as well as provide a release from anxiety.

Despite its high prevalence and use, cannabis is illegal in India, except in government-authorised premises that produce and sell bhang, which can be either ground cannabis balls or a drink made by mixing cannabis in milk.

The cannabis sold as bhang is of the Cannabis Indica rather than the Cannabis Sativa variety, has a lower THC content and is generally used to induce sleep, or is used as an appetiser rather than for its recreational properties. Bhang is also used during the celebrations of some Hindu rituals.

The most popular occasions for bhang consumption include festivals such as Holi and Maha Shivaratri, where it is used in two ways: as a thandai (an Indian cold drink prepared with a mixture of almonds, fennel seeds, watermelon kernels, rose petals, pepper, vetiver seeds, cardamom, saffron, milk and sugar) or in a pakora (a fried snack, also known as bhajji or a goli). Holi celebrations account for 30% of India's cannabis consumption when it marks the culmination of the auspicious period, starting from Basant Panchami, for serving bhang to Lord Shiva.

A report published by India's Ministry of Social Justice and Empowerment Data (*The Magnitude of Substance Use in India, 2019*) found that cannabis and opioids were the most commonly used substances after alcohol. According to the report, almost 3% of the population had used cannabis in the last year.

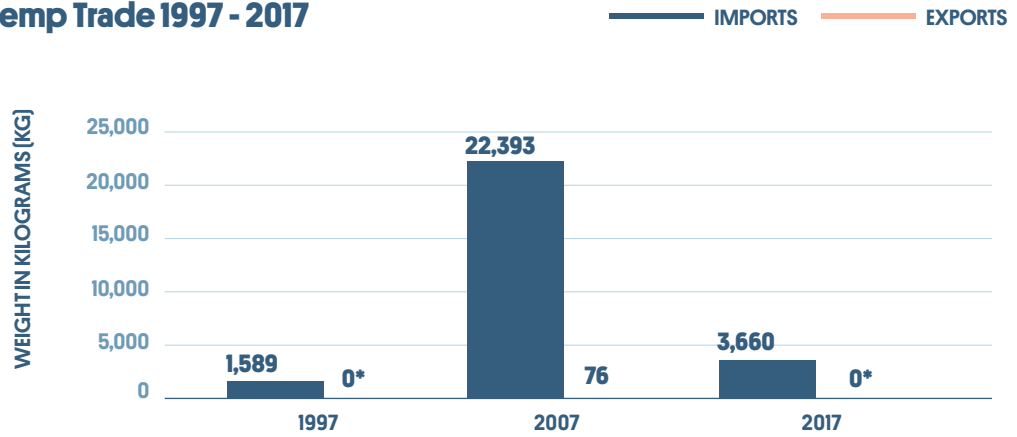
However, use of the legal form of cannabis (bhanga) stood at around 2% (approximately 27 million people), and an estimated 1.2% (approximately 16 million) use illegal cannabis products. The report found that Uttar Pradesh, Punjab, Sikkim, Chhattisgarh and Delhi reported the highest use of cannabis.

It is reported that almost the entire community in the mountain village of Malana in the state of Himachal Pradesh is involved in the production of some 500 kilograms of hashish each year. In fact, migrant labour from Nepal is needed to help harvest and process the cannabis. The village has a number of famous cannabis brands, such as Malana Cream, Malana Gold, and Malana Biscuits. However, rather than capitalising on the growing trends towards legalisation, as well as the growing global demand for cannabis, the Indian authorities have reportedly begun to suppress the traditional economy revolving around cannabis cultivation and hashish production, most notably in the Himalayan ranges.

In 2017, police in Malana destroyed some 88 acres of cannabis crops. The government has encouraged crop-substitution initiatives in the state, with apples, peas and tiger lily being promoted as suitable alternatives, but these have met with limited success.

HEMP

Hemp Trade 1997 - 2017



*No data available for exports

Source: UN Comtrade

Hemp cultivation is legal only with a licence in India, and permission is given by the Indian authorities to cultivate hemp solely for fibre for the textile industry. The government has not yet legalised the use of hemp seeds and flowers for medical and food-processing industries. In July 2018, Uttarakhand in Northern India became the first state to receive a hemp-cultivation licence. In November 2018, the Indian government announced that it would issue hemp-growing permits to another northern state, Uttar Pradesh.

A hemp licence allows farmers to cultivate hemp under the supervision of the Excise Department. In a bid to boost the local agrarian economy, the government of Uttar Pradesh has committed to doubling the income of farmers by 2022, with hemp integral to achieving this aim.

In October 2018, the *Indian Industrial Hemp Association* (IIHA) announced a Rs.1,100 crores (US\$150 million) investment in expanding hemp cultivation, research, and other initiatives to grow the industry in Uttarakhand. The investment was raised from private investors Sharma, Chandra Prakash Shah and Nimit Kasliwa, as well as from Indian corporate groups.

REGULATORY ENVIRONMENT

The approval of the 1961 *Single Convention on Narcotic Drugs* has prohibited the use of cannabis in India for nearly 60 years. However, India successfully protested against full prohibition and has defended the traditional use of cannabis, its medicinal benefits and its limited potential for dependence, compared with other substances. India ensured that the leaves and seeds of cannabis were omitted from the 1961 Convention. This enabled the country to safeguard the traditional and religious uses of bhang.

In India, the law distinguishes between two types of cannabis products: ganja (the flowering or fruiting tops of the cannabis plant) and charas or hashish (cannabis resin). Regulations are more relaxed for ganja. India has also made legal provisions for the medicinal and scientific use of the plant, but these provisions have yet to be implemented.

The laws surrounding cannabis are governed by the *Narcotic Drugs and Psychotropic Substances Act*, formulated in 1985, which lists cannabis as a Schedule 1 drug, and includes in its definitions:

A

Charas (the separated resin, in whatever form, whether crude or purified, obtained from the cannabis plant) and the concentrated preparation and resin known as hashish oil or liquid hashish

B

Ganja, that is, the flowering or fruiting tops of the cannabis plant (excluding the seeds and leaves when not accompanied by the tops), by whatever name they may be known or designated

C

Any mixture, with or without any neutral material, of any of the above forms of cannabis or any drink prepared therefrom.

The use of cannabis is punishable by six months in prison and/or a fine of Rs.10,000 (US\$1,439). Time in prison may be waived if the offender opts for addiction treatment.

However, bhang is legal in India, and, owing to its integral role in spiritual practices, criminalising the use of bhang would be almost impossible.

India's cannabis laws, however, are said to be rarely enforced and are treated as a low priority in certain parts of India. Large areas of cannabis grow wild in many parts of northern and southern India; and some states, including West Bengal, Tripura and states in the North East, have had their own local laws permitting the use of small amounts of cannabis, or ganja. However, since March 2018, when the government led by the Bharatiya Janata Party took power in Tripura, the police have cracked down on cannabis cultivation in the region. As a result, many farmers have turned to less lucrative rubber farming.

However, there are rumblings of legislative change in the country, and in 2017, in a meeting of a group of ministers studying a new policy on drugs, India's Women and Child Development Minister, Maneka Gandhi, voiced her support for the legalisation of cannabis for medicinal purposes. She was quoted as saying:

“**‘[In] some of the developed countries such as the US, cannabis has been legalised, which ultimately results in less drug abuse ...The possibility of the same may be explored in India ... cannabis should be legalised for medical purposes, especially as it serves a purpose in cancer [treatment]’**

The *Great Legalisation Movement* (GLM) is a voluntary organisation that exists across India and actively lobbies the Indian government to legalise the use of cannabis. The GLM spreads knowledge of cannabis' health properties through social media and its 'ambassadors' throughout the country. The GLM distributes cannabis oil for free to cancer patients; however, this task is done more covertly due to its illegality.

Another factor in varying local attitudes towards cannabis can be determined by strong local governments who are keen to implement laws directed at the needs of their own populations.

With regards to commercial hemp cultivation, India's *Narcotic Drugs & Psychotropic Substances Act* (NDPS) of 1985 allows state governments the freedom to establish their own policies 'as long as they provide verifiable scientific and operational evidence that hemp cultivated shall not be diverted for misuse'.

LICENCES AND AVAILABILITY

Cannabis is India's most popular drug, and both sativa and indica are native to the country, growing wild in gardens and parks in the monsoon season.

The potential legalisation of medical cannabis was widely reported in the media in November 2018, with scientists said to be actively studying its therapeutic properties for the management of conditions associated with cancer, epilepsy and sickle-cell anaemia.

The *Indian Institute of Integrative Medicine* (IIIM) has been permitted by the government to grow cannabis for medical research and drug development, with clinical trials of any cannabis-based drugs to be carried out in collaboration with the Tata Memorial Hospital in Mumbai. Regulatory approval for the trials is currently being sought.

A number of start-ups, including *Bombay Hemp Company* (BOHECO) and *Nirog Street*, have been collaborating with the *Council of Scientific and Industrial Research* (CSIR) on medical research to find cures or treatments for diseases such as epilepsy, MS and cancer.

The CSIR has been granted a licence to produce such a cannabis-derived drug from the Jammu and Kashmir government; however, research is still ongoing.

HEALTHCARE ANALYSIS

TOTAL ESTIMATED HEALTHCARE EXPENDITURE

US\$101B

TOTAL ESTIMATED PHARMACEUTICAL SPENDING

US\$16.3B

TOTAL ESTIMATED REQUIREMENT OF CANNABIS 2019

10 grams

APPROVED CANNABIS-BASED PRODUCTS

■

Source: WHO/ IFPMA/ INCB/ Prohibition Partners

Both in terms of revenue and employment, healthcare is one of India's largest sectors and is growing at a fast pace as millions of people join the ranks of India's middle classes each year. The public sector consists of limited secondary- and tertiary-care institutions in the main cities, with primary healthcare facilities (PHCs) offering basic healthcare facilities in rural areas.

Private sector healthcare provides secondary-, tertiary- and quaternary-care institutions, focusing on metros, tier I and tier II cities.

India has a vast pool of well-trained medical professionals, and, in terms of cost, the services provided compare favourably with other countries in Africa and Asia. The value of the market is expected to rise to over US\$130 billion by 2022, and government expenditure on healthcare is set to increase from approximately 1.4% of GDP in 2018 to an estimated 2.5% by 2025.

In September 2018, the government launched Pradhan Mantri Jan Arogya (PMJAY) to provide health insurance to more than 100 million families each year. This followed the August 2018 approval of Ayushman Bharat-National Health Protection Mission as a centrally sponsored scheme contributed to by central and state governments.

Available data shows that in 2014 there were around 0.7 doctors and 1.4 nurses per 1,000 inhabitants. However, the *National Health Profile 2018*, an annual report released by the *Central Bureau of Health Intelligence* (CBHI) revealed that one doctor (allopathic, government doctor) serves a population of 11,000 – ten times more than recommended by the WHO.

WHO data shows that India had a total of 1,005,281 physicians in 2016; 2,778,248 nursing and midwifery personnel; and 741,548 pharmaceutical personnel.

Ram Vishwakarma, Director of the IIIM, was quoted in the media as saying that cannabis-based drugs have the potential to meet the needs of terminally ill cancer patients and of those suffering from epilepsy and sickle-cell anaemia, a hereditary disease that afflicts nearly 20 million people living mainly in India's central states.

COMMERCIAL OPPORTUNITIES

Forecast Value of the Indian Cannabis Market, by Sector, 2024

	FORECAST MEDICAL CANNABIS MARKET VALUE 2024	FORECAST RECREATIONAL CANNABIS MARKET VALUE 2024	TOTAL 2024
TOTAL	US\$89.1M	US\$495.5M	US\$584.4M

Source: WHO/ IFPMA/ INCB/ Prohibition Partners

While legalisation is still some way off, the number of cannabis and hemp (the non-psychotic component) start-ups is rising.

These companies typically focus on medicines, cosmetics, textiles, accessories and foods, although currently the raw material is either imported from China or Europe or bought in from Uttarakhand.

Two states, Himachal Pradesh, and Jammu and Kashmir, have sought to legalise cannabis cultivation. In November 2018, Chief Minister Jai Ram Thakur was quoted in the media as saying that demand for legalising cannabis cultivation has been growing in Himachal Pradesh. Local media reports further describe how the Himachali areas in the Kullu district in the state, including Sainj and Malana, are 'becoming famous across the world for their high-grade and high-potency cannabis strains, [and] many in the government feel that legalising the cultivation can help boost the economy of local cultivators'.

The passing of the 2015 *Phytopharmaceutical Act* facilitates further research into plant-based medicines and could spell sizeable opportunities for companies looking to invest in cannabis research.

India's beauty and wellness industry is also experiencing strong growth, with the market, inclusive of beauty products, beauty salons and spas, currently worth an estimated US\$11 billion. Recent market intelligence indicates that the herbal beauty business is a key driver of growth in this sector, with a high level of consumer awareness of the importance of natural ingredients.

HEMP PRODUCERS

The following provides an overview of the key hemp producers currently operating in India. It is not an exhaustive list.

BOHECO (BOMBAY HEMP COMPANY)

Incorporated in 2013, BOHECO is an agro-based start-up that aims to reimagine the future of Indian agriculture and sustainable living with hemp. The company is said to have around 15,000 unique customers, around 70% of them from the textile sector. The company is working towards developing a B2C apparel brand and B2B textiles and also conducts wider studies to understand the medical uses of industrial hemp.

B.E HEMP (BASED IN BANGALORE)

Imports hemp-fibre products (dream catchers, flip flops, bags, accessories, etc.) primarily from Nepal, selling them via the company's social media accounts, e-commerce website and flea markets.

HEMPCANN SOLUTIONS

Primarily an importer of hemp products such as hemp protein powder, oil and tea from countries where industrial hemp is legalised, for example, Canada. Director Sourab Agarwal is waiting for a licence from the State Government of Orissa to grow cannabis plants in the state.

