

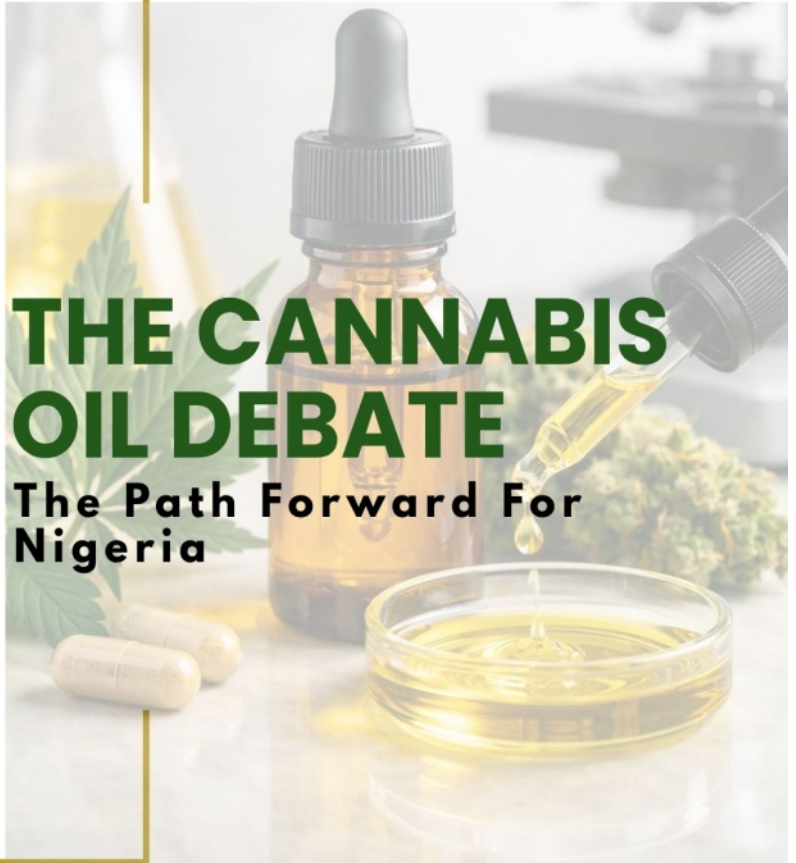


**THE NIGERIAN ACADEMY OF SCIENCE**

**CONSENSUS STUDY REPORT**

# **THE CANNABIS OIL DEBATE**

**The Path Forward For  
Nigeria**





**THE NIGERIAN ACADEMY OF SCIENCE**

# **The Cannabis Oil Debate: The Path Forward for Nigeria**

**A Consensus Study Report**

The Cannabis Oil Debate: The Path Forward for Nigeria

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## Acronyms

|         |                                                               |
|---------|---------------------------------------------------------------|
| AASM    | The American Academy of Sleep Medicine                        |
| AD      | Alzheimer’s Disease                                           |
| CB1     | Cannabinoid receptor type 1                                   |
| CB2     | Cannabinoid receptor type 2                                   |
| CBD     | Cannabidol                                                    |
| CBG     | Cannabigerol                                                  |
| CBN     | Cannabinol                                                    |
| CDC     | Centre for Disease Control                                    |
| CHELD   | Centre for Health Ethics, Law and Development                 |
| CINV    | Chemotherapy Induced Nausea/Vomiting                          |
| CND     | Commission on Narcotic Drugs                                  |
| CUD     | Cannabis Use Disorder                                         |
| DS      | Dravet Syndrome                                               |
| ECS     | Endocannabinoid System                                        |
| EMA     | European Medicine Agency                                      |
| EOZ     | Export Only Zone                                              |
| FDA     | Food and Drug Administration                                  |
| FMITI   | Federal Ministry of Industry, Trade, and Investment           |
| FMOJ    | Federal Ministry of Justice                                   |
| FMOH&SW | Federal Ministry of Health and Social Welfare                 |
| GAP     | Good Agricultural Practices                                   |
| GMP     | Good Manufacturing Practices                                  |
| GPP     | Good Production Practices                                     |
| HRQoL   | Health Related Quality of Life                                |
| IAP     | InterAcademy Partnership                                      |
| IASP    | International Association for the Study of Pain               |
| ISC     | International Science Council                                 |
| LFN     | Laws of the Federal Republic of Nigeria                       |
| LGS     | Lennox-Gastaut Syndrome                                       |
| MS      | Multiple Sclerosis                                            |
| NAFDAC  | The National Agency for Food, Drug Administration and Control |

|        |                                                                |
|--------|----------------------------------------------------------------|
| NAS    | The Nigerian Academy of Science                                |
| NASAC  | Network of African Science Academies                           |
| NASEM  | National Academies of Sciences, Engineering, and Medicine      |
| NBS    | National Bureau of Statistics                                  |
| NDLEA  | The National Drug Law Enforcement Agency                       |
| NEPC   | Nigerian Export Promotion Council                              |
| NIH    | National Institute for Health                                  |
| NIMR   | Nigerian Institute for Medical Research                        |
| NIPRD  | Nigerian Institute for Pharmaceutical Research and Development |
| NNMDA  | Nigerian Natural Medicine Development Agency                   |
| OSA    | Obstructive Sleep Apnoea                                       |
| PCN    | Pharmaceutical Council of Nigeria                              |
| PD     | Parkinson's Disease                                            |
| RCT    | Randomized Control Trial                                       |
| SAD    | Social Anxiety Disorder                                        |
| STI    | Science, Technology and Innovation                             |
| TGA    | Therapeutic Goods Administration                               |
| THC    | Tetrahydrocannabinol                                           |
| TNI    | Transnational Institute                                        |
| UN     | United Nations                                                 |
| UNODC  | United Nations Office of Drugs and Crime                       |
| WANNAS | West African Network of National Academies of Science          |
| WHO    | World Health Organization                                      |

## About the Nigerian Academy of Science

The Nigerian Academy of Science (NAS), established in 1977, is the foremost independent scientific body in Nigeria. NAS is uniquely positioned to bring scientific knowledge to bear on the policies/strategic direction of the country and is also dedicated to the development and advancement of science, technology, and innovation (STI) in Nigeria. The objectives of the Academy are to promote the growth, acquisition, and dissemination of scientific knowledge, and to facilitate its use in solving problems of national interest. Over the years, the Academy has done this by:

- Providing advice on specific problems of scientific or technological nature presented to it by the government and its agencies, as well as private organizations.
- Bringing to the attention of the government and its agencies, problems of national interest that science and technology can help solve.
- Establishing and maintaining the highest standards of scientific endeavours and achievements in Nigeria, through the publication of journals, organization of conferences, seminars, workshops, and symposia, as well as the recognition of outstanding contributions to science in Nigeria, and the development of a working relationship with other national and international scientific bodies and academies.

As with other national academies, NAS is a not-for-profit organization with a total membership (since inception) of 309 Fellows elected through a highly competitive process, and who have distinguished themselves in their fields both locally and internationally. Some of her members have served as Vice-Chancellors of universities, Directors General of government parastatals, and Ministers in federal ministries. The Academy, given its prestige, also can attract other experts from around the country and internationally as needed. NAS is Nigeria's

national representative on such bodies as the International Science Council (ISC)- the umbrella body for all science associations and unions, the umbrella body for all and the InterAcademy Partnership (IAP) national science academies globally. The Academy is also a founding member of the Network of African Science Academies (NASAC), and the West African Network of National Academies of Science (WANNAS).