HEMPSTER

India's first hemp care brand, using cold-pressed hempseed oil to manufacture body, face and hair care products.

There is significant collaboration in the sector among local start-ups who all aim to develop and grow the domestic market.

BOHECO, for example, in addition to developing its own product lines, is also a major supplier of raw material to *Hempster* and *B.E Hemp*.

Japan

MARKET OVERVIEW

POPULATION

126.4M

GDP

US\$4.9T

RULING
GOVERNMENT PARTY

LIBERAL
DEMOCRATIC
PARTY

PARTY STANCE
ON CANNABIS

ILLEGAL. FOLLOWING LEGALISATION
OF CANNABIS IN CANADA, JAPAN
WARNED ITS CITIZENS THAT IT REMAINED
A CRIMINAL OFFENCE FOR JAPANESE
CITIZENS TO CONSUME CANNABIS EVEN
WHEN IN A COUNTRY WHERE IT IS LEGAL
TO DO SO.

TOTAL ESTIMATED
HEALTHCARE EXPENDITURE*

US\$521.3B

TOTAL ESTIMATED BEAUTY
& WELLBEING
EXPENDITURE

—

ALCOHOL
CONSUMPTION
(LITRES PER CAPITA
PER YEAR)

8

PREVALENCE OF
TOBACCO USERS

22.1%

PREVALENCE OF
CANNABIS USERS

0.2M

AVERAGE COST PER
GRAM OF CANNABIS

US\$41.5

*Estimate based on most recent healthcare expenditure as % of GDP

Source: World Bank/ WHO/ UNODC/ Prohibition Partners

Japan's legislative approach to cannabis was determined after the country's defeat by America at the end of World War II. Prior to 1945, hemp had been used for products such as traditional medicine, paper and cloth. The earliest evidence of cannabis in Japan dates back to the Jomon Period (10,000–200 BC).

There have since been pottery relics recovered in Fukui Prefecture in the Chūbu region on Honshū island containing seeds and scraps of woven cannabis fibres.

According to Junichi Takayasu, founder of Japan's cannabis museum, the Taima Hakubutsukan: 'Cannabis was the most important substance for prehistoric people in Japan. They wore clothes made from its fibres and they used it for bow strings and fishing lines.'

However, with the arrival of Americans came the concept of prohibition, which was both economically and politically motivated. The increase in textile manufacture in Japan brought with it a need to increase the efficiency of the sector, and modern chemical fibres were cheaper and easier to produce than hemp. In addition, the Americans wanted to see Japan impose full prohibition, similar to its own domestic outlawing.

While the ban appeased both nations, some 25,000 cannabis farms were closed and traditional cannabis farmers and their industry were all but destroyed. Today just a handful of farmers are licensed to grow hemp.

Current attitudes indicate that the existing repressive narcotics legislation in Japan is unlikely to be overturned. However, the influx of Western culture into Japan is thought to be liberalising attitudes towards cannabis. Among the young, consumption and demand are rising, which is also stimulating response from local growers and/or producers willing to risk prosecution for profit.

REGULATORY ENVIRONMENT

All forms of narcotics are banned in Japan. Cannabis has been illegal since 1948, and is governed by the *Cannabis Control Law, 1948 Law No. 124*, which concerns possession, cultivation and transfer of cannabis.

Article 1 of the act refers to ‘hemp’, which covers hemp grass and its products, including resins, but excludes mature stems and seeds (hemp seed is used in shichimi, a common Japanese spice mix, which contains seven ingredients).

Use and possession are punishable by up to five years’ imprisonment, as well as a fine. Cultivation, sale and transport are punishable by imprisonment of between seven and ten years, and a fine. While the cannabis grown and cultivated for hemp has a far lower THC count than recreational cannabis, they are treated identically under the law, and the same word, ‘taima’, is used for both.

Public opinion on cannabis is also influenced by the fact that punishment for using it is currently the same as for ‘hard’ drugs such as cocaine and heroin. This zero-tolerance approach means that – even among the young and trendy – discussing narcotics, including cannabis, can unnerve people and is considered outside social norms.

Media articles quoting Japanese police statistics from 2017 show that 3,008 people were arrested on cannabis charges in 2017, up by 472 cases in 2016 and the highest annual figure ever recorded in the country.

The growing popularity of cannabis is also reflected in a spike in arrests in younger age groups. The highest number of arrests were in the 20–29 age group, with 9.4 arrests per 100,000 people, almost double the 2014 numbers of 5 per 100,000 people. The under-20s age bracket spiked to 4.1 arrests per 100,000 people in 2017, up from 1.1 per 100,000 people in 2014.

LICENCES AND AVAILABILITY

In 1913, prior to cannabis being illegal, the United States Department of Agriculture (USDA) stated that hemp was cultivated mainly in the districts of Hiroshima, Tochigi, Shimane, Iwate and Aizu, and also to some extent in Hokushu (Hokkaido) and Kyushu.

CBD oil has been legal in Japan since 2016; however, Elixinol was the first company allowed to advertise its products with an outdoor billboard in 2018. While CBD oil is legal in Japan, products made in the country or legitimately imported for the Japanese market are formulated with THC content of less than 0.3%.

Article 1 of the *Cannabis Control Law, 1948 Law No. 124* covers hemp grass and its products, including resins, but excludes mature stems and seeds. Japan’s local prefectures issue licences for cultivating hemp for non-drug use, but very few such licences have been issued in recent years.

There are two types of licences. The easiest one to obtain entitles the holder to cultivate only low-THC hemp for non-drug use; this is a cultivation licence aimed at farmers. The most common seed strain is ‘Tochigishiro’, an extra low-THC strain bred by the ‘Agricultural Experimental Station’ in Tochigi prefecture, 50 kilometres north of Tokyo. The second licence is a researcher licence for the police to manage the hemp mainly as a narcotic drug.

HEALTHCARE ANALYSIS

TOTAL ESTIMATED
HEALTHCARE EXPENDITURE
US\$521.3B

TOTAL ESTIMATED
PHARMACEUTICAL SPENDING
US\$117.3B

TOTAL ESTIMATED REQUIREMENT
OF CANNABIS 2019
0 grams

APPROVED
CANNABIS-BASED PRODUCTS
Elixinol
Epidiolex

Source: WHO/ IFPMA/ INCB/ Prohibition Partners

year. According to the WHO, the total number of physicians in Japan was 300,075 in 2015, and there were also 1,425,322 nursing and midwifery personnel and 216,077 pharmaceutical personnel.

Japanese traditional herbal medicine, or Kampo, is also used, and around 148 different formulations, mainly herbal extracts, can be prescribed within the national health insurance system.

Doctors prescribing Kampo are required professionally, although not by law, to have a basic knowledge of the indications for each Kampo formulation when prescribing, together with knowledge of Western medical diagnosis.

The Japanese healthcare system has offered 'universal coverage' since 1961, however, it is struggling with a range of challenges that include an ageing population, a decline in the number of premium-paying workers, and the rising cost of new drugs and technologies.

It is compulsory for Japanese citizens to join a public insurance system via their employer or municipal government, and premiums are determined by income. This allows access to government-approved medical procedures and prescription drugs, for which they pay 30% or less of the cost.

Statistics from the OECD in 2016 show that there were 2.4 doctors/1000 inhabitants, and 11.3 nurses/1000 inhabitants in Japan that

COMMERCIAL OPPORTUNITIES

Forecast Value of the Japanese Cannabis Market, by Sector, 2024

	FORECAST MEDICAL CANNABIS MARKET VALUE 2024	FORECAST RECREATIONAL CANNABIS MARKET VALUE 2024	TOTAL 2024
TOTAL	US\$794.6M	US\$1,263.1M	US\$2,057.7M

Source: WHO/ IFPMA/ INCB/ Prohibition Partners

Japan is a lucrative market for functional foods and natural health products, with sales said to be worth from US\$15 million to US\$23 million. Japanese consumers are well informed about the effectiveness of health products, particularly plant-based health products, and according to the owner of one major supplier this market is 'underserved'.

Demand for CBD products in the country is said to be 'booming', with international companies moving to capitalise on that growth.

In June 2018, *Phivida Holdings*, headquartered in Vancouver, sent its first shipment of tinctures featuring CBD to Japan in advance of a planned national rollout. The products were shipped from the firm's US subsidiary, which has farms and manufacturing operations in Colorado and California.

The products, including oils and capsules, will be sold by *Asayake*, a Japanese importer and distributor of CBD products who will offer the products online to consumers. *Phivida* plans to open an office in Tokyo to facilitate its entry into the market.

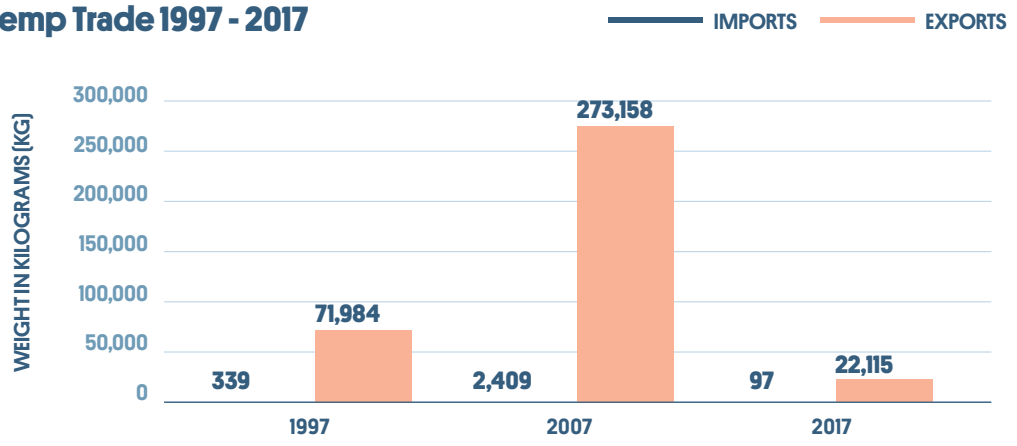
In September 2018, *Elixinol Global Limited (Australia)*, a global player in the industrial hemp and emerging medical cannabis industry, with a range of products that includes hemp-derived CBD dietary supplements, food and wellness products as well as medicinal cannabis products, announced plans to in-

crease its ownership in *Elixinol Japan*, which has been in operation since 2016, to 50.5%, at a cost of US\$2.2 million. The funds will provide working capital to scale *Elixinol Japan* for anticipated growth in the Japanese market for hemp-derived CBD, food products and skincare. The transaction was expected to be completed by Q4 2018.

Phivida's shares are traded on the Canadian Securities Exchange under the symbol VIDA. *Elixinol Global (Elixinol Japan's* parent company) is traded on the Australian Stock Exchange under the symbol EXL.

HEMP

Hemp Trade 1997 - 2017



Source: UN Comtrade

If you're having problems getting your cannabis and/or hemp project funded contact us:

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Malaysia

MARKET OVERVIEW

POPULATION

32M

GDP

US\$314.5B

RULING
GOVERNMENT PARTY

ALLIANCE
OF HOPE

PARTY STANCE
ON CANNABIS

MEDICAL CANNABIS LEGAL
WITH LICENCE

TOTAL ESTIMATED
HEALTHCARE
EXPENDITURE*

US\$12.3B

TOTAL ESTIMATED BEAUTY
& WELLBEING
EXPENDITURE

—

ALCOHOL
CONSUMPTION
(LITRES PER CAPITA
PER YEAR)

0.9

PREVALENCE OF
TOBACCO USERS

21.5%

PREVALENCE OF
CANNABIS USERS

0.4M

AVERAGE COST PER
GRAM OF CANNABIS

US\$0.6

*Estimate based on most recent healthcare expenditure as % of GDP

Source: World Bank/ WHO/ UNODC/ Prohibition Partners

Malaysia's restrictions placed on cannabis, known as bhang, date back to the *Dangerous Drugs Ordinance 1952* in British Malaya,

before the country's independence in 1957. Prior to this, and following their acquisition of Dutch Malacca in 1824, the British raised taxes on the production of bhang. Medical cannabis is legal in Malaysia.

- Section 2 of the 1952 *Dangerous Drugs Act* enables the Minister of Health to issue licences to cultivate or plant cannabis for 'research, educational, experimental or medical purposes'. Sections 4–6 of the law state that the Minister of Health is able to authorise the 'import, export and possession of cannabis'.
- A further law, the *Poisons Act 1952*, classifies cannabis as a Group B poison that can be sold by GPs, dentists, vets and pharmacists.

The country's war on drugs accelerated in the 1980s with Prime Minister Tun Dr Mahathir Mohamed making drug abuse and trafficking a top national security priority. The 1983 amendment of the *Dangerous Drugs Act 1952* imposed a mandatory death sentence on drug trafficking, and according to *The New York Times*, within six years of enforcement, 235 people were sentenced to death under the Act.

In October 2018, the current Prime Minister, Tun Mahathir bin Mohamad, known informally as Dr M, alongside his now reform-minded government, announced the complete abolition of the death penalty.

In February 2019, the Malay health ministry stated that it would consider allowing the use of medical cannabis, as long as a pharmaceutical company could prove that it was both effective and safe. Deputy Health Minister Dr Lee Boon Chye was quoted in the media as saying:

If there is enough information to show it is safe and effective for use for certain conditions, then the ministry will be able to consider based on the particular indication

”

REGULATORY ENVIRONMENT

In terms of the *Dangerous Drugs Act 1952*, penalties for drug offences in Malaysia are harsh and in line with most other neighbouring Southeast Asian countries. Until October 2018, the death penalty was mandatory for drug trafficking, and in March 2018, *Amnesty International* reported that 799 of those on death row, including 416 foreign nationals, were convicted of drug trafficking.

However, there has been a shift in official attitudes in Malaysia. A 2018 death sentence given to a young man for selling cannabis oil to patients provoked widespread outcry. In August 2018, the death sentence handed to Muhammad Lukman, who was convicted of possessing, processing and distributing cannabis oil, sparked a debate over the use of medical cannabis and resulted in a Change.org petition to free him.

The petition attracted more than 60,000 signatures. The Malaysian government responded by placing a moratorium on his sentence, abolishing the death penalty and promising to review its punitive approach to drugs. The government also said it would examine how drugs such as cannabis could be used for the treatment of a range of diseases, including cancer.

A number of leading politicians, including Prime Minister Mohamad, intervened. The death penalty was abolished, although those convicted of drug trafficking may still face decades in prison, including a life sentence. Some ministers, including the Minister of Water, Land and Natural Resources, Dr A Xavier Jayakumar, have come out in support of the use of medical cannabis, which is now being examined by the government.

The law is somewhat contradictory in that while Malaysia has always had harsh anti-drug regulations, the aforementioned Sections 4 to 6 of the *Dangerous Drugs Act 1952* (under which traffickers and distributors such as Lukman have been convicted), allow for the importation, exportation and possession of

cannabis with the approval of the Health Minister. The Minister is also empowered under Section 6B to allow 'public officers' to plant or cultivate cannabis for reasons of research, education, experimentation or medical purposes.

Cannabis is also designated a Group B poison under the *Poisons Act 1952*, where (under Section 21) it can be sold by certain categories of people, i.e. registered medical practitioners (for treatment of a patient); dental surgeons (excluding dentists), for the treatment of a dental patient; veterinary officers (for treatment of animals only); and licensed pharmacists, with a prescription from the professionals listed above.

However, the Ministry of Health has warned that cannabis remains illegal under both Acts, unless registered with the authorities for medical use.

LICENCES AND AVAILABILITY

While the legal status of cannabis has been gazetted into law, it has yet to be enforced, and the country still has to draft laws specific enough to differentiate the uses of the drug.

Health Director-General Dr Noor Hisham Abdullah has acknowledged that while there is a lack of research on the medical use of cannabis, this can now officially be carried out. The ministry has been empowered to give exemption for its use in research even without it being formally registered in the country.

The Ministry of Health has said that while consideration will be given to the legalisation of cannabis for medical use, the onus will be on pharmaceutical firms to first demonstrate effectiveness and safety while submitting evidence proving its efficacy in treating medical conditions. The federal government will then perform its own due diligence despite advances made elsewhere. Companies researching the benefits of cannabis will be required to register their evidence with the *National Phar-*

pharmaceutical Regulatory Agency. According to the government, it will not be acceptable for pharmaceutical companies to simply reference the results of foreign studies.

In February 2019, Deputy Health Minister Dr Lee Boon Chye stated in the media that while there are currently no companies in Malaysia attempting to register a medical cannabis product, there is

nothing preventing a pioneer company from trying to register such medication and submitting its product to the ministry's review board.

”

HEALTHCARE ANALYSIS

TOTAL ESTIMATED
HEALTHCARE EXPENDITURE
US\$12.3B

TOTAL ESTIMATED
PHARMACEUTICAL SPENDING
US\$2.21B

TOTAL ESTIMATED REQUIREMENT
OF CANNABIS 2019
30 grams

APPROVED
CANNABIS-BASED PRODUCTS



Source: WHO/ IFPMA/ INCB/ Prohibition Partners

Dr Chye continued: ‘Those who wish to use cannabis-based products must submit the formula to the pharmaceutical department to be registered as a medicine before it can be used. When the application is submitted, the pharmacy will consider whether the formulation is effective and safe according to the prescribed indication before it is approved for use.’

Malaysia has a two-tier health system, providing public universal healthcare as well as private healthcare to Malaysian nationals. Private healthcare services are mainly used by the upper-middle to affluent sector of the population.

Public healthcare is paid for via general taxation and offers low cost universal and comprehensive services. While the government has increased funding to cope with factors such as the large ageing demographic and an increasing population, private healthcare offers a number of obvious advantages. These include more doctors (attracted by higher salaries in the private sector), a higher doctor-patient ratio, faster access to services and less crowding in private hospitals.

In 2018, the government set aside around US\$6.75 billion or 10% of the annual national budget for public healthcare.

The new government, which came into power in May 2018, promised a range of economic and financial reforms including the introduction of a healthcare scheme to allocate RM500 (US\$122) a year for those on low incomes to receive basic healthcare in registered private clinics.

According to the WHO, there were 46,491 physicians in the country in 2015, and 125,100 nursing and midwifery personnel. Pharmaceutical personnel numbered 15,819. Malaysia's doctor to population ratio was 1:6 in 2016, and the country is said to have a target to achieve a ratio of 1:4 by 2020. The high number of medical personnel could be positive news for the distribution and

COMMERCIAL OPPORTUNITIES

Forecast Value of the Malaysian Cannabis Market, by Sector, 2024

	FORECAST MEDICAL CANNABIS MARKET VALUE 2024	FORECAST RECREATIONAL CANNABIS MARKET VALUE 2024	TOTAL 2024
TOTAL	US\$9.8M	US\$28.5M	US\$38.3M

Source: WHO/ IFPMA/ INCB/ Prohibition Partners

prescription of medicinal cannabis, indicating a wide potential reach and large user base.

With the Ministry of Health effectively supporting research into medical cannabis, and statements from the ministry to the effect that the use of medical cannabis could be allowed as long as a pharmaceutical company could prove both its safety and efficacy, it would seem that the market in Malaysia may soon attract the attention of local entrepreneurs as well as global players in the cannabis industry.

While no companies in Malaysia have – at the time of writing – attempted to register a medicinal product containing cannabis or cannabis extracts, the country’s deputy health minister has been quoted as saying that there is nothing to prevent any company from doing so, and submitting its product to the ministry’s board for review.

Clinical trials have already been conducted regarding the effectiveness of medical cannabis in treating the ill effects of chemotherapy for cancer, as well as the symptoms of several other illnesses.

In March 2019, Jeram assemblyman Mohd Shaid Rosli proposed that parts of the Kuala Selangor constituency could be turned into an agricultural hub to cultivate and research medical cannabis.

Mohd Shaid was quoted in the media as saying:

‘You can get RM3,000 an acre per year for palm oil. Cannabis brings in RM9 million a year ... one acre with three harvests can get you RM9 million a year. If Selangor can produce [cannabis] across more than 100 acres, we will be the world’s biggest [cannabis] producer. This can put Selangor on the world map and make us famous.’

To date, just one company has registered a medical cannabis-based product in Malaysia. The product – a mouth spray to be used for the treatment of moderate to severe spasticity due to multiple sclerosis – was voluntarily withdrawn in 2015 and the company terminated registration of the product. While the reasons for the withdrawal are unknown, it is thought that possible side effects may have been the cause.

In April 2019, Australian medical cannabis grower and manufacturer *THC Global* partnered with Malaysian biotech company *Heleogenics*. Through this partnership, THC’s main goal is to liaise with the Malaysian government and push for it to legalise medical cannabis and develop policy frameworks and legislation.

LOCAL EXPERT ANALYSIS:

HARISH KUMAR THANABALAN, SECRETARY AT MALAYSIA AWARENESS SOCIETY (MASA)

What is the role of Malaysia Awareness Society (MASA) in terms of cannabis legislation in Malaysia?

MASA is the first and leading cannabis advocate team, formed in 2011. We are closely working with the government to allow cannabis to be considered as a plant that needs to be decriminalised, instead of being considered as a pharmaceutical product.

What are the barriers to legalising medical cannabis in Malaysia?

Medical cannabis is still considered a dangerous drug and will only be considered by the government if it proves to be an effective pharmaceutical product. This is a barrier we are trying to overcome, as the natural whole plant will still be criminalised and people imprisoned without an end to the war on drugs.

What is the status of the hemp industry in Malaysia and how is this likely to develop over the next few years?

We can expect the government to reclassify hemp as a plant that contains little to no THC and has many industrial uses that can improve the country's GDP by 2020.

What developments do you expect to see in legislation in terms of medical as well as recreational cannabis in the next 12 months/5 years in Malaysia?

By 2020, hemp may be accepted. Research on the safety of THC needs to be completed locally to open the path for THC products after an estimated two years (2022) before the industry blooms into all sectors.

South Korea

MARKET OVERVIEW

POPULATION

51.6M

GDP

US\$1,530.8B

RULING
GOVERNMENT PARTY

DEMOCRATIC
PARTY

PARTY STANCE
ON CANNABIS

MEDICAL CANNABIS
LEGALISED;
RECREATIONAL CANNABIS
ILLEGAL

TOTAL ESTIMATED
HEALTHCARE
EXPENDITURE*

US\$116.4B

TOTAL ESTIMATED BEAUTY
& WELLBEING
EXPENDITURE

-

ALCOHOL
CONSUMPTION
(LITRES PER CAPITA
PER YEAR)

10.2

PREVALENCE OF
TOBACCO USERS

23.2%

PREVALENCE OF
CANNABIS USERS

0.11M

AVERAGE COST PER
GRAM OF CANNABIS

US\$0.4

*Estimate based on most recent healthcare expenditure as % of GDP

Source: World Bank/ WHO/ UNODC/ Prohibition Partners

South Korea legalised medical cannabis in November 2018, with the country's National Assembly voting to amend the *Act on the Management of Narcotic Drugs*. However, the programme will be heavily regulated, with products only made available for certain conditions, such as epilepsy.

The law came into effect on 12 March 2019. Recreational cannabis currently remains illegal throughout South Korea.

In historical terms, Koreans have utilised cannabis as a source of fabric since 3,000 BC. During the 1930s, hemp was cultivated in every province of Korea. As recently as the late 1950s, 9,000 hectares of hemp were grown in South Korea.

The crackdown on cannabis first began with the 1976 *Cannabis Control Act*, which was introduced by South Korean President Park Chung-hee in a bid to curtail any unrest in the 1970s. In 2000, the law merged with the *Narcotics Control Act*. The ban on cannabis has remained unchanged ever since.

REGULATORY ENVIRONMENT

South Korea perfectly illustrates some of the complexities surrounding attitudes towards cannabis in Asia.

The new law, introduced by Democratic Party of Korea Representative Shin Chang-hyun, paves the way for the import of THC- and CBD-based medications that have already been approved for use in other countries. When it comes into effect, medical cannabis will be imported from regions such as the United States and Europe, although products that have not yet been approved for medical use in foreign countries will remain banned.

However, the country has no short-term or long-term plans to fully legalise any cannabis market. Indeed, following Canada's legalisation of recreational cannabis use in October 2018, South Korea followed Japan in warning its citizens against smoking cannabis in the newly liberalised country, saying it was still an offence under South Korean law.

Non-psychoactive doses of medical cannabis will be made available to patients under a strictly controlled process. Once in receipt of a doctor's prescription, patients have to go through an online application process via the *Korea Orphan and Essential Drug Centre* (KOEDC), a non-profit organisation established in accordance with *Pharmacy Act 91*, which facilitates access to medicines for rare conditions. The Ministry of Food and Drug Safety then approves access on a case-by-case basis.

Currently, only Epidiolex is available, and only those patients suffering from one of two rare forms of epilepsy (Lennox-Gestaut Syndrome and Dravet Syndrome) are allowed access to medicinal cannabis.

The *Cannabis Control Act 2895* of 1976 remains in force for products outside of the law, including recreational cannabis, enforced with a prison sentence of up to five years for illegal possession.

In South Korea, cannabis, known officially as 'daemacho' or colloquially as 'ddul', is considered a hard drug on par with methamphetamine and heroin. Smokers are punished with up to five years in prison or a fine of 50 million won (around US\$44,000). Currently, South Korean police are allowed to conduct random drug tests on citizens. Anyone found to have cannabis in their bloodstream may be subject to harsh penalties ranging from deportation for foreign nationals to prison sentences of up to five years.

LICENCES AND AVAILABILITY

Representative Shin Chang-hyun's bill, which will allow access to certain medical cannabis products, was said to be a response to both international trends and requests from local patients.

In terms of accessibility, those patients suffering from rare and incurable diseases for which no other treatment options are available in Korea, and those in possession of their medical records and a consultation letter from their physicians, will receive approval from the Ministry of Food and Drug Safety to obtain and use approved drugs such as Sativex (THC, CBD), Epidiolex, Marinol (dronabinol) and Canemes (nabilone).

Each application must specify a diagnosis along with the name of the drug, the dosage, the period of its administration and instructions on how to use it.

Approved conditions include epilepsy and HIV/AIDS. Applicants must supply medical records and a doctor's note stating that there is no existing alternative treatment. The drugs are supplied by the *Korea Orphan and Essential Drug Centre*.

HEALTHCARE ANALYSIS

TOTAL ESTIMATED
HEALTHCARE EXPENDITURE

US\$116.4B

TOTAL ESTIMATED
PHARMACEUTICAL SPENDING

US\$17.7B

TOTAL ESTIMATED REQUIREMENT
OF CANNABIS 2019

0 grams

APPROVED
CANNABIS-BASED PRODUCTS

Epidiolex
Marinol
Cesamet

Source: WHO/ IFPMA/ INCB/ Prohibition Partners

South Korea's healthcare system is run by the Ministry of Health and Welfare and funded by a compulsory National Health Insurance Scheme that covers around 97% of the population. Services are free to all citizens at the point of delivery, and foreign nationals living in the country enjoy the same access as the local population.

South Korean hospitals are well equipped with a good doctor/patient ratio – 2.3 doctors and 6.9 nurses per 1,000 inhabitants, according to the OECD (2017). South Korea is home to four major hospitals, Seoul National University Hospital, the Samsung Medical Centre, Asan Medical Centre and Yonsei Severance Hospital, which have some of the best facilities in the region.