# Foreword

In 2025, the Nigerian Academy of Science (NAS) constituted a committee to conduct a consensus study on the medicinal use of cannabis oil in Nigeria. The study analysed global evidence on the medicinal uses of cannabis oil, its active agents, therapeutic benefits, regulatory frameworks and global best practices. It also examined potential risks such as misuse, regulatory challenges, and long-term public health implications. Drawing on these insights, the study proffered evidence-based, context-specific recommendations intended to guide policymakers in making informed decisions about the use of cannabis oil in the country.

To gather evidence, the Committee conducted extensive literature reviews and a stakeholders' workshop involving participants from academia, research, private sector, and several key government institutions. This report represents a synthesis of those perspectives, presented with a clear focus on the specific needs of the Nigerian environment. Because the issues are multi-sectoral, the resulting recommendations are directed at multiple stakeholders to ensure a coordinated national effort.

A central outcome of this study is the recommendation of a cautious, three-phase framework: beginning with strictly supervised research, advancing to controlled export-only production, and eventually considering limited domestic medical use once regulatory capacity is proven. The Academy stresses that such a path is only conceivable under a strict regulatory environment led by a unified inter-agency task force. Ultimately, this report serves as a call for measured but decisive action. By investing in institutional readiness and robust safeguards, Nigeria can navigate the complexities of medical cannabis while protecting its citizens from the risks of abuse and diversion.

# Study Committee and Study Secretariat

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## Acknowledgements

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NAS also thanks the following individuals for their review of this report:

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# Introduction

Amid an increasing global shift toward recognizing the therapeutic potential of cannabis oil (National Academies of Sciences, Engineering, and Medicine [NASEM], 2017; World Health Organization [WHO], 2020). Nigeria stands at a critical moment in reconsidering its cannabis policy. Current data indicate that approximately 10.6 million adults, representing 10.8 percent of the population aged 15 to 64, use cannabis and its derivatives. This reflects both a sharp rise since 2008, and the growth of an illicit market concentrated in the southern forest regions (United Nations Office on Drugs and Crime [UNODC], 2022). These trends suggest that strict prohibition has not reduced supply or demand. Instead, it may be contributing to unintended social, economic, and public health pressures. As a result, Nigeria must confront a central policy question: does the growing global acceptance of cannabis oil offer meaningful opportunities for public health and economic development, or does it risk intensifying the challenges that already exist within a largely illicit landscape?

This debate is taking place in the context of significant international changes. By 2025, more than forty countries had implemented formal medical cannabis frameworks (Lucas et al., 2023). In addition, the World Health Organization's 2020 reclassification recognized the therapeutic value of cannabis and stimulated renewed policy discussions across many regions (WHO, 2020). These developments frame the environment within which Nigeria is examining whether a policy review may be warranted.

A clear understanding of the nature of cannabis oil is essential for engaging with this debate. Cannabis oil is a concentrated extract obtained from the flowering parts of plants belonging to the *Cannabis* genus. Although cannabis has been used for millennia in various

societies, with recorded medicinal and industrial applications in ancient Egypt and in the traditional practices of the Khoekhoe people (NASEM, 2017; DuToit, 1980), cannabis oil is a relatively modern pharmaceutical-oriented formulation that provides precise dosing and targeted delivery of active compounds. These effects derive primarily from cannabinoids, particularly delta-9-tetrahydrocannabinol (THC), which is the principal psychoactive substance, and cannabidiol (CBD), which is non psychoactive and has been widely studied for its therapeutic potential (Pacher & Kunos, 2013). Depending on extraction techniques such as supercritical carbon dioxide or ethanol, cannabis oils can be categorized as full-spectrum, broad-spectrum, or isolates (López-Olmos et al., 2022).

The modern policy discussion is shaped by both the promise and the risk associated with cannabis oils. In clinical practice, pharmaceutical-grade cannabinoid extracts, administered orally or sublingually, are preferred for specific therapeutic indications such as refractory epilepsy, chronic pain, and spasticity associated with multiple sclerosis. These delivery methods allow for controlled dosing and consistent bioavailability while also avoiding the respiratory risks linked to inhalation (NASEM, 2017). Purified CBD oil, marketed as Epidyolex, has been approved by the United States Food and Drug Administration (FDA) for particular forms of childhood epilepsy, and formulations containing defined ratios of THC to CBD are commonly used in the management of chronic and neuropathic pain (Russo, 2019). Research also indicates that CBD-dominant oils may have anxiety-reducing properties (Blessing et al., 2015).

However, in Nigeria the risks are immediate. Although cannabis not deeply embedded within Nigerian traditional medicine, emerging research shows that some individuals, especially those who face barriers to accessing formal healthcare, use illicitly obtained cannabis oils for self-medication. This is particularly seen in the management of chronic pain (Nelson & Kitchen, 2023). Because these oils are sourced from an unregulated illicit market, their potency and purity are

unknown, and this creates potential public health risks that remain poorly documented (Vida et al., 2023).

This report therefore evaluates the scientific evidence regarding the therapeutic value of cannabis oil alongside the socio-economic and public health risks associated with an unregulated market. The aim is to provide a balanced and evidence-informed analysis that supports Nigeria’s ongoing policy deliberations and identifies feasible regulatory pathways for the future.

### ***Study Rationale, Scope, and Objectives***

The debate surrounding the use of cannabis oil is of growing global importance, driven by increasing scientific inquiry and shifting public perceptions. While cannabis oil is gaining recognition in several countries for its potential therapeutic benefits (NASEM, 2017), significant concerns remain regarding misuse, public health implications, and the lack of clear regulatory frameworks (WHO, 2018). In Nigeria, the discourse is particularly complex, shaped by a history of informal use and a prohibitive legal stance (Dirisu et al. 2019). This tension presents a challenge for policymakers, who must consider global trends alongside the responsibility to protect public health.

Driven by the need for an evidence-informed path forward on this issue, the NDLEA commissioned the Academy to conduct this consensus study, *The Cannabis Oil Debate: The Path Forward for Nigeria*. The study offers a concise assessment of the available evidence on cannabis oil, examining its potential benefits and risks in the Nigerian context. It creates a structured opportunity to synthesize global research, identify relevant best practices, and evaluate the specific opportunities and concerns applicable to Nigeria. By addressing the “promise or peril” question through a scientific and balanced lens, the study shifts the debate from opinion toward evidence, and supports clear, context-specific policy deliberations.

The consensus study undertook an extensive review of global evidence related to the medicinal use of cannabis oil, including its active compounds, therapeutic applications across various health conditions, and internationally recognized best practices. It also assessed legal and regulatory frameworks in countries with established medicinal cannabis programmes, examining their implementation processes and documented outcomes.

In addition to potential benefits, the study considered a range of risks and concerns, including patterns of misuse, regulatory challenges, public health implications, and uncertainties regarding long-term use. It also evaluated issues of particular relevance to Nigeria such as informal markets, gaps in product quality control, and the institutional capacities required to support a regulated system.

The study focused on cannabis derivatives used for medicinal purposes, particularly cannabis oil. Recreational use and whole-plant cannabis fell outside the primary scope, except where they had direct implications for the regulation of cannabis oil. The study was conducted through expert consultations, literature review, and stakeholder engagement. It did not include primary data collection, such as new surveys or clinical trials. Instead, the emphasis was on synthesizing and interpreting existing knowledge to build expert consensus.