COMMERCIAL OPPORTUNITIES

Forecast Value of the South Korean Cannabis Market, by Sector, 2024

	FORECAST MEDICAL CANNABIS MARKET VALUE 2024	FORECAST RECREATIONAL CANNABIS MARKET VALUE 2024	TOTAL 2024
TOTAL	US\$210.7M	US\$334.9M	US\$545.6M

Source: WHO/ IFPMA/ INCB/ Prohibition Partners

The Ministry of Food and Drug Safety's announcement is said to have followed the US Food and Drug Administration's approval of *GW Pharmaceutical's* cannabis-based drug Epidiolex (CBD) in June 2018.

Cannabis-derived products, including Sativex, Epidiolex, Marinol and Canemes or Cesamet (nabilone), that have already been approved by foreign health regulators will be available to certain patients; however, products unapproved in foreign territories will still be prohibited.

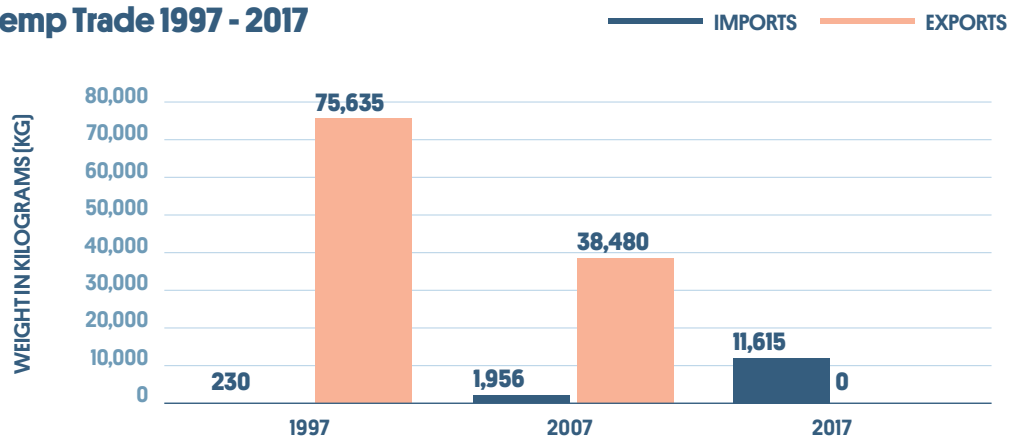
In April 2016, South Korea's sudden interest in hempseed as a substitution for fish protein led to a US\$3 million distribution deal between Canadian *Hempco* and *Seoulution*, a

Korean firm, whereby *Hempco* would supply *Seoulution* with 30 tonnes of hulled hempseed each month for 12 months. The deal was completed within just seven months resulting in a renewed deal whereby *Seoulutions Corp.* purchased a minimum of \$9 million of hulled hempseed nut/hearts from *Hempco*. In April 2019, Aurora Cannabis announced that, through an exchange of shares, it would acquire the remaining 48% of *Hempco Food and Fiber Inc.* that it did not already own.

South Korea was an unknown market destination for Canadian hemp until 2016, when, according to CNS Canada, 'the market exploded' and 'Canadian hempseed producers are scrambling to meet demand.'

HEMP

Hemp Trade 1997 - 2017



Source: UN Comtrade

Thailand

MARKET OVERVIEW

POPULATION

69.2M

GDP

US\$455.2B

RULING
GOVERNMENT PARTY

NATIONAL COUNCIL
FOR PEACE AND ORDER (NCPO),
A MILITARY JUNTA

PARTY STANCE
ON CANNABIS

LEGISLATION TO LEGALISE THE USE
OF CANNABIS UNDER MEDICAL
SUPERVISION HAS BEEN APPROVED
BY PARLIAMENT. RECREATIONAL USE
REMAINS ILLEGAL.

TOTAL ESTIMATED
HEALTHCARE
EXPENDITURE*

US\$17.4B

TOTAL ESTIMATED BEAUTY
& WELLBEING
EXPENDITURE

—

ALCOHOL
CONSUMPTION
(LITRES PER CAPITA
PER YEAR)

8.3

PREVALENCE OF
TOBACCO USERS

19.9%

PREVALENCE OF
CANNABIS USERS

0.6M

AVERAGE COST PER
GRAM OF CANNABIS

US\$5.1

*Estimate based on most recent healthcare expenditure as % of GDP

Source: World Bank/ WHO/ UNODC/ Prohibition Partners

The legalisation of medical cannabis, by royal decree in *The Royal Gazette*, came into effect on 18 February 2019. Cannabis, an essential part of Thai culture, was widely used as a traditional medicine for centuries before it was banned in 1934. Farmers once used cannabis to ease sore muscles after a long day's work, and reports indicate that it was also used to ease women's labour pains.

The word 'bong', a water pipe sometimes used to smoke cannabis, has its origins in the Thai language.

REGULATORY ENVIRONMENT

Cannabis was used in Thailand for centuries as a traditional medicine; however, possession, sale and use were criminalised by the *Cannabis Act, B.E.2477* of 1935.

Provisions for drug-related offences are covered by a range of laws described in the *Measure for Suppressing Narcotic Offenders Act 2534* (1991), with the two key Acts being the *Narcotics Act, B.E.2522* (1979), which lists cannabis as a class-5 narcotic, and the *Psychotropic Substances Act 2518* (1975), which classifies THC as a Schedule 1 drug.

Possession, cultivation and the import/export of up to ten kilogram of cannabis may result

in a maximum sentence of five years' imprisonment and/or a fine, with more than ten kilogram punishable by 2 to 15 years in prison and/or a fine.

Most of those arrested for possession of small quantities of cannabis are likely to be fined rather than sent to prison. Sentences for other banned substances can be much harsher.

In 2016, Justice Minister Paiboon Koomchaya called for the government to decriminalise and regulate cannabis. In August 2016, a public forum was held in Thailand to remove cannabis from Category 5 of the country's drug legislation. The *Agricultural Council* developed a proposal for the decriminalisation of cannabis and on 1 January 2017, hemp was decriminalised in 15 districts and six provinces in the north of Thailand.

In May 2018, Thailand's cabinet approved draft legislation to allow more research into the effects of medical cannabis. The *Government Pharmaceutical Organisation (GPO)*, a state-owned manufacturer of pharmaceutical products, began clinical trials with the aim of producing medicines for four specific conditions: Parkinson's disease, multiple sclerosis, drug-resistant epilepsy, and pain and nausea in cancer patients.

In late October 2018, officials announced that Thailand was planning to legalise medical cannabis – making it the first country in Southeast Asia to take such a step. The move was seen as an attempt by the government to financially

benefit from rising global demand and the high quality and popularity of Thailand's cannabis. The accompanying bill passed its first reading in the National Legislative Assembly (NLA) on 23 November 2018 with 145 votes of support and only one abstention. The bill outlined the uses of Category 5 for medicinal use.

A proposal to revise the legal framework was submitted to Prime Minister Prayuth Chan-ocha, who supported the plan. On 26 December 2018, by a vote of 166 to 0 with 13 abstentions, Thailand's NLA passed the second and third readings of an amendment that would legalise the production, import, export, possession and use of cannabis and kratom (a local plant with opioid properties) products for medicinal use.

The amendment states:

'Licences for the production, import, export, sale and possession of cannabis and kratom will be for government organisations, tasked with medical and agricultural research and education and narcotics suppression; the Thai Red Cross Society; Thai traditional and indigenous medical professions; medical universities; registered community-based farmers' organisations; international transport operators; international travelling patients who need to carry narcotics and those approved by the public health minister.'

The new law is known as the *2019 Narcotics Act* and is a modification of the *Narcotics Act of 1979*, which still classifies cannabis as a class-5 narcotic, bans its general use, and carries prison sentences for breaches of the law.

However, the FDA Secretary-General, Dr Tares Krassanairawiwong, stated that the newly published Act is a skeleton guideline, and requires a further eight additional regulations to provide more details relating to obtaining a licence, for the export, production, cultivation

and the advertising of cannabis.

Amendments to the Act also increase the National Narcotics Control Committee from 17 to 25 members. The GPO has already begun clinical trials with the aim of producing medicines to treat a number of conditions.

Within a period of three years from the date of enforcement of the new Act, the *Office of Narcotics Control Board* (ONCB) is to carry out evaluations of licences issued for the production, import/export, distribution or possession of medical cannabis every six months. Should changes to licence regulations occur, the ONCB can submit a request to the ministry to consider and make changes more appropriate to the current situation.

The government has stated that local cannabis growers will be 'under the scrutiny of state agencies', and must be Thai nationals. Cultivation must be approved and operated under the direct supervision of the ONCB.

There is also an 'amnesty period', as proposed by the FDA (Food and Drug Administration), with individuals and organisations already in possession of cannabis having to notify regulators within 90 days to be 'legally pardoned'. Under the amnesty, people (or organisations) who were in possession of cannabis for medicinal use prior to the law being enacted were invited to register. However, just four people did so on the first day. Those wishing to benefit from the amnesty need to obtain a medical certificate from a certified doctor, dentist or Thai traditional medicine practitioner to verify eligibility.

People who have been using cannabis for treatment of approved uses before the law was passed and want to go legal should first obtain a medical certificate verifying their eligible condition from a certified doctor, dentist or Thai traditional medicine practitioner.

LICENCES AND AVAILABILITY

While the use of cannabis for medical purposes became officially legal on 18 February 2019, recreational use remains illegal, with the government rejecting calls for decriminalisation in 2018.

With regards to medicinal cannabis, our research shows disagreements have emerged between local and foreign companies over control of the market.

- Businesses and activists are concerned that patent requests filed by foreign firms could result in the latter's dominance of the potentially lucrative market, limiting access to the market for local researchers and developers.
- There have even been threats to sue the government if foreign patents are granted. Strong opposition to foreign firms and a growing controversy surrounding the granting of patents has threatened to delay the legalisation process.
- In January 2019, the country's government ordered the Department of Intellectual Property (DIP) to revoke all patent applications that include cannabis by foreign companies within three months.

There are currently only two officially sanctioned plantations in Thailand permitted to grow a particular strain of cannabis with less than 1% THC and to supply hospitals or government research institutes.

According to the law, companies aiming to grow or trade in medicinal cannabis need to have at least two-thirds Thai capital, although foreign companies such as *CBD Med Card* would be allowed to manage databases and logistics for future producers and users.

The new legislation, according to local experts, also effectively excludes the private sector. While the Secretary-General of Thailand's ONCB has said that private firms would be able to cultivate, produce and sell medical cannabis if they claim two-thirds Thai owner-

ship, there will also be strict controls on cultivation, including a directive that all medical cannabis be grown indoors to prevent illegal practices and to ensure quality. This will, however, significantly increase cultivation costs.

In addition, licences will be restricted to authorised government agencies, including research institutions, universities and community farmer cooperatives. All growers will be required to work under the control of licence holders. Our research indicates that while the legalisation will allow for research and teaching, it may not necessarily have any real impact on the commercial market.

There are concerns that the five-year restriction on any expansion of existing licences, and a mandated two-year review, may result in a reversal of legalisation should the government assess any negative impacts on Thai society.

According to the ONCB, licences will be restricted to seven groups:

1

State-run research agencies or agencies teaching medicine and related fields

2

Professional practitioners of medicine, pharmacy, dentistry, veterinary and Thai medicine

3

Privately run educational institutes that teach or research medicine or pharmacy

4

Eligible community enterprises comprising farmers who are legally registered to grow cannabis

5

Trans-border public transport operators

6

Foreign patients or those patients travelling abroad who rely on cannabis medication

7

Any other persons specified by related ministerial regulations.

Qualified licence applicants must also furnish details of their projects to the proper authorities and account for any legal consequences that may arise from the cannabis being abused.

As the first country in Southeast Asia to legalise cannabis for medical and research purposes, Thailand began cultivation at its first licensed plantation in February 2019, owned and operated by the GPO. The first batch – 2,500 5ml bottles containing sublingual allergy drops – is expected to be available in July 2019, when they will be used on patients taking part in a clinical trial.

The GPO embarked on a three-phase cannabis plan in February 2019. Cannabis oil will be brought to clinical patient trials in July 2019 at the end of phase one.

The second phase, or pilot phase, will take place at a 1,000 square metre facility in the same district, and the third phase, or industrial phase, is scheduled for completion by January 2021 in Chonburi's Nong Yai district in the high-technology Eastern Economic Corridor. The Thai government is funding the GPO to undertake an ambitious modernisation of the cannabis industry and is on the lookout for multinational overseas cannabis leaders to collaborate with.

The other two governmental agencies looking to capitalise on CBD are the *Tobacco Authority of Thailand* (TOAT) and the FDA.

In 2018, the TOAT Act was revamped to enable it to conduct business in spheres other than tobacco as a response to tobacco's dwindling popularity. The law also allows the TOAT to enter into a joint venture company with foreign businesses, provided the shares held by foreigners are limited at 49%.

For many years, over 20,000 farmers in the northern provinces worked with the TOAT by providing tobacco and cooperating with the authority for various research projects. However, due to a decline in tobacco sales, some of these farmers are converting their tobacco farms into cannabis plantations.

Companies seeking to sell equipment to any licensed government organisation must obtain clearance from a number of authorities, including the DEA (*Drug Enforcement Administration*), prior to concluding a deal. The same applies for suppliers of farming equipment to cannabis farmers, and suppliers of services and products to doctors, pharmacists, pharmacies and dispensaries related to software, dispensing machines, monitoring equipment and information technology.

At the time of publishing, the gatekeepers of medical cannabis licensing are:

- Thai FDA, who will consider state organisations that wish to conduct research
- The Ministry of Public Health, who will act as the licensor distributing licences to applicants
- The ONCB
- The GPO, who is currently working on strain selection and breed improvement.

In May/June 2019, regulations clarifying many of the commercial uncertainties of cannabis production will be introduced by the government. It is believed that these will include licensing criteria for medical practitioners, but it is uncertain whether these will also include farmers. At the time of publishing, these are the current criteria regarding medical cannabis:

- Producers are required to clearly state their address. Testing facilities should be within the production facility, and products must be tested before transportation, stored securely and have clear labels. Producers must also follow other upcoming regulations.
- Importers and exporters are required to clearly indicate their address and must have a producer's certificate.
- Substances must be tested, and stored in a secure housing facility with clear labels.
- Importers and exporters must also follow other upcoming regulations.

- Distributors, or those in possession of medical cannabis, are required to have a secure storage facility and clear labels. They must also follow all other upcoming regulations.
- Producers, importers/exporters, distributors, or those in possession of medical cannabis are required to report to the narcotics administration both monthly and yearly, where documents must be kept for five years. All other upcoming regulations must be followed.

HEALTHCARE ANALYSIS

TOTAL ESTIMATED
HEALTHCARE EXPENDITURE
US\$29.7B

TOTAL ESTIMATED
PHARMACEUTICAL SPENDING
US\$4.48B

TOTAL ESTIMATED REQUIREMENT
OF CANNABIS 2019
3 grams

APPROVED
CANNABIS-BASED PRODUCTS



Source: WHO/ IFPMA/ INCB/ Prohibition Partners

Thailand currently provides its citizens with universal health coverage. The Universal Coverage Scheme was introduced in 2002; however, there are a number of concerns, including long-term financial sustainability, maintaining quality of healthcare provision, an ageing population, the shortage of healthcare professionals and the current urban-rural divide in terms of both provision and quality of healthcare.

Thailand has more than 25,000 healthcare facilities, including over 1,000 public hospitals, 300 private hospitals and more than 50,000 physicians. Healthcare is one of the fastest growing sectors in Thailand, expected to reach just under US\$50 billion by 2026, and the government has given the sector top priority. According to recent figures, 10% of the country's total budget was allocated to healthcare expenditure in 2016.

WHO data shows that in 2015 there were 31,050 physicians in the country, and around 12,231 pharmaceutical personnel.

Thailand's pharmaceutical market is one of the top ten in the Asia Pacific region. The GPO is run by the Ministry of Public Health and is a key domestic manufacturer of generic drugs. It is the exclusive supplier of public hospitals.

The new law reclassifies cannabis as a narcotic whose extracts may be used in traditional medicine, as well as in the treatment of Parkinson's disease, MS, drug-resistant epilepsy, and pain and nausea in cancer patients.

The chairman of the GPO, Dr Sophorn Mekthong, explained that research will be permitted into the use of cannabis to treat Parkinson's and Alzheimer's diseases: 'What is most important in the whole debate is the accessibility of medical cannabis to patients.'

Clinics and doctors cannot prescribe medical cannabis until they have received their cannabis licences. Regulations concerning licence applications are expected to be introduced by mid-2019, and these will require doctor and pharmacist applicants to take training courses designed by the Public Health Ministry.

Now that state-sanctioned clinical trials have been approved to test the impact of cannabis oil on selected patients, trials are scheduled to begin in July 2019. Initial trials will focus on sublingual drops administered to patients suffering from nausea and pain caused from chemotherapy.

COMMERCIAL OPPORTUNITIES

Forecast Value of the Thai Cannabis Market, by Sector, 2024

	FORECAST MEDICAL CANNABIS MARKET VALUE 2024	FORECAST RECREATIONAL CANNABIS MARKET VALUE 2024	TOTAL 2024
TOTAL	US\$237.2M	US\$424.1M	US\$661.3M

Source: WHO/ IFPMA/ INCB/ Prohibition Partners

A number of foreign companies are poised to enter the Thai market, including *GW Pharmaceuticals* (Great Britain) and *Otsuka Pharmaceutical* (Japan), which have jointly applied for cannabis-related patents. However, as discussed above, plans to patent THC and CBD cannabis compounds and the resulting negative public response led to Prime Minister Prayuth Chan-ocha ordering the Department of Intellectual Property to invalidate all patents for molecules derived from cannabis.

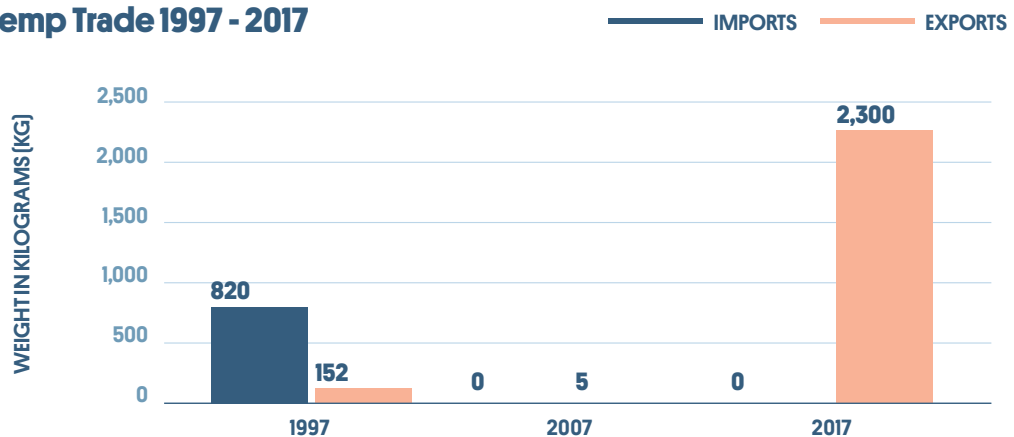
The former commerce minister, who resigned from his position in January 2019, said that the new guidelines for the registration of patents

would clear ambiguities in the approval process and encourage medical cannabis-related research and development in Thailand.

Despite this, there is still a risk that large transnational companies will monopolise the local medical cannabis markets. The move to revoke foreign companies' cannabis patents has attracted much attention, although it has been commented that Thailand's market is too small to have any major effect on any operations conducted by foreign companies. This could cause concern, however, in the event that larger countries such as China follow Thailand's example.

HEMP

Hemp Trade 1997 - 2017



Source: WHO/ IFPMA/ INCB/ Prohibition Partners

A photograph of a mountain ridge with several people silhouetted against a bright sky. The ridge is dark and textured, and the sky is a pale, hazy blue. The people are standing at different points along the ridge, with one person further up and two others closer together in the middle. The overall mood is contemplative and expansive.

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The biggest barrier is the fact that people are scared of cannabis; in particular, those who are in charge, the 40- to 60 year-olds.

Chokwan Kitty Chopaka,
Chief Marketing officer at Highland Network

LOCAL EXPERT ANALYSIS:

CHOKWAN KITTY CHOPAKA, CHIEF MARKETING OFFICER AT HIGHLAND NETWORK

What do you see as *Highland Network's* role in Thailand?

We are a cannabis advocacy organisation, a non-governmental group who want to legalise recreational cannabis in Thailand. We see it as our role to spread knowledge about cannabis because people are scared of it. *Highland Network* make sure that we are always in the public sphere, raising awareness and knowledge about cannabis. We are also pushing think tanks and innovation, patents and various solutions for cannabis products. Thailand needs an infrastructure consisting of these elements for a cannabis market to exist.

What are the current barriers to legalising recreational cannabis in Thailand?

The biggest barrier is the fact that people are scared of cannabis; in particular, those who are in charge, the 40- to 60-year-olds. They are scared of the stigma surrounding cannabis use. The younger generation, on the other hand, have grown up with Google and have educated themselves on the positive effects of cannabis, and the over-60s are also positive to it because they are familiar with cannabis from before it was illegal.

Another barrier is current regulation. The Thai government are still debating what practices to adopt, whether to follow Canada or establish their own route. Legalising recreational cannabis is not off the table, but the government is taking baby steps.

What developments do you expect to see in legislation in terms of medical and recreational cannabis in the next 12 months/5 years in Thailand?

The government will release ten forms of legislation connected with medical cannabis; three are already out, another three have dropped and been approved, with the last four being debated in government. But at the moment there is no such thing as a cannabis cultivation licence in Thailand; not even government agencies have one. There is currently a 90-day amnesty on licensing, so what companies are aiming for are cannabis patents for future products. In January 2021, all the medical cannabis legislation will finally be in place. In the meantime, we will just wait and see – anything is possible, but I can't see anything stopping the legalisation now.

Now is not the time to come in and invest in Thailand's cannabis: it is too soon. We need to have the infrastructure in place first. Companies can come in now as a brand and help develop something together with Thailand to establish possible partners for when the door opens. This will happen in the next five years. Legalisation of recreational cannabis is closer than it was ten years ago.

Does the current legislative scenario differ when it comes to hemp, and what is the future for this industry?

Hemp was legalised in 2018, but follows the same procedure as medical cannabis. There is an embargo in place until January 2021. After this date, companies are able to apply for a licence to cultivate five different strains of hemp, but only fibre strains. Hemp comes under a different law to medical cannabis, with the latter in the same category as amphetamine and morphine. We want to get hemp oil into health food and spa sectors, as it is something that has always been established in Thailand and is seen as eco-friendly.

Hemp is closely linked with our traditional hill tribes who have been allowed to grow hemp as part of their culture. This cultivation is very controlled, however, with the tribes allowed to grow hemp on only a very small patch three months per year. The crops must also be burnt down between each year.

What impact do you see this having on the market in Thailand and overall in Asia?

Perhaps Thailand's immediate neighbours may look to legalise medical cannabis once Thailand has done it – they will probably wait and see how it is working out for us first. Legislation takes a lot of time and money, and we don't even know if it will be worth it.

Everyone is going 'I want to get rich!', but it will be another five years before you can get into the cannabis market, and then only in collaboration with the Thai government.

Vietnam

MARKET OVERVIEW

POPULATION

96.5M

GDP

US\$223.9B

RULING
GOVERNMENT PARTY

COMMUNIST PARTY
OF VIETNAM (CPV)

PARTY STANCE
ON CANNABIS

ILLEGAL, ALTHOUGH USE IS
WIDESPREAD

TOTAL ESTIMATED
HEALTHCARE
EXPENDITURE*

US\$15.8B

TOTAL ESTIMATED BEAUTY
& WELLBEING
EXPENDITURE

N/A

ALCOHOL
CONSUMPTION
(LITRES PER CAPITA
PER YEAR)

8.3

PREVALENCE OF
TOBACCO USERS

22.8%

PREVALENCE OF
CANNABIS USERS

0.2M

AVERAGE COST PER
GRAM OF CANNABIS

US\$5.90

*Estimate based on most recent healthcare expenditure as % of GDP

Source: World Bank/ WHO/ UNODC/ Prohibition Partners

Cannabis was the second most common drug used by American troops during the Vietnam War, due in part to the fact that the plant, which grew wild in the country, was easily accessible. When reports regarding soldiers and marines smoking cannabis became widespread in the US media, the government took immediate steps, and in 1968, responding to US pressure, the government of the Republic of Vietnam publicly condemned the use and/or trafficking of cannabis.

Local chiefs were ordered to curtail cultivation, and, in 1969, USAID's (*United States Agency for International Development*) Office of Public Safety (OPS) – in a move deeply resented by the local population – began destroying cannabis fields. In 1971, the OPS ceased the destruction of cannabis in areas controlled by the Hoa Hao sect, amid fears the latter would be driven to join the anti-US National Liberation Front.

Vietnam's anti-drug policies are considered repressive, and the cultivation and/or production, sale and possession of recreational and medicinal cannabis and cannabis products are illegal, punishable by up to seven years in prison, and, in extreme cases, life imprisonment or death. Despite this, cannabis use is widespread among the local population, and is easy to find in most populated areas. Medicinal cannabis is also prohibited, and there are currently

no expectations of any change to existing regulations.

There is anecdotal evidence that some users cultivate their own cannabis supplies after purchasing seed from local dealers.

REGULATORY ENVIRONMENT

As stated above, drug policy in Vietnam is repressive and medicinal cannabis is also prohibited. There are currently no expectations of any change to existing laws.

LICENCES AND AVAILABILITY

Traditional hemp is grown for the production of hemp fibre, and Vietnam exports hemp textiles to South Korea, the United States, the Netherlands, Thailand and Germany.

Cultivation – in limited quantities – takes place along some northern mountain areas near the Chinese border.

HEALTHCARE ANALYSIS

TOTAL ESTIMATED HEALTHCARE EXPENDITURE

US\$12.7B

TOTAL ESTIMATED PHARMACEUTICAL SPENDING

US\$3.7B

TOTAL ESTIMATED REQUIREMENT OF CANNABIS 2019

0 grams

APPROVED CANNABIS-BASED PRODUCTS



Source: WHO/ IFPMA/ INCB/ Prohibition Partners

Demand for healthcare services is rising in Vietnam, the result of demographic changes, including an ageing population, rising disposable incomes and economic growth. Both healthcare and pharmaceutical expenditure are expected to show double-digit growth over the next few years.

Public healthcare expenditure has exceeded private healthcare expenditure since 2012, as a result of the government's social health-insurance programmes.

There are, however, a number of critical challenges in terms of the provision of healthcare services, including obsolete equipment, a shortage of medical staff and overcrowding.

In 2014, Vietnam's Bach Mai Hospital published research showing that the country's cancer rate was among the world's highest,

with 110,000 new cases each year, and a mortality rate in excess of 73% and still rising. Cancer hospitals in Vietnam are oversubscribed, and the costs associated with the treatments (typically chemotherapy and radiotherapy) are very high.

Medical conditions such as eczema and liver disease are also common, with relatively low rates of success and high treatment costs.

Vietnam's pharmaceutical industry is showing rapid growth, worth an estimated US\$5.2 billion in 2018, and while the country has begun to produce more drugs domestically, the vast majority are still imported. Vietnam is seen as an attractive market for foreign suppliers.