The multidisciplinary committee, constituted for the study, reviewed available evidence on the therapeutic use of cannabis oil and engaged with relevant stakeholders to address the following set of questions:

1. What are the primary active agents in cannabis oil, and what are their known pharmacological effects?
2. What clinical indications, contraindications, and routes of administration are recognized for cannabis oil?
3. What global regulatory and policy frameworks govern medicinal cannabis oil, and what lessons can be drawn regarding access, patient eligibility, prescribing practices, and dispensing?

4. What health, legal, and socio-economic outcomes have been observed in countries that have legalized medicinal cannabis oil?
5. What challenges arise in enforcing the regulation of cannabis oil products, including issues related to product quality, labelling, and advertising?
6. What health and safety risks are associated with cannabis oil use, and what patterns of misuse, dependency, or abuse have been documented in jurisdictions where it has been legalized?
7. Should cannabis oil be legalized for medicinal use in Nigeria, and should domestic production be supported? What would be the potential economic impact?
8. If introduced in Nigeria, what policy safeguards would be necessary to minimize misuse? What institutional capacities need strengthening, and what standards should guide local production or importation, labelling, and dispensing?

## Chemical Profile of Cannabis Oil: Medicinal and Intoxicating Effects

Cannabis oils contain hundreds of distinct molecules, with cannabinoids being the primary compounds responsible for both medicinal benefits and intoxicating effects. Among these, the two most relevant are  $\Delta^9$ -tetrahydrocannabinol (THC) and cannabidiol (CBD). THC is the principal psychoactive cannabinoid and is responsible for the “high” experienced by users, making it the central focus of prohibitionist and drug control policies (Pertwee, 2008). In contrast, CBD is non-intoxicating and has become the subject of substantial therapeutic interest (Williams & Stephens, 2020).

In addition to THC and CBD, cannabis oil may contain a range of minor cannabinoids such as cannabigerol (CBG) and cannabinol (CBN), as well as terpenes and other secondary metabolites that can influence therapeutic and sensory effects. The specific profile of these compounds determines whether a cannabis oil product is classified as full-spectrum (containing a broad array of cannabinoids and terpenes) or an isolate (containing only purified CBD or another single compound). This chemical composition is crucial in defining both the clinical potential and the psychoactive intensity of cannabis oil formulations.

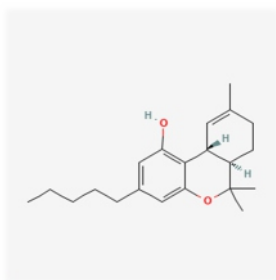


Figure 1: Delta-9-tetrahydrocannabinol  
( $\Delta^9$ -THC)

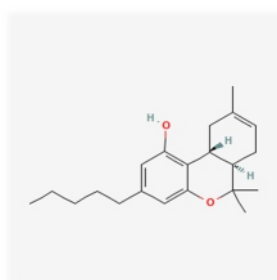


Figure 2: Delta-8-tetrahydrocannabinol  
( $\Delta^8$ -THC)

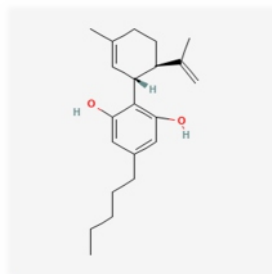


Figure 3: Cannabidiol

## Summary of Key Cannabinoids

Table 1 highlights the compounds most relevant to the policy and clinical debate.

Table 1: Cannabinoids and the Cannabis Oil Debate

| Cannabinoid                                                     | Primary Effect/Policy Relevance           | Psychoactive effect | Clinical Relevance/Therapeutic Promise                                               |
|-----------------------------------------------------------------|-------------------------------------------|---------------------|--------------------------------------------------------------------------------------|
| <b>THC</b><br><b><math>\Delta^9</math>-Tetrahydrocannabinol</b> | Primary cause of intoxication, 'the high' | Yes (Highly)        | Analgesia, anti nausea, appetite stimulation (Pertwee, 2008).                        |
| <b>CBD</b><br><b>Cannabidiol</b>                                | Non-intoxicating, balances THC's effects  | No                  | Anticonvulsant (Epilepsy), anxiolytic, anti inflammatory (Williams & Stephens, 2020) |
| <b>CBG</b><br><b>Cannabigerol</b>                               | Non-psychoactive precursor to THC and CBD | No                  | Neuroprotection, anti-inflammatory effects (Valdeolivas et al., 2015).               |

|                   |                           |              |                                                       |
|-------------------|---------------------------|--------------|-------------------------------------------------------|
| <b>CBN</b>        | Mildly psychoactive,      | Yes (Mildly) | Sleep aid (often                                      |
| <b>Cannabinol</b> | an oxidized<br>derivative |              | found in aged<br>products) (Da<br>Silva et al., 2025) |

## *How Cannabis Oil Works: The Body’s Internal Regulator*

Cannabis oil exerts its effects through the body’s natural chemical communication network known as the Endocannabinoid System (ECS). Often described as the body’s “master control panel,” the ECS is a widespread regulatory system that helps maintain internal balance (homeostasis) across vital physiological functions, including mood, pain perception, sleep, stress response, appetite regulation, and immune activity (Lu & Mackie, 2016; Zou & Kumar, 2018). When the body experiences disruption or stress, the ECS responds by adjusting biological processes to restore stability.

The ECS is primarily composed of two receptor typesCannabinoid receptor type 1 (CB1 receptors), which are abundant in the brain and central nervous system, and Cannabinoid receptor type 2 (CB2 receptors), which are concentrated in immune cells and peripheral tissues. These receptors interact with the body’s own endocannabinoids as well as plant-derived cannabinoids found in cannabis oil.

A key policy distinction between therapeutic and recreational cannabis stems from how its two main cannabinoids, THC and CBD interact with this regulatory system.

- THC, the psychoactive compound, acts like a potent “activator,” binding directly and strongly to CB1 receptors. This interaction leads not only to desirable therapeutic outcomes such as pain modulation and appetite stimulation but also to psychoactive and cognitive effects that underpin concerns around impairment and misuse (Pertwee, 2008; Volkow et al., 2016).

- CBD, in contrast, functions more as a “system modulator”. It does not directly activate CB1 receptors and does not produce intoxication. Instead, CBD indirectly influences endocannabinoid signalling, helping to moderate THC’s psychoactive intensity while providing its own therapeutic benefits, particularly for conditions such as epilepsy, anxiety disorders, and inflammatory diseases (Laprairie et al., 2015; Iffland & Grotenhermen, 2017).

This difference in how cannabinoids interact with the ECS is central to understanding why cannabis oil products vary widely in their risk profiles, clinical applications, and regulatory implications. Oils with high CBD and minimal THC may offer therapeutic value with low risk of impairment, while THC-dominant oils require more stringent control to prevent adverse outcomes. As evidence grows, this improved understanding of how cannabis oil works provides a foundation for developing rational prescribing guidelines and proportionate policy models (Di Marzo et al., 2015).

# Exploring the Medicinal Potential of Cannabis Oil

Although cannabis and cannabis oil are increasingly used to manage a variety of medical conditions, their therapeutic value remains under scrutiny due to inconsistent and frequently disputed evidence. This section critically examines the quality of research supporting their most common medical applications, with particular attention to effectiveness and safety.

## *Strong Evidence (Regulatory Approval)*

The strongest therapeutic evidence exists in select neurological disorders, where high-quality randomized controlled trials (RCTs) have led to regulatory approval for specific products. It is important to state that these neurological conditions are also not uncommon in Nigeria.