COMMERCIAL OPPORTUNITIES

Forecast Value of the Vietnamese Cannabis Market, by Sector, 2024

	FORECAST MEDICAL CANNABIS MARKET VALUE 2024	FORECAST RECREATIONAL CANNABIS MARKET VALUE 2024	TOTAL 2024
TOTAL	US\$67.8M	US\$107.8M	US\$175.7M

Source: WHO/ IFPMA/ INCB/ Prohibition Partners

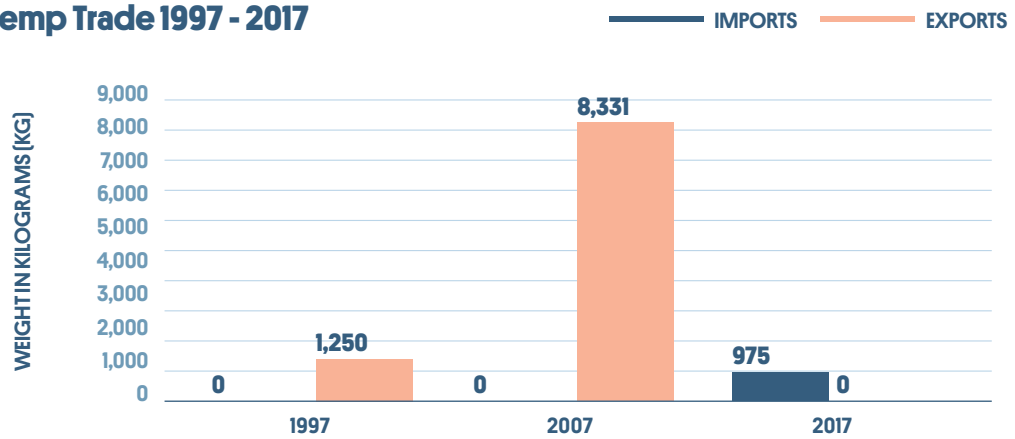
Given the current illegal status of recreational and medicinal cannabis in Vietnam, there are no legal commercial opportunities for cannabis entrepreneurs.

The production of hemp fibre is carried out in just a few factories producing speciality products, and the cultivation of hemp is said to be unpopular with farmers. Growing international demand for hemp products, and the development of technologies to streamline cultivation, processing and manufacture, may revive the industry.

Should the government introduce new legislation regarding medical cannabis, future opportunities may be tied in with rising demand for healthcare services in Vietnam, as discussed above. There may also be an association with a rise in disposable income, which is driving middle-class consumers to spend more on their health and appearance, sometimes influenced by social media.

HEMP


Hemp Trade 1997 - 2017



Source: UN Comtrade



Rest of Asia



Asia has some of the strictest anti-drug legislation in the world, and while several countries have begun to relax their attitudes towards medical cannabis, possession, trafficking and/or consumption of the drug remains illegal across most of the region.

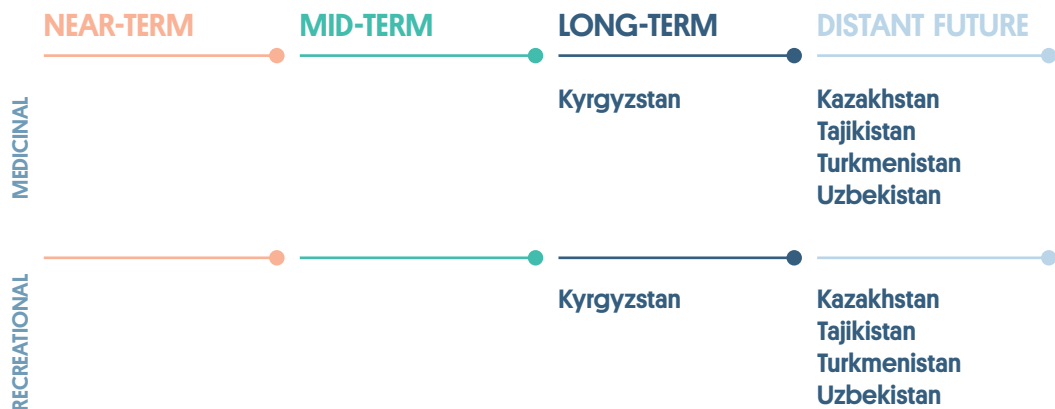
Our research indicates there is sometimes little distinction between cannabis and 'hard' drugs, for example, heroin and cocaine. In countries such as Singapore and Indonesia, those convicted of drug offences can be sentenced to death, although there are very few instances where this is actually carried out.

CENTRAL ASIA

The following table sets out when we anticipate medicinal and recreational cannabis to achieve legal status across the Central Asian nations of Kazakhstan, Tajikistan, Turkmenistan, Kyrgyzstan and Uzbekistan.

Despite there being a long history of cannabis use in Central Asia, cannabis remains illegal. In

Estimated Legalisation and Regulation of Cannabis, by Segment and Country



Kyrgyzstan, there have been a number of reform proposals in the past two decades, which have included proposed state control of the country's cannabis fields to control the drug trade, as well as the legalisation of cannabis to reduce drug addiction, gain tax revenue and undercut organised crime. These have not, however, resulted in any change in legislation.

In the central Asian region, Tajikistan has the most to gain through the legalisation of cannabis. Although the number of seizures of cannabis-type drugs declined between 2015 and 2016, according to the UNODC, Kazakhstan had over 29,000 kilograms of

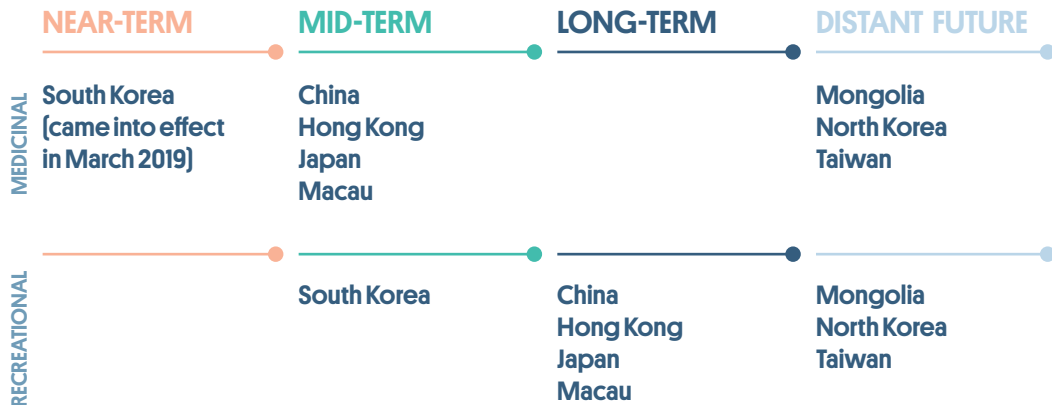
cannabis (herb) seized in 2016 and Tajikistan had almost 255,000 kilograms of plants seized. This compares to a global average of less than 60,000 kilograms of cannabis plants seized per country.

With black-market cannabis retailing for an average cost per gram of US\$1.19 in Tajikistan, a figure based solely on volumes seized, our research shows the adult-use market of the country would be worth in excess of US\$300 million. This does not account for the cannabis produced and consumed illegally within the country, or that which is successfully smuggled out to foreign markets.

EAST ASIA

The following table sets out when we anticipate medicinal and recreational cannabis to achieve legal status across the East Asian nations of China, Hong Kong, Japan, Macau, Mongolia, North Korea, South Korea and Taiwan.

Estimated Legalisation and Regulation of Cannabis, by Segment and Country



Although the legality of cannabis has not changed at a federal level in decades, the increasingly widespread introduction of new cannabis legalisation on a state level could become a key factor in bringing about a shift in laws in larger economies such as China and Japan.

Both countries have inspired a degree of confidence – a number of attendees at a recent symposium in Hong Kong were looking to gain financial backing from Chinese investors, with Toronto-based *Province Brands* being one such company.

Chinese hedge fund investors are incorporating Western cannabis stocks in their portfolios, although this is still subject to optics in areas of public relations.

Hong Kong

The Special Administrative Regions of China are likely to keep step with developments in neighbouring China. However, we predict that given its high level of Western exposure, Hong Kong is likely to act as a testing ground for the legalisation and regulation of cannabis.

North Korea

The current legality of medicinal and recreational cannabis is unknown in North Korea. With such little information available, we have taken a conservative approach to market liberalisation.

South Korea

South Korea has adopted a law legalising medical cannabis, which took effect on 12 March 2019. Under the revised law, cannabis derivatives that have been approved abroad for self-treatment purposes can be brought into South Korea through the *Korea Orphan and Essential Drug Centre* (KOEDC). Currently, the only medication available is Epidiolex, which can be administered only to patients with two rare forms of epilepsy. Patients must apply for the medication through an online process. Malaysia is expected to follow in the near future.

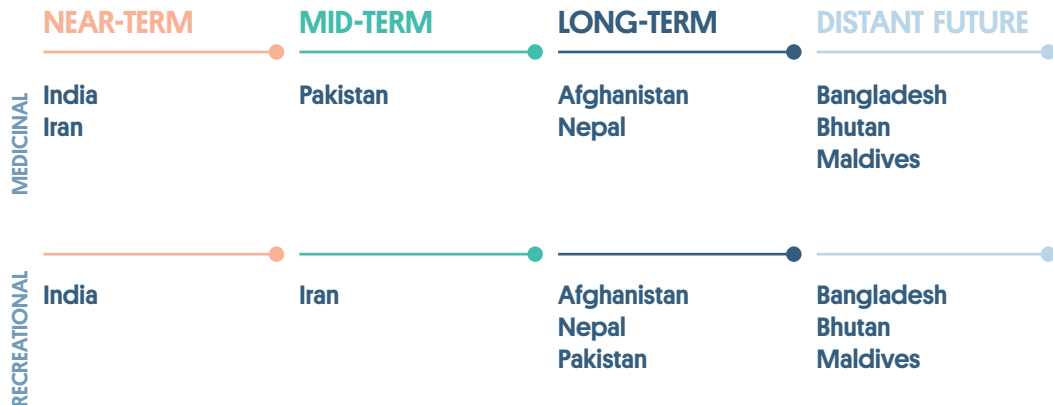
Taiwan

In Taiwan, cannabis is a schedule 2 narcotic, and possession can result in up to three years' imprisonment. We expect Taiwan to remain one of the region's least progressive nations.

SOUTH ASIA

Both medicinal and recreational cannabis are illegal across most of South Asia. The following table sets out when we anticipate medical and recreational cannabis to achieve legal status across Afghanistan, Bangladesh, Bhutan, India, Iran, the Maldives, Nepal, Pakistan and Sri Lanka.

Estimated Legalisation and Regulation of Cannabis, by Segment and Country



Afghanistan

Afghanistan is one of the world's largest producers of high-quality cannabis, which, according to a background paper commissioned for the *European Monitoring Centre for Drugs and Drug Addiction* (EMCDDA), is mainly cultivated on irrigated land. However, cultivation and consumption are illegal and punishable by imprisonment. In 2012, UNODC reported that there were 12,000 hectares of mono-cropped commercial cannabis crops with a potential production of 1,300 metric tonnes of hashish. This cannabis survey was the last such carried out in Afghanistan.

Both illicit opium and cannabis production for export remain a major part of the country's black-market economy. However, in 2016, the UNODC estimated that some 1.5 kilograms of cannabis seed was seized, a huge drop on the 25 kilograms seized just two years previously.

As a black market for high-quality cannabis has already been established in Afghanistan, legalising cannabis could be a shrewd step for the country and a possibility within the next ten years.

Bangladesh

The current law governing cannabis in Bangladesh is the *Narcotics Control Act 2018*, an amendment of the *Narcotics Control Act 1990*. It came into effect in December 2018. The new law imposes the death penalty or life-term imprisonment on drug traders, restricting their release from punishment for such crimes and it closed loopholes that previously enabled drug dealers to secure release from prison.

This means that the production, sale and possession of cannabis for medicinal or recreational purposes have been illegal in Bangladesh since the late 1980s. However, it is reported that possession of cannabis for personal use is tolerated, but courts can impose the death sentence for those caught in possession of more than two kilograms.

Bhutan

Cannabis grows so prolifically in Bhutan that it is regarded as a pest and has widely been used as pig fodder. Cannabis mostly grows in the wild, but some cultivation does exist.

There is very limited use of hemp to make textiles, due to preference for cloth made from the giant Himalayan nettle (*Girardinia diversifolia*), which is Bhutan's main fibre crop.

Buddhism is the official state religion of Bhutan, which means that cannabis use is not socially acceptable throughout most of the country since Buddhism regards the use of drugs as a hindrance to developing an enlightened mind. As a result, the usage of cannabis in Bhutan tends to be constrained to textiles, rope and netting. Traditionally, the bows of Bhutanese archers are said to be made from the cannabis plant.

Cannabis is listed as a 'fibre of economic importance' by the Bhutanese government. Bhutan's isolationist Buddhist government is unlikely to jump aboard the wave of medical and recreational cannabis legalisation, and, for the foreseeable future, medicinal or recreational cannabis will remain illegal to produce, consume or possess in the country.

Iran

Cannabis is illegal in Iran but unenforced. The country's government has a progressive approach to drugs in that Iran's war on drugs is waged on traffickers rather than users. Perhaps similarly to European countries and New Zealand, drug addiction is treated as a public health problem rather than a criminal justice issue. As a result, Iranian authorities are a little more lenient towards cannabis, with no prison sentences, fines, or punishment such as lashings for those in possession of small amounts.

This is one reason why cannabis consumption is reportedly on the rise. Although 2015 data from the UNODC suggests that prevalence

rates are still relatively low, there are some 130,000 cannabis users in the country presently, around 0.6% of 15- to 64-year-olds.

In 2016, it was reported that at an addiction conference in Tehran, Iranian officials agreed that cannabis and opium could be cultivated and legalised for people over a certain age. Therefore, with attitudes more aligned to legally progressive Europe, it is Prohibition Partner's view that Iran could legalise cannabis for medicinal and recreational use in the near to mid-term future.

Maldives

The government of the Republic of Maldives has ratified all the three UN conventions related to narcotic drugs, namely, the *Single Convention on Narcotic Drugs*, 1961 (as amended by the 1972 Protocol), the *United Nations Convention on Psychotropic Substances*, 1971 and the *United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances*, 1988.

The first principal legislative act of the Maldives dealing with narcotic drugs and psychotropic substances (*Law No 17/77 – The Law on Drugs*) was passed in 1977. The law was amended in 1995 to provide a comprehensive list of illegal drugs and controlled substances. These were drawn up according to the schedules of the *Single Convention on Narcotic Drugs* of 1961, as amended by the 1972 Protocol, and the *United Nations Convention on Psychotropic Substances*, 1971.

Cannabis remains illegal in the Maldives, where drug suppliers are punished more severely than users, who are given the opportunity to reform. However, there is no specific legislation for cannabis covering hashish oil, which is widely used. Drug abuse in the Maldives centres around heroin, cannabis and its derivatives.

Owing to its international airport and sea ports, the Maldives has been identified by the UNODC as a 'potentially vulnerable' point for the illegal shipment of drugs destined for other countries.



Nepal

Bowing to international pressure in 1976, Nepal enacted the *Narcotic Drugs (Control) Act*, which prohibited the sale, cultivation and use of cannabis. Cannabis, specifically hashish, has been used ceremonially in the Hindu temples of Kathmandu and has long been tolerated by authorities, but there are signs of a renewed anti-drugs approach with a number of arrests in the Pashupatinath Temple complex.

However, in recent years, a pro-cannabis debate has developed in Nepal, and Rabi Raj Thapa, Secretary at the Centre for Security and Justice Studies and former Additional Inspector General of Nepal Police (AIGP), has spoken out about how current laws are too harsh and how cannabis could benefit the country: 'Cannabis can help generate employment in far-flung areas of Nepal. It is a well-known fact that cannabis has recreational and medicinal values.'

Some of Nepal's leading oncologists have called for the government to look to the medicinal benefits of the plant, as witnessed overseas, and to consider legalising cannabis for medicinal use. They have further argued that cannabis could be particularly beneficial in rural areas where morphine is not easily available. However, the *Narcotics Control Bureau* (NCB) believes that, despite calls to lift the ban, it is unlikely to happen in the next ten years. Some have called for locals to be granted licences to grow cannabis, but this would require the introduction of robust infrastructure to monitor cultivation. If all these hurdles are overcome, Nepal could follow in the footsteps of an early adopter nation.

Pakistan

It is illegal to consume cannabis, and prohibition is strongly enforced. While law enforcement focuses on hard drugs, the personal use of cannabis is also punishable by lengthy jail terms. Nonetheless, despite widespread use, with an estimated 2.7 million users in 2018,

the *Control of Narcotics Substance Act* of 1997 makes it illegal to produce, manufacture, extract, prepare, possess, offer for sale, sell, purchase or distribute cannabis in Pakistan.

It is possible to be issued a permit from either the provincial or federal government to cultivate cannabis for medical, scientific or industrial purposes.

Sri Lanka

Under the *Ayurveda Act* (Act No. 31 of 1961 as amended by Act No. 5 of 1962), Ayurvedic physicians are allowed to use cannabis for medicinal purposes. Cannabis is used extensively in Ayurvedic medicine and may be sold legally in Ayurveda outlets. Authorities have acknowledged the plant's medical potential despite its current illegal status.

Health Minister Rajitha Senaratne announced in 2017 that the country would begin cultivating cannabis for medical purposes. In March 2018, a plantation in the Anuradhapura and Polonnaruwa districts was launched with an expected yield of 25 tonnes annually.

The crop was exported to the US for medicinal use with a percentage being set aside for licensed local Ayurvedic practitioners.

Senaratne went on to say that Sri Lanka would appoint farmers to cultivate cannabis, and the military would oversee production. According to the government, there would be no need for permits since the private sector would not be party to cannabis cultivation.

In January 2019, Australian cannabis company *Creso Pharma* announced its expansion into Sri Lanka. The company has signed a letter of intent with a leading Sri Lankan pharmaceutical distribution company, *Ceyoka Health*, with the partnership initially focusing on gaining regulatory acceptance for Creso's flagship medicinal cannabis product *cannAFFORD 50*. The companies will also consider a wider range of further joint initiatives in the cannabis and hemp markets.

SOUTHEAST ASIA

The following table sets out when we anticipate medicinal and recreational cannabis to achieve legal status across the Southeast Asian nations of Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, Timor-Leste and Vietnam.

Estimated Legalisation and Regulation of Cannabis, by Segment and Country



Cannabis remains illegal and taboo across much of Southeast Asia. The region has some of the world's harshest penalties, including, currently, lengthy prison terms for possession of drugs in Thailand, and capital punishment for trafficking crimes in Singapore, Indonesia and Malaysia.

Brunei

The *Misuse of Drugs Act* (MDA) is the main legislation for drug offences in Brunei Darussalam. It covers a range of controlled drugs including narcotics and psychotropic substances.

Cannabis is illegal in the Kingdom of Brunei and is classified as a Class B drug. Cultivation of cannabis is considered an offence, and those caught with more than 15 grams of cannabis or 10 grams of cannabis resin are treated as drug traffickers. Authorities can issue the death penalty for possession or unauthorised import or export of more than 500 grams of cannabis.

The MDA was last revised in 2013, and it is unlikely that cannabis will be rescheduled, legalised or regulated in the country within the next ten years.

Cambodia

Alongside the Philippines, Cambodia is the only other ASEAN (Association of Southeast Asian Nations) country to abolish the death penalty, which was outlawed in 1989. However, punishment for drug offences can range from five years to life imprisonment.

Cambodia's previous *Law on the Control of Drugs* was enacted in 1997, but proved to be inadequate. It was amended twice in order to meet the mandatory provisions of the UN Conventions, yet loopholes still remained, and in January 2012, a new *Law on Drug Control* was adopted.

In 2013, the government of Cambodia also approved a new National Strategic Plan on Drug Control (2013–2015), but corruption amongst law enforcement agencies has negatively impacted Cambodia's efforts to reduce drug offences.

Indonesia

Indonesia currently has some of the harshest drug laws in the world, with cannabis being categorised in Group 1. Possession of cannabis is punishable by 4–12 years' imprisonment with fines ranging from IDR800 million to IDR8 billion (US\$89,000 to US\$869,000).

If the amount of cannabis in possession exceeds one kilogram, a term of life imprisonment can be imposed. A death sentence can be issued if an individual is found to be cultivating five or more cannabis plants. In April 2019, a US citizen was arrested following a raid where police found over 1,200 grams of cannabis in his house. He faces a possible death sentence.

Under the current laws, the Indonesian government can issue licences for the research of any type of drug; however, it has been very hesitant to do so. A legalisation advocacy group, named *Lingkar Ganja Nusantara* (LGN), has advocated for legal cannabis regulation since 2007. In fact, in February 2015, the group was issued

the first ever medical cannabis licence from the government to conduct scientific research on the cannabis plant.

Although anti-cannabis regulations are very strict, there could be hope for future regulations as Indonesia's neighbouring country, Thailand, has just recently legalised medical cannabis. Analysts hope Indonesia will wait to see the effects of Thailand's legalisation before deciding whether to follow suit.

Laos

Laos has been a target for transnational organised drug crime, and cannabis cultivation is widespread within remote areas of central Laos and along the rivers in the south.

Despite the fact that penalties for drug offences are severe, with the death penalty for traffickers, in 2009 the UNODC was forced to implement a 5-year strategy to address the drug problems in the country.

The *Criminal Code* of Laos penalises possession of narcotics under *Article 135*. In November 2018, the government published the new *Penal Code*, which increased penalties and stipulated additional acts that constitute offences. Although no executions have taken place in Laos since 1989, the death penalty is still in place for serious drug offences. Although other Southeast Asian neighbours such as Cambodia and the Philippines have abolished the death penalty, there has been no discernible progress towards abolition in Laos. It is, therefore, unlikely that cannabis legislation will change in the near future.

Myanmar

Similar to other Southeast Asian countries, Myanmar's sentences for drug users, growers and dealers can be harsh with a ten-year prison sentence for those caught in possession of even a small amount of drugs for personal use.

In February 2018, the government of Myanmar and UNODC announced the new Nation-

al Drug Control Policy. The overall aim of the policy was to address all aspects of the country's drug problems rather than punishing users. Myanmar became one of the first countries in Southeast Asia to adopt an evidence-based focus that addresses the needs of people and their health by reducing the negative effects of drug production, trafficking and use. Myanmar has received widespread praise from NGOs and civil society groups. In October 2018, a workshop to amend the 1995 by-laws relating to the *Narcotic Drug and Psychotropic Substances Law* was held.

Working closely with the UNODC, Myanmar has been one of Southeast Asia's more progressive nations with regards to drug reform.

Unfortunately, this has taken place as the political climate has become more repressive – Myanmar's war against the Rohingya has been termed a genocide by various UN agencies and left more than 10,000 dead. Although Myanmar is unlikely to legalise cannabis in the near term, continued dialogue with the wider global community could generate a post-war recovery for persecuted minorities which, in the long term, could lead to the medicinal and economic benefits of cannabis legalisation.

The Philippines

Despite being one of the most widely used drugs in the Philippines, cannabis is a Schedule 1 drug, which limits its use to medicinal and scientific use. It falls under the control of the *Comprehensive Dangerous Drugs Act* of 2002 (also known as the *Republic Act 9165* and is a consolidation of *Senate Bill No. 1858* and *House Bill No. 4433*).

As a controlled substance, the recreational use of cannabis remains illegal in the Philippines. Cultivation, possession and consumption are illegal. However, the use of medicinal cannabis is governed by the *Compassionate Medical Cannabis Act*. Medicinal cannabis can be accessed via a Medical Cannabis Compassionate Centre only, which must be licensed and located within a hospital.

Patients require authorisation from a doctor to be eligible to receive treatment for conditions, including arthritis, epilepsy, cancer, HIV and MS. Having already passed in the lower house, medical cannabis is expected to pass the senate within the next couple of months.

Singapore

Although Singapore maintains strict penalties for drug offences, there are signs of change. Alongside Malaysia, Singapore is in the early stages of debating whether or not to legalise medical cannabis.

In February 2019, the government clarified its stance on pharmaceutical products containing cannabinoids, saying that while the country will maintain its zero-tolerance policy against drugs, it will 'continue to allow safe and controlled access to evidence-based medical treatment options'.

Manufacturers will, however, be required to substantiate the safety, quality and efficacy of cannabinoid pharmaceuticals, based on scientific evidence from clinical studies and data on the manufacturing process. The products will need to be scientifically reviewed by the Health Sciences Authority of Singapore before they can be registered for supply. The same rules apply to all controlled medicines in Singapore.

In 2018, the city state invested millions of dollars in a programme to investigate the therapeutic potential of cannabinoids, as part of a wider synthetic biology research and development initiative.

In early 2019, the government announced that it may follow the example set by Thailand and South Korea, allowing the use of medicinal products containing cannabinoids.

According to a joint statement from the country's Ministry of Home Affairs and the Ministry of Health, 'It is important to differentiate between products containing unprocessed or raw cannabis and pharmaceutical products containing cannabinoids.'

While both ministries acknowledged existing published research from clinical trials on the potential of medicinal cannabis products to manage seizures and epilepsy, officials stated that, prior to registration, pharmaceutical products containing cannabis would need to be subject to ‘rigorous scientific review’ by the country’s Health Sciences Authority.

Singapore already has a framework in place for the supply and prescription of controlled drugs for medical use. Controlled drugs can be prescribed only by a doctor, and only for a medical condition registered with the Health Sciences Authority.

In early 2019, the same ministries stated that ‘to date, there are no studies that have validated the claims of unprocessed or raw cannabis being able to treat medical conditions’. The ministries added that the country would continue to take a hard line against illicit drugs, including cannabis.

Timor-Leste

Cannabis is classified as a Category 1 drug under the *Indonesian Law on Narcotics*, 22 of 1997, amended in 2009 to address health concerns over the requirement to provide medical and social rehabilitation for drug-dependent individuals. According to a 2015 report from the INCB:

‘Timor-Leste does not have a national drug control strategy in place, and the country’s main drug control legislation is only at the draft stage. Timor-Leste lacks an institutionalised mechanism to implement the provisions of the international drug control conventions, notably in the area of precursor control. Progress needs to be made in several areas of drug control, including ensuring the availability of opioid medications; promoting rational use of opioids for palliative care and pain management; drug demand reduction, especially drug use prevention; raising awareness on precursor control; and training and capacity-building for law enforcement.’

Timor-Leste acceded to the 1988 *United Nations Convention Against Illicit Traffic in Narcotic Drugs and Psychotropic Substances* in 2014, but is not yet party to the 1961 *Convention* or the 1971 *Convention*.

Cannabis is reportedly grown locally or smuggled into the country from Indonesia. According to media reports, cannabis is easily obtained despite its illegal status.