### A. Epilepsy and Seizure Disorders

High-quality RCTs in children and young adults with severe, treatment-resistant childhood-onset seizure disorders Dravet Syndrome (DS), and Lennox-Gastaut Syndrome (LGS), demonstrated that CBD significantly reduced seizure frequency.

Key Product: Epidyolex (an oral CBD solution) is approved by the US FDA and European Medicines Agency (EMA) as a supplementary therapy for DS and LGS in patients aged 2 years and over (Devinsky et al., 2017; Devinsky et al., 2018; Bonanni et al., 2023).

### B. Multiple Sclerosis (MS)

The combination product Nabiximols (Sativex), which contains equal amounts of THC and CBD, has demonstrated efficacy in addressing symptoms of MS, particularly spasticity, in controlled clinical trials (Novotna et al., 2011; Crippa et al., 2019).

## *Moderate Evidence (Some RCTs, Mixed Results)*

Evidence in this category indicates potential benefits supported by select randomized controlled trials, but is frequently marked by variability in study design, dosing protocols, and outcome measures.

### A. Pain Management

While a broad evidence synthesis conducted by the International Association for the Study of Pain (IASP) concluded that the current evidence for cannabis-based medicines in pain management is inconclusive (Fisher et al., 2020), a more narrowly focused systematic review reported moderate evidence supporting their use for chronic non-cancer pain (Bilbao & Spanagel, 2022). This divergence highlights the complexity of the evidence base and reflects how findings can differ depending on the specific pain condition, study design, and cannabinoid formulations examined. The IASP conclusion is based on a coordinated series of 13 linked scientific reviews published in the journal *PAIN*, which collectively assessed all major preclinical and clinical research on cannabinoids and pain and also set out key research priorities.

These reviews were conducted over a two-and-a-half-year period and represent one of the most comprehensive appraisals of the topic to date. For neuropathic pain, specifically, a Cochrane systematic review found only modest increases in the proportion of patients achieving clinically meaningful pain relief when using cannabis-based medicines compared with placebo and concluded that the evidence remains insufficient to support broad clinical adoption (Mücke et al., 2018). Furthermore, recent randomized controlled trial evidence does not support CBD as a standalone treatment for achieving clinically meaningful analgesia in non epilepsy pain conditions (Bilbao & Spanagel, 2022).

### B. Chemotherapy-Induced Nausea/Vomiting (CINV)

Synthetic THC-containing products, such as dronabinol and nabilone, may be useful in managing CINV. However, modern antiemetics remain the first-line therapy, with cannabinoids typically used as second-line or add-on therapy (Smith et al., 2015; FDA, 2017).

### C. Anxiety Disorders

Some studies, particularly involving patients with Social Anxiety Disorder (SAD), found that single doses of CBD reduced anxiety during a simulated public-speaking test (Bergamaschi et al., 2011). However, the evidence base is constrained by small sample sizes, inconsistencies in study design and dosing, and the observation of a complex, nonlinear dose-response pattern, specifically an inverted U-shaped effect, where higher doses were associated with reduced efficacy (Linares et al., 2019; Zuardi et al., 2017). A systematic review concluded that CBD may reduce anxiety compared with placebos, but the evidence remains limited (Coelho et al., 2024).

### *Weak/Insufficient Evidence*

Therapeutic use in these areas is often driven by preclinical data or anecdotal reports, but high-quality clinical evidence (large RCTs) is either lacking, inconsistent, or non-supportive.

#### A. Cancer Pain

The evidence for cancer pain is limited and inconsistent. A systematic review of RCTs concluded that cannabinoids have no effect on cancer pain, and that the risk of adverse effects may outweigh the potential benefits (Barakji et al., 2023). For acute postoperative pain, the evidence is sparse and not supportive of routine use. Overall, cannabinoids have not displaced standard analgesics for acute nociceptive pain in the trial literature. Reviews concluded that current RCT evidence does not support clinically meaningful analgesic efficacy for CBD monotherapy in non epilepsy pain conditions. (Bilbao & Spangel, 2022). A few adverse effects have been reported with the use of cannabinoids in cancer management, including dizziness, sedation, cognitive effects, and dysphoria (Barakji et al., 2023).

#### B. Depression

Evidence for the efficacy of cannabinoids for depressive disorders is scarce (Black et al., 2019). While one small study found a possible benefit in a subgroup of bipolar disorder patients receiving an increased dose of CBD (Pinto et al., 2023), general cannabis use may

negatively affect treatment outcomes for Major Depressive Disorder and Bipolar Disorder (Sorkhou et al., 2024; Gilman et al., 2022).

#### C. Alzheimer's disease (AD) and Parkinson's disease (PD)

Initial studies in rodent models suggested neuroprotective properties (García-Arencibia et al., 2007; Aso et al., 2016). In human trials, CBD has been reported to improve health-related quality of life (HRQoL) in PD patients but had no effect on motor symptoms (Chagas et al., 2014). For AD, a synthetic THC (Dronabinol) was found to reduce behavioural symptoms, like agitation; but overall, the evidence base is weak/insufficient to support therapeutic recommendations.

#### D. Sleep Disorders

Evidence that cannabis or cannabinoid products reliably improve core sleep disorders (insomnia, obstructive sleep apnoea - OSA) is limited and inconsistent. The magnitude of benefit for impaired sleep in chronic pain patients is probably small (AminiLari et al., 2021). The American Academy of Sleep Medicine (AASM) advises against using medical cannabis or cannabinoids to treat OSA due to insufficient evidence and safety concerns (Ramar et al., 2018).

#### E. Inflammatory Conditions

Preclinical studies support the anti-inflammatory properties of cannabinoids (Malfait et al., 2000), and small human studies suggest localized relief (Blake et al., 2006). However, there is insufficient evidence from large-scale RCTs to recommend cannabinoids as a substitute for recognized therapies for established inflammatory diseases (Kang et al., 2025).

### *Evidence of Harm or No Benefit*

#### A. Psychotic Disorders (Schizophrenia)

THC is a well-replicated risk factor for psychosis onset and relapse in vulnerable populations and is generally considered contraindicated in this patient group (Di Forti et al., 2019). Conversely, CBD has been studied as an adjunctive therapy and has shown symptomatic improvement compared with placebo in some RCTs. However, the

evidence does not support its use as a replacement for standard antipsychotics (McGuire et al., 2018).

Table 2: Grading the Evidence for Cannabis-Based Therapies

| Evidence Quality                                                             | Therapeutic Application                               | Specific Cannabinoid/Product                   |
|------------------------------------------------------------------------------|-------------------------------------------------------|------------------------------------------------|
| <b>Strong evidence<br/>(multiple high-quality RCTs, regulatory approval)</b> | Childhood epilepsy syndromes (Dravet, Lennox-Gastaut) | CBD (Epidyolex)                                |
|                                                                              | MS-related spasticity                                 | THC/CBD combination (Nabiximols/Sativex)       |
| <b>Moderate evidence<br/>(some RCTs, mixed results)</b>                      | Chronic neuropathic pain                              | Cannabinoids (general)                         |
|                                                                              | Chemotherapy-induced nausea/vomiting (CINV)           | THC-containing products (Dronabinol, Nabilone) |
|                                                                              | Anxiety disorders                                     | CBD (limited, dose-dependent)                  |
| <b>Weak/insufficient evidence</b>                                            | Cancer pain                                           | Cannabinoids (general)                         |
|                                                                              | Depression                                            | Cannabinoids (general)                         |
|                                                                              | Alzheimer's disease                                   | Cannabinoids (general)                         |
|                                                                              | Sleep disorders (Insomnia, OSA)                       | Cannabinoids (general)                         |
|                                                                              | Most inflammatory conditions                          | Cannabinoids (general)                         |
| <b>Evidence of harm or no benefit</b>                                        | Psychotic disorders (Treatment/Relapse)               | THC (contraindicated)                          |

Though cannabinoids show therapeutic potential, concerns remain about adverse events and long-term safety, particularly with THC.

## **Medicinal Cannabis Oil: Concerns and Gaps**

The global conversation around medicinal cannabis oil has gained momentum, with many countries exploring its potential to treat conditions ranging from chronic pain to epilepsy. In Nigeria, this debate is intensifying, driven by both public interest and policy discussions. However, any move toward legalization or medical adoption must be grounded in a clear-eyed understanding of the risks and limitations.

Scientific evidence on cannabis oil's effectiveness is still evolving. While some randomized controlled trials (RCTs) show promise, particularly in epilepsy treatment, others highlight inconsistent outcomes in non-epileptic pain conditions (Bilbao & Spangel, 2022; Fisher et al., 2020). Moreover, safety concerns such as dependency, cognitive impairment, and psychiatric effects remain under-researched in African populations, where genetic, cultural, and healthcare system differences may influence both efficacy and risk profiles (Linares et al., 2019; Zuardi et al., 2006).

In Nigeria, these gaps are particularly critical due to limited regulatory infrastructure and constrained public health resources. In the absence of robust, locally relevant research and clearly defined policy frameworks, the adoption of medicinal cannabis may outpace the development of systems required to ensure its safe and effective use. The following section outlines key concerns and structural gaps that must be addressed to support a balanced and evidence-based approach.

### ***Critical and Quantified Health Risks***

The therapeutic applications of cannabinoids must be weighed against several specific and quantifiable health risks associated primarily with THC-containing products (Table 3):

*Table 3: Specific and Quantifiable Health Risks*

| <b>Risk Category</b>               | <b>Key Quantitative Data/Magnitude of Risk</b>                                                                               | <b>Source</b>           |
|------------------------------------|------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| <b>Cannabis Use Disorder (CUD)</b> | Approximately 9% of cannabis users develop dependence. This risk increases to 17% for those with adolescent-onset use.       | (NASEM, 2017)           |
| <b>Psychosis/Schizophrenia</b>     | High-potency THC products are associated with a 4- to 5-fold increased risk of psychotic disorder in vulnerable populations. | (Di Forti et al., 2019) |
| <b>Cognitive Effects</b>           | Regular, adolescent-onset use is associated with a 6- to 8-point IQ decline persisting into adulthood.                       | (Health Canada, 2017)   |
| <b>Motor Vehicle Crashes</b>       | THC approximately doubles accident risk. When combined with alcohol, the risk increases 15-fold.                             | (Health Canada, 2017)   |
| <b>Withdrawal Syndrome</b>         | 50% of daily users experience a withdrawal syndrome upon cessation (e.g., irritability, sleep disturbances).                 | (NASEM, 2017)           |

### *Contraindications and Safety Concerns*

Beyond the general population risks, certain individuals face elevated danger while systemic issues also create critical safety gaps as below:

#### 1. Absolute Contraindications

- **Mental Health Conditions:** Individuals with a personal or family history of psychosis or schizophrenia are strongly advised against using THC due to the risk of exacerbation or relapse.
- **Pregnancy and Breastfeeding:** Use is contraindicated as active compounds can affect foetal brain development, lead to low birth weight, and pass into breast milk (Centers for Disease Control and Prevention [CDC], 2025).

- Cardiovascular Conditions: Patients with pre-existing heart conditions or a history of stroke should avoid use due to the potential impact on heart rate and blood pressure (Page et al., 2020).

## 2. General Safety Concerns

- Drug Interactions: Cannabinoids (especially CBD and THC) can interact with a wide range of medications (e.g., blood thinners like warfarin) by inhibiting the Cytochrome P450 enzyme system, potentially altering drug levels and increasing toxicity or reducing efficacy.
- Cannabinoid Hyperemesis Syndrome: A rare but severe condition characterized by recurrent, intense vomiting, primarily associated with chronic, heavy use (Cleveland Clinic, 2023).

## *Nigeria-Specific Risk Amplification and Gaps*

The inherent risks of cannabis are amplified by the specific public health, demographic, and regulatory environment in Nigeria (Figure 4).

### **NIGERIA-SPECIFIC RISK AMPLIFICATION AND GAPS**

#### Risk Amplification Factors and Contextual Vulnerabilities



Figure 4: Nigeria-Specific Risk Amplification and Gaps

## *Research Gaps and Limitations*

Responsible policy development on cannabis oil use in Nigeria is hampered by the following knowledge deficits:

- **Absence of Local Clinical Trials:** There is a severe deficit in local clinical trials. Without this data, it is impossible to determine optimal dosages, efficacy, or long term safety for the Nigerian population (UNODC, 2022).
- **Limited Knowledge of Indigenous Strains:** The specific properties (phytochemical profiles) of cannabis strains cultivated in Nigeria are largely unstudied (Audu et al., 2014). This limits the ability to develop safe, effective, and standardized products.
- **Lack of Public Health Data:** The lack of systematic data on the prevalence of cannabis use and related health issues makes it impossible to accurately assess the societal and public health impact of potential policy changes (Ofomata & Nnabuihe, 2025).

# Regulatory Models and Lessons Learned: The Global Picture

The global evolution of cannabis policy reveals a wide spectrum of regulatory models, ranging from tightly controlled pharmaceutical systems to fully commercial markets. Examining how various regions have approached regulation and the outcomes of these approaches provides valuable insight for Nigeria as it continues to evaluate its policy direction. This section outlines the major regulatory models to clarify key dimensions and identify potential lessons that may inform future discussions.

## *Pharmaceutical and Medical Models (Europe, Middle East, Australia)*

These regions prioritize patient safety and product quality by embedding medical cannabis within established pharmaceutical frameworks, typically requiring the product to meet stringent standards similar to conventional medicines. This approach may offer useful considerations for Nigeria as it explores possible frameworks for any future medical-use regulations.

*Table 4: Regulatory Models: Europe, Australia and Middle East and Lessons for Nigeria*

| Dimension              | Germany (Europe)                        | Australia                                | Israel (Middle East)                | Lessons for Nigeria                                                                  |
|------------------------|-----------------------------------------|------------------------------------------|-------------------------------------|--------------------------------------------------------------------------------------|
| Legalization Scope     | Medical only                            | Medical only                             | Medical only                        | Prioritize safety through strong patient access measures and strict quality control. |
| Prescriber Restriction | Specialist authorization for most cases | Specialized/registered training required | Authorized physicians (Specialists) | Experience shows that limiting prescribing to specialists or                         |

|                            |                                             |                                                                        |                                      |                                                                                                                                                   |
|----------------------------|---------------------------------------------|------------------------------------------------------------------------|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
|                            |                                             |                                                                        | in certain areas)                    | trained general practitioners helps reduce inappropriate use, and that these restrictions often ease as clinical knowledge and confidence expand. |
| <b>Product Standards</b>   | Pharmacy-grade/High-Pharma Standards        | TGA (Therapeutic Goods Administration)-approved / Pharmaceutical-grade | Pharmaceutical-grade                 | Pharmaceutical-grade is essential to ensure patient safety and build regulatory integrity.                                                        |
| <b>Dispensing Model</b>    | Pharmacy-only (Special license required)    | Specialist Pharmacies/ Licensed providers                              | Specialized Clinics / Pharmacies     | Pharmacy-based dispensing with specialist oversight prevents diversion and provides professional guidance.                                        |
| <b>Insurance Coverage</b>  | Public insurance (covers serious illness)   | Public (limited) / Private                                             | Partial Public/ Private              | Affordability barrier is key. Must plan for low-cost access or targeted subsidy for vulnerable patients.                                          |
| <b>Cultivation Control</b> | Import + limited local research/cultivation | State-controlled + Licensed commercial                                 | Licensed commercial for local supply | Start with importation of pharmaceutical products while simultaneously developing local                                                           |

|  |                                                                                                                     |
|--|---------------------------------------------------------------------------------------------------------------------|
|  | Good<br>Manufacturing<br>Practices (GMP)<br>and Good<br>Production<br>Practices (GPP)<br>standards and<br>capacity. |
|--|---------------------------------------------------------------------------------------------------------------------|