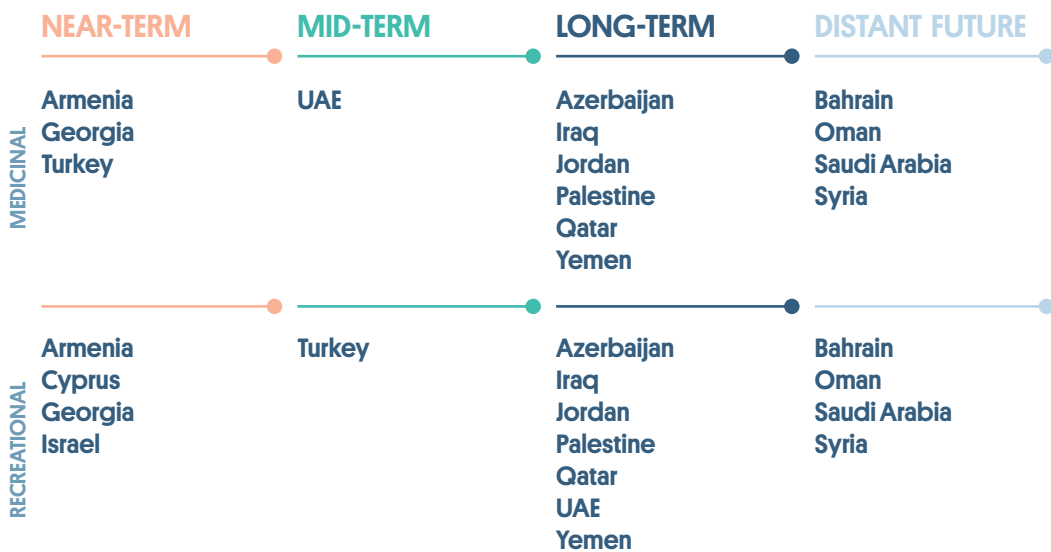
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Myanmar became one of the first countries in Southeast Asia to adopt an evidence-based focus that addresses the needs of people and their health by reducing the negative effects of drug production, trafficking and use.

WESTERN ASIA

The following table sets out when we anticipate medicinal and recreational cannabis to achieve legal status across Western Asian nations of Armenia, Azerbaijan, Bahrain, Cyprus, Georgia, Iraq, Israel, Jordan, Kuwait, Lebanon, Oman, Palestine, Qatar, Saudi Arabia, Syria, Turkey, UAE and Yemen.

Estimated Legalisation and Regulation of Cannabis, by Segment and Country



Armenia

Medical and recreational cannabis remain illegal across most of Western Asia; however, status varies from country to country. In Armenia, for example, the use and possession of small amounts of cannabis were decriminalised in 2008, with those caught facing administrative penalties rather than criminal charges.

According to the *Law of Armenia on Narcotic Drugs and Psychotropic Substances*, ‘the cultivation of the new narcotic drugs and psychotropic substances shall be undertaken only according to the state orders and shall be delegated to the scientific research organisations under the availability of a licence for the specified activity. If such cultivated narcotic drug or psychotropic substance is assumed to be used for medical purposes, then its clinical trial shall be undertaken in accordance with the legislation of the Republic of Armenia.’

Azerbaijan

Azerbaijan is a party to the 1961 *UN Single Convention*, the 1971 *UN Convention on Psychotropic Substances* and the 1988 *UN Drug Convention*. According to Azerbaijan’s Ministry of Internal Affairs, a law in February 2001 (No 85-II) placed cannabis on ‘List 1’, prohibiting rather than restricting or controlling its use. Cannabis is illegal, but cultivated illicitly, mostly in Southern Azerbaijan.

Cannabis has a long medical history in Azerbaijan. It is reported that a great number of Azerbaijan’s medical and pharmacological texts, written in Persian, Arabic and Old Azeri and dated between the 9th and 18th centuries, reference cannabis. Ancient Azerbaijani medicine was heavily influenced by India’s Ayurvedic medicinal practices and it is clear that all parts of the plant were once used, including roots, to treat a range of conditions

from catarrh and flatulence to nausea, as well as being used for boosting mental acuity.

Bahrain

Cannabis is illegal in the Islamic island nation of Bahrain where laws are based around the teachings of the Quran. There are very strict penalties for drug offences such as possession, which can result in the death penalty.

The country has come under criticism from the NGO *Human Rights Watch* for its repressive political environment and its participation in the Saudi-led coalition in Yemen, which has led to serious violations of international humanitarian law. In 2014, a Bahraini businessman was jailed for 12 months and fined BD1,000 (around US\$2,500) for growing one cannabis plant and possessing hashish weighing 767 grams. Bahrain appears very unlikely to legalise cannabis for medicinal or recreational use in the foreseeable future.

Cyprus

In January 2017, Cyprus legalised the medical use of cannabis oil for use by cancer patients in the advanced stages of illness. This was followed by an amendment in February 2019 when the law was broadened to permit the cultivation, importation and exportation, possession and use of medicinal cannabis for a wider range of qualifying medical conditions including HIV, degenerative diseases of the motor system, rheumatism, neuropathy and glaucoma, as well as Tourette's syndrome and Crohn's disease.

Licences will be given to just three producers in the first 15 years, with the government aiming to attract financially sound companies with global experience in the cultivation and production of medical cannabis, for reasons of public safety and effectiveness.

Georgia

The Constitutional Court of the Republic of Georgia decriminalised cannabis usage on 30 November 2017 for personal consumption. The court also decriminalised other forms of cannabis-based drugs. In 2018, Georgia became the first former Soviet country to legalise the consumption of cannabis for personal use only.

The Constitutional Court's ruling specifies that selling or cultivating cannabis is still an offence, but consumption of 'personal amounts' is not an arrestable offence. Cannabis consumers can be prosecuted if they pose a threat to others, e.g. consuming it in educational institutions, public places and in the presence of children.

Individuals using cannabis will be punished only if their actions put a third party at risk.

At the time of writing, no pharmaceutical cannabis-based products were available in Georgia and there are no medicinal cannabis laws or programmes to support patients who request cannabis for therapeutic benefits.

CBD and hemp-derivatives are legal in Georgia, providing they do not contain psychoactive ingredients.

For more information on the Georgian cannabis market, download The European Cannabis Report™

Iraq

Iraqi drug laws are harsh, and dealing drugs can result in a fine of up to 10 million dinars (US\$8,500) and at least two years in prison. Drug trafficking is dealt with more severely and perpetrators can potentially receive prison sentences of 20 years, or, in some cases, a life or death sentence. Although arrests for cannabis crimes are rare in Iraq, it is illegal and there is currently no medicinal programme available. However, the law does appear to take the circumstances of the crime into account while taking a very severe

view of those trafficking drugs to fund or abet crime or terrorism.

Iraq is unlikely to legalise cannabis in the next decade.

Israel

In January 2019, Israel's government approved the export of medical cannabis, and from 1 April 2019, two further significant reforms go into effect. The first, which will enable around 100 trained medical practitioners to write prescriptions that allow patients to purchase cannabis from Israel's biggest pharmacy chain, Super-Pharm, is expected to establish the country as a pioneer in the sale of cannabis in pharmacies.

According to the second reform, the current law mandating up to three years' imprisonment for cannabis use will be temporarily suspended for three years in order to study the wider effect on society. Users caught with up to 15 grams will be required to pay a fine of 1,000 shekels (around US\$274) for the first offence and 2,000 shekels (US\$548) for the second offence. Neither instance will result in a criminal charge, and those caught for a third offence will be offered treatment or will have their driving licence confiscated. A fourth offence will be considered criminal.

For more information on the Israeli cannabis market, download The European Cannabis Report™

Jordan

Cannabis is illegal, although according to the Director of the Anti-Narcotics Department (AND) it is the most consumed drug in Jordan. The penalty for possession of cannabis in small amounts ranges from three months to two years in jail.

Oman

There is no distinction between 'soft' and 'hard' drugs in Oman, and so the penalties for possession, trafficking and smuggling, or even for residual amounts of cannabis, are severe. A conviction for the possession of cannabis can lead to the death penalty.

Palestine

The Palestinian Authority operates its own Penal Code and does impose the death penalty pursuant to the PLO (Palestine Liberation Organisation) *Revolutionary Penal Code*, of 1979. With cannabis increasingly being smuggled into the Gaza Strip in large amounts, officials from Hamas have sought tougher penalties for drug trafficking, and in 2017, the Palestinian judiciary handed down its first narcotics-related death sentence.

Qatar

The production, sale and possession of recreational or medicinal cannabis products are illegal in Qatar.

Saudi Arabia

The use and possession of cannabis are illegal and can lead to a prison sentence of between one and six months for first-time offenders. A conviction for the distribution of cannabis can lead to a prison sentence of between two and ten years, and repeat offenders can face the death penalty. On 1 January 2019, Saudi Arabia executed three people for smuggling cannabis.

Syria

Syrian drug policy is based on *Law No. 2 of 1993*, where the offences of manufacturing, trafficking, or selling narcotics are punishable by death. However, similarly to the UAE (see next page), local drug addicts who surrender to the police will be treated at a

state-operated rehabilitation facility. If the offender has no other serious criminal offences and makes good-faith during the rehabilitation process, there will be no punishment for their possession of narcotics. Non-Syrians are exempt from such treatment and are usually deported.

Turkey

In Turkey, legislation was approved in 2016 to allow the use of sublingual cannabinoid medications with a doctor's prescription. The use of whole-plant cannabis is still illegal. The cultivation of cannabis for medicinal and scientific purposes is legal in 19 provinces in Turkey, although this can also be carried out in other provinces in the country with official permission.

*For more information on the Turkish cannabis market, download The European Cannabis Report™

ings shall be instituted against any abuser of narcotic drugs, including cannabis, who voluntarily presents him or herself at an addiction treatment unit or for public prosecution.

Yemen

The production, sale and possession of cannabis or cannabis products are illegal in the Yemen for both medicinal or recreational uses. Those who fall foul of the law can find themselves facing the death penalty.

Despite severe penalties, Yemen is considered one of the main supply routes for cannabis to Saudi Arabia. In 2017, the *Gulf Cooperation Council* announced a joint operation undertaken by Saudi Arabia, the UAE and Oman to halt the smuggling of hashish into the Gulf states from Yemen.

United Arab Emirates (UAE)

Cannabis is listed as a Schedule 1 drug under UAE federal law. The penalty for anyone who has abused or personally used cannabis is usually imprisonment for no less than four years, and courts may also impose a hefty fine. Instead of imprisonment the court has the discretion to order the offender to an addiction treatment unit. This last measure applies only to Emiratis and not to foreigners.

The UAE is more progressive than most Middle Eastern countries in terms of cannabis and narcotics in general. As set out in federal law, the Minister of Health can authorise the use of cannabis by issuing a licence. The UAE Federal Law states that no criminal proceed-





Appendix



GLOSSARY

AIGP	Additional Inspector General of Nepal Police
ANDA	Abbreviated New Drug Application
ASEAN	Association of Southeast Asian Nations
ATS	Amphetamine-type stimulants
BC	Before Christ
BOHECO	Bombay Hemp Company
CBD	Cannabidiol
CBHI	Central Bureau of Health Intelligence
CEO	Chief Executive Officer
Charas	Local Indian term referring to hashish or cannabis resin
CHIC	China Health Investment Corporation
CIIX	Chineseinvestors.com
CINV	Chemotherapy-Induced Nausea and Vomiting
CSIR	Council of Scientific and Industrial Research
DEA	Drug Enforcement Administration
DIP	Department of Intellectual Property
EMCDDA	European Monitoring Centre for Drugs and Drug Addiction
FAO	Food and Agriculture Organization (UN)
FDA	Food and Drug Administration
Ganja	Local Indian term referring to the flowering or fruiting tops of the cannabis plant
GDP	Gross Domestic Product
GLM	Great Legalisation Movement
GPO	Government Pharmaceutical Organisation
HFIH	Hua Fang Industrial Hemp

IFPMA	International Federation of Pharmaceutical Manufacturers and Associations
IIHA	Indian Industrial Hemp Association
IIIM	Indian Institute of Integrative Medicine
INCB	International Narcotics Control Board
KCA	Korean Cannabinoid Association
km	Kilometres
KOEDC	Korea Orphan and Essential Drug Centre
LGN	Lingkar Ganja Nusantara
MDA	Misuse of Drugs Act
MS	Multiple Sclerosis
NCB	Narcotics Control Bureau
NCPO	National Council for Peace and Order
NDPS	Narcotic Drugs & Psychotropic Substances Act
NGO	Non-Governmental Organisation
NLA	National Legislative Assembly
NNCC	National Narcotics Control Commission
NPS	New psychoactive substances
NRF	National Research Foundation
ODC	Office of Drug Control
OECD	Organisation for Economic Co-operation and Development
ONCB	Office of Narcotics Control Board
OPS	Office of Public Safety
PHC	Primary Healthcare Facility

PLO	Palestine Liberation Organisation
PMJAY	Pradhan Mantri Jan Arogya
PPIM	Malaysian Consumers Association
PTSD	Post-traumatic stress disorder
R&D	Research and Development
RMB	Renminbi (Chinese currency)
ROC	Republic of China
SAR	Special Administrative Region
TCM	Traditional Chinese Medicine
THC	Tetrahydrocannabinol
TOAT	Tobacco Authority of Thailand
TVM	Traditional Vietnamese Medicine
UAE	United Arab Emirates
UN	United Nations
UNODC	United Nations Office for Drug Control
US	United States (of America)
USAID	United States Agency for International Development
USDA	United States Department of Agriculture
WHO	World Health Organisation
WIPO	World Intellectual Property Organization
YOY	Year on Year



CONTACT DETAILS:

London

A: PP Intelligence Ltd, 33 Foley Street,
W1W 7TL, London, United Kingdom
E: info@prohibitionpartners.com
T: +44 020 7409 5042
TW: [@prohibition_p](https://twitter.com/prohibition_p)

Barcelona

A: Carrer d'Estruc 9, 08002,
Barcelona, Spain
E: info@prohibitionpartners.com
T: +34 936 818 019
TW: [@prohibition_p](https://twitter.com/prohibition_p)

Dublin

A: 23, Trinity Technology & Enterprise
Campus, Grand Canal Dock, D02 WR66,
Dublin, Ireland
E: info@prohibitionpartners.com
T: +353 87 1200539
TW: [@prohibition_p](https://twitter.com/prohibition_p)