### *Interpretation and Relevance*

The German, Australian, and Israeli models (Blanchette et al., 2022) exemplify a "gatekeeping" approach. The emphasis on pharmaceutical-grade standards and specialist prescriber restriction is a powerful mechanism for quality assurance, which directly addresses Nigeria's need to prevent the sale of unverified products. The central lesson here is that a public health centric model demands a slow, deliberate regulatory rollout tethered to the existing healthcare system (Kilmer & Pacula, 2017). Germany’s willingness to mandate public insurance coverage highlights a potential path to improving patient equity, a critical concern in healthcare access in Nigeria.

### *Commercial and Adult-Use Models (North America)*

These models focus on market substitution and tax generation, allowing for-profit entities to manage most aspects of the supply chain, often for both medical and recreational use. They offer lessons on managing market dynamics.

*Table 5: Regulatory Models in North America and Lessons for Nigeria*

| Dimension                 | Canada (North America) | U.S. (State-Level) (North America)             | Lessons for Nigeria                                                                                         |
|---------------------------|------------------------|------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| <b>Legalization Scope</b> | Medical + Recreational | Varies: Medical only or Medical + Recreational | Avoidance of initial recreational legalization. If to be considered later, strict public enterprise or non- |

|                               |                                                        |                                           |                                                                                                                                                      |
|-------------------------------|--------------------------------------------------------|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
|                               |                                                        |                                           | profit models could be implemented.                                                                                                                  |
| <b>Prescriber Restriction</b> | General Practitioners with training                    | Any physician (varies by state)           | The liberal approach of general prescribing risks over-prescription and misuse without strong professional guidelines.                               |
| <b>Product Standards</b>      | Federal GMP and GPP                                    | State-mandated standards (Wide variation) | The Federal GMP/GPP model is necessary for establishing quality, but compliance is costly for small operators.                                       |
| <b>Dispensing Model</b>       | Licensed producers + Private/Public Retailers (varies) | Licensed Dispensaries (varies)            | Retail models increase access but complicate oversight. Pharmacy-only is a safer starting point to maintain control.                                 |
| <b>Quality Control</b>        | Mandatory third-party testing & Government oversight   | State-mandated testing (Varies in rigor)  | Mandatory third-party testing is vital, but this requires adequate laboratory capacity and regulator training.                                       |
| <b>Cultivation Control</b>    | Licensed commercial (Large-scale)                      | Licensed commercial (Varies)              | The dominance of large-scale commercial licensing risks excluding traditional farmers and social equity goals (Transnational Institute [TNI], 2022). |

*Interpretation and Relevance*

The North American experience (Canada and various states in the United States [U.S.]) demonstrates the challenges of rapid, commercial legalization. While tax revenue is generated, major issues like the persistence of the black market and the "Green Rush" profit motive overpowering public health goals have been prominent (Health Canada, 2024). For Nigeria, the primary takeaway is a cautionary one: a commercially driven model, especially one allowing recreational use, carries high risks of quality control failure and potential increases in adolescent use (UNODC, 2020).

*Emerging Models (Africa)*

African countries are navigating the path from prohibition and illicit cultivation toward regulated markets, often driven by goals of economic development and export. This highlights how countries can integrate long-standing informal cannabis cultivation and trade into regulated markets rather than displacing existing participants.

*Table 6: Regulatory Models in Africa and Lessons for Nigeria*

| Dimension             | South Africa<br>(Sub-Saharan)                                  | Malawi/Ghana/<br>Morocco<br>(Emerging) | Lessons for Nigeria                                                                                                                                                       |
|-----------------------|----------------------------------------------------------------|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Legalization<br>Scope | Decriminalized<br>Personal Use +<br>Commercial<br>Medical/Hemp | Medical/Hemp<br>Focus (Varies)         | Decriminalizing<br>personal use (to<br>address justice issues)<br>while focusing<br>commercial efforts<br>solely on<br>medical/export is a<br>pragmatic dual<br>strategy. |
| Product<br>Standards  | Varying,<br>moving<br>towards<br>GPP/GMP                       | Developing<br>GPP/GMP for<br>export    | Other countries have<br>found that locally<br>adapted GPP<br>standards, aligned<br>with international<br>export requirements,                                             |

|                            |                                               |                                                    |                                                                                                                                                                                                                 |
|----------------------------|-----------------------------------------------|----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                            |                                               |                                                    | support commercial viability.                                                                                                                                                                                   |
| <b>Cultivation Control</b> | Licensed commercial + Limited Traditional Use | State-controlled licensing for export/local supply | Experiences from other countries show that licensing systems which include traditional, small-scale farmers (such as co-operatives) can promote social equity and help prevent corporate dominance (TNI, 2022). |

### Interpretation and Relevance

African models face the dual challenge of addressing past criminalization while capturing new global market value. South Africa's move to decriminalize personal use while regulating the commercial medical market is a model of social justice combined with economic opportunity. A critical lesson for Nigeria is the need to protect local livelihoods from 'corporate capture.' Instead of a model that favours only large-scale commercial entities, policy should actively integrate the existing traditional cultivation sector into the legal supply chain (TNI, 2022). This can be achieved through farmer cooperatives and inclusive licensing, which prevent the mass displacement of traditional growers and ensure that the economic benefits of a legal market are shared equitably across rural communities.

*Table 7: The Global Cannabis Regulation-Successes, Challenges, and Lessons for Nigeria*

| Successes<br>(What Worked)                                       | Failures/Challenges<br>(What Failed)                               | Primary Policy<br>Implication for<br>Nigeria                                                 |
|------------------------------------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| <b>Pharmaceutical-grade CBD for epilepsy (Universal success)</b> | Quality control challenges in rapid market expansion (U.S. states) | Prioritize Quality and Safety: Adopt the Pharmaceutical/Medical Model (Germany/Australia) to |

|                                                                                                       |                                                                      |                                                                                                                                                                                   |
|-------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                       |                                                                      | start. Strict GPP/GMP is non-negotiable.                                                                                                                                          |
| <b>Pharmacy dispensing reduces diversion (Germany, Australia)</b>                                     | Black market persistence despite legalization (Canada, Netherlands)  | Undercutting the Black Market: Ensure legal prices are competitive through sensible taxation, but maintain Pharmacy-based access for control.                                     |
| <b>Specialist prescriber gatekeeping manages inappropriate use (United Kingdom [U.K.], Australia)</b> | "Green rush" profit motive overwhelming public health (Canada, U.S.) | Maintain Public Health Control: Restrict prescribing to specialists initially and limit commercial marketing to prevent a 'Green Rush' scenario.                                  |
| <b>Insurance coverage improves equity (Germany)</b>                                                   | Unsubstantiated therapeutic claims proliferating (Widespread)        | Affordability and Education: Create a public awareness campaign against false claims, and explore targeted subsidies or a social equity fund to reduce the affordability barrier. |

| S/N African country Legislation Status |              |                                                                                              |
|----------------------------------------|--------------|----------------------------------------------------------------------------------------------|
| 1                                      | Malawi       | Legalized officially for industrial, medical use and export. Recreational use is prohibited. |
| 2                                      | Zambia       | Legalized officially for export and medicinal purposes. Recreational use is prohibited.      |
| 3                                      | South Africa | Medical and recreational use of cannabis are legal (officially).                             |
| 4                                      | Zimbabwe     | Legalized officially for medical use and not recreational use.                               |
| 5                                      | Lesotho      | Legalized officially for medical use and export. Recreational use is prohibited.             |
| 6                                      | Ghana        | Prohibited for recreational use but legal for medical and industrial purposes.               |
| 7                                      | Morocco      | Prohibited for recreational use but legal for medical and industrial purposes                |
| 8                                      | Rwanda       | Legalized medical cannabis for export and medical use                                        |
| 9                                      | Uganda       | Legalized solely for exports.                                                                |

Figure 5: Regulatory Models in Africa

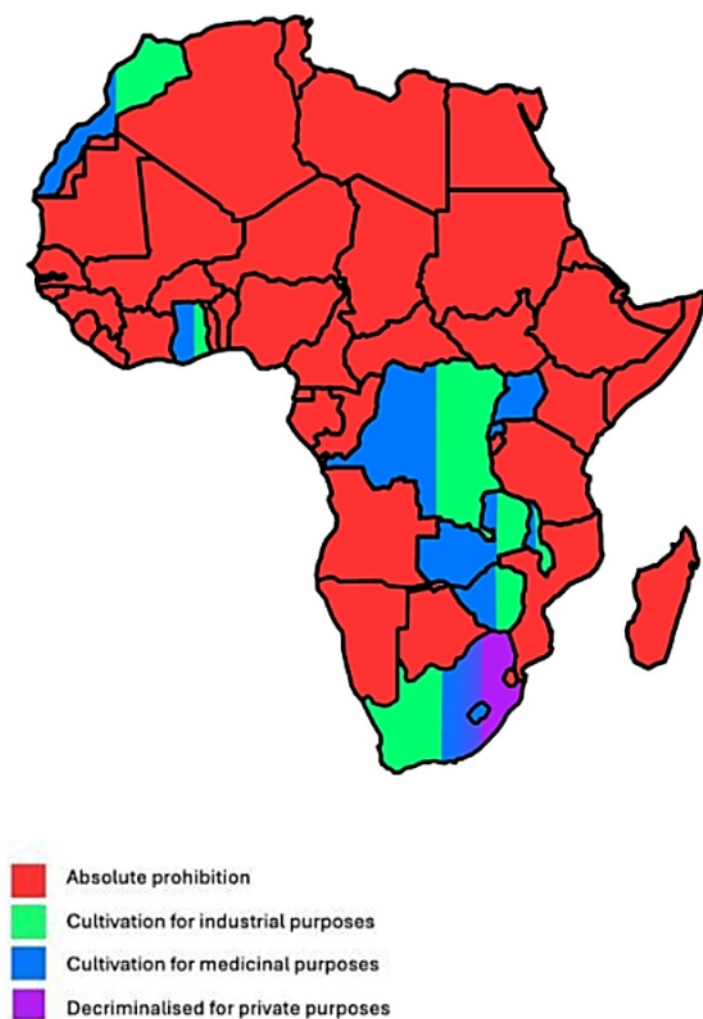


Figure 6: Cannabis Legalization status in African Countries

*WHO and FDA Positions*

The WHO and the U.S. Food and Drug Administration (FDA) (Table 4) provide a crucial global context for the medicinal cannabis debate. These bodies do not regulate national programs but offer guiding principles on safety, efficacy, and classification. The WHO has played a key role in re-evaluating cannabis. In 2020, based on a critical review, it recommended the reclassification of cannabis and cannabis resin, removing them from Schedule IV of the 1961 Single Convention on Narcotic Drugs (WHO, 2020). This acknowledged their potential for therapeutic use and a lower risk of harm than previously thought - a position that could encourage more countries to explore medical cannabis programs. The U.S. FDA maintains a stringent position, having not approved the cannabis plant itself for any medical use. Its focus is on approving specific, isolated cannabinoids as pharmaceutical drugs, subject to the same rigorous clinical trials as any other medication. This cautious approach emphasizes safety and efficacy based on robust scientific evidence and is a model that prioritizes a full understanding of a product's therapeutic benefits and risks before it is widely adopted.

*Table 8: Position of International Health Bodies*

| Organization | Position on Cannabis and its Derivatives                                                                                                                    | Key Implication for Policy                                                                                                                                                                    |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| WHO          | In 2020, recommended the reclassification of cannabis and cannabis resin, removing them from Schedule IV of the 1961 Narcotic Drugs Convention (WHO, 2020). | This recommendation acknowledges the therapeutic potential of cannabis and a lower risk of harm than previously believed, which could encourage more countries to reform their cannabis laws. |

|            |                                                                                                                                                                                       |                                                                                                                                                                                                    |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>FDA</b> | Does not approve the cannabis plant itself for medical use (FDA, 2024). Instead, it approves specific, isolated cannabinoids as pharmaceutical drugs (e.g., Epidyolex) (NCCIH, 2024). | This position emphasizes a science-first, evidence-based approach. It requires products to undergo rigorous clinical trials to prove safety and efficacy before they are approved for general use. |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

The diverse global models demonstrate that a successful medical cannabis program requires a strong, centralized regulatory body to ensure product quality and patient safety. A Nigerian pathway forward could learn from Canada's unified federal system, Germany's insurance-covered model, and Israel's research-driven clinical guidelines. If Nigeria were to consider the legalization of cannabis oil, a potential framework could emphasize clinical oversight, quality control, and an evidence-based regulatory approach. Such a model would enable the country to explore the possible therapeutic benefits of cannabis oil while proactively addressing associated risks, thereby outlining what a responsible and well-regulated system might look like.

## **Legal and Regulatory Framework: Global Trends vs. Nigerian Reality**

The global legal landscape governing cannabis and its derivatives has undergone a significant transformation, shifting from decades of near-total prohibition to the cautious establishment of regulated medical and industrial markets. This global evolution creates both a policy precedent and a sharp contrast to the strictly prohibitory regime currently enforced in Nigeria.

### ***Global Regulatory Foundation and Modern Shift***

International drug control conventions have historically driven the prohibition of cannabis. However, this framework has recently evolved to acknowledge scientific reality.

### ***The United Nations Shift***

The foundation of modern drug control lies in the 1961 UN Single Convention on Narcotic Drugs. This Convention initially placed cannabis and its resin in both Schedule I (high addiction risk) and the severely restricted Schedule IV.

The pivotal change occurred in December 2020, when the UN Commission on Narcotic Drugs (CND), acting on recommendations from the WHO, voted to remove cannabis and cannabis resin from Schedule IV. This decision was a global recognition of cannabis's therapeutic potential and modestly eased administrative pathways for research and medical development worldwide, although it maintained strict Schedule I control and did not endorse non-medical use (CND, 2020).

## *Modern International Access Models*

Since 2010, various nations have developed models to regulate cannabis, providing clear blueprints for Nigeria to study. These models generally fall into three categories:

### **1. The Pharmaceutical Pathway (Strict Drug Control):**

- This pathway treats cannabinoid products, such as pharmaceutical-grade CBD (like Epidyolex) or THC/CBD sprays (like Sativex), as traditional prescription drugs.
- They undergo rigorous pre-market testing for safety and efficacy by agencies like the U.S. Food and Drug Administration (FDA) or Health Canada.
- Once approved, they are prescribed by clinicians and dispensed through licensed pharmacies, subject to standard post-marketing pharmacovigilance (FDA, 2024; Health Canada, 2024).

### **2. The Programmatic Pathway (Medical Authorization):**

- This approach, common in countries like Canada and various U.S. states, allows patients with a medical document (authorization) from a physician to access non-pharmaceutical cannabis products (oils, dried flower) from specially licensed producers or dispensaries.
- It operates alongside the pharmaceutical pathway, providing patients with a flexible, though less regulated, alternative. Access is tightly controlled via patient registries and licensed facilities (Government of Canada, 2018).

### **3. The Economic and Export-Focused Pathway (African Model):**

- Several African nations, including Lesotho, Zimbabwe, and Morocco, have legalized cultivation and processing specifically for industrial and medicinal purposes, with a heavy emphasis on export to generate foreign exchange.

- This model prioritizes attracting investment and establishing commercial licensing regimes (Thetsane, 2024; Eljechtimi, 2024). A key challenge, however, is the lack of parallel domestic clinical programs and pharmacovigilance, meaning they generate little local evidence on patient safety.

## *Global Regulatory Case Studies and Models*

To inform Nigeria's roadmap, the following distinct international models offer critical lessons in policy structure, quality control, and economic strategy:

### **1. North America: Dual Access and Decentralization**

- **Canada:** Legalized and federally regulates both recreational and medical cannabis (Cannabis Act, 2018). It maintains two distinct pathways: strict prescription-grade pharmaceutical products (under the Food and Drugs Act) and a programmatic access pathway via physician authorization for supply from federally licensed producers, all under strict Good Production Practices (GPP).
- **United States:** Remains a complex system due to federal prohibition (Schedule I) conflicting with state-level legalization (24+ states). Access is primarily managed through state medical authorization systems and licensed dispensaries. This decentralized approach creates non-uniform product quality and significant federal-state regulatory conflict (Congressional Research Service, 2019).

### **2. Europe: Strict Medical and Social Tolerance**

- **United Kingdom:** Allows cannabis-based medicinal products (CBMPs) to be prescribed only by specialist hospital clinicians under strict controls, prioritizing clinical supervision and limiting access (The Misuse of Drugs Regulation, 2018).

- **Germany:** Permitted medicinal cannabis since 2017. Its 2024 Cannabis Act introduced one of the most liberal approaches, effectively legalizing possession and cultivation for adult recreational use while maintaining prescription models via pharmacies (Federal Ministry of Health Germany, 2024)
- **The Netherlands:** Operates a "tolerance policy" (*Gedogenbeleid*) where licensed retail outlets can sell soft drugs like cannabis under stipulated conditions, often leading to a supply paradox as production remains illicit (Government of the Netherlands, 2022).

### 3. African Export-Focused Models

Several African nations have moved rapidly to establish regulated cultivation frameworks, primarily driven by the need for economic diversification and foreign exchange.

*Table 9: Frameworks, challenges and lessons from different African countries*

| Country                      | Focus of Reform                                  | Key Challenge/Lesson                                                                                                                                                                                        |
|------------------------------|--------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Lesotho, Zimbabwe</b>     | Cultivation licenses for export (2017/2018).     | Monitoring systems focus on production volumes, neglecting local pharmacovigilance. This limits evidence-based expansion for domestic medical use (Thetsane, 2024).                                         |
| <b>Morocco</b>               | Legalized for therapeutic/industrial use (2021). | Successfully formalized small producers into licensed cooperatives, but faces significant quality-control challenges and the persistence of a large black market due to European demand (Eljechtimi, 2024). |
| <b>Malawi, Rwanda, Ghana</b> | Legalized cultivation for medical and            | Implemented highly centralized, regulated cultivation. The primary                                                                                                                                          |

---

|                                |                                                                                                                                                     |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| industrial use<br>(2020/2021). | challenge is building technical<br>capacity for Good Agricultural<br>Practices (GAP) and GMP to<br>meet international standards<br>(Bandawe, 2022). |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|

---

*The Nigerian Framework: Strict Prohibition and its Consequences*

In stark contrast to the global trend of regulatory re-evaluation, Nigeria maintains one of the world’s strictest prohibition regimes. Cannabis is categorized as a prohibited narcotic under NDLEA Act (Cap N30, Laws of the Federation of Nigeria [LFN], 2004) and the Indian Hemp Act of 1966. These acts establish severe criminal penalties:

- Possession is punishable by a minimum of 12 years in prison.
- Trafficking or large-scale cultivation can lead to life imprisonment.

This punitive framework places a massive strain on the Nigerian criminal justice system and contributes significantly to prison congestion (Okiwe et al., 2020).Despite these severe penalties, Nigeria remains one of the world’s largest cannabis markets, highlighting the failure of the prohibition model to curb supply or demand.

Nigeria has one of the highest cannabis usage rates globally, with estimates suggesting over 10.8% of the population (aged 15–64) used cannabis in the past year (UNODC, 2018; NIH, 2021). Enforcement efforts focus heavily on interdiction. Between 2020 and 2024it has been reported that the NDLEA has seized and destroyed massive volumes of illicit cannabis (Proshare, 2019).

As recently as 2018, cannabis accounted for 85.9% of all drugs seized (National Bureau of Statistics [NBS], 2018). This black market is estimated to be valued at approximately \$15.3 billion to \$20 billion annually (New Frontier Data, 2019 Proshare, 2019). This massive

shadow economy represents a substantial loss of potential government revenue, which is the core argument for reform advocates.

### *Institutional Readiness and Challenges*

The successful transition to a regulated market, even one focused purely on medical export, hinges primarily on the capacity of Nigerian agencies to manage a complex, high-risk commodity.

The NDLEA is currently configured for interdiction, arrest, and destruction. A shift to a regulated model would demand a massive reorientation for personnel from enforcement to a regulatory oversight and monitoring role. This requires new technical expertise in licensing, quality control, tracking (seed to-sale), and implementing strict anti-diversion controls (Schauer, 2020).

The National Agency for Food and Drug Administration and Control (NAFDAC) would be the primary regulator for the medicinal pathway. NAFDAC would be responsible for:

- Establishing Good Manufacturing Practices (GMP) and Good Agricultural Practices (GAP).
- Setting standards for potency (THC/CBD) and testing for contaminants (pesticides, heavy metals).
- Regulating prescription pathways and post-market safety (pharmacovigilance).

While NAFDAC has the foundational mandate, regulating pharmaceutical-grade cannabis oil requires significant capacity building in specialized testing laboratories and enforcement of a strictly controlled supply chain to meet international export standards.

Another challenge to reform remains the need to amend or repeal core federal statutes, which classify cannabis as a hard narcotic, and to bridge the significant capacity gap between the current prohibition focused agencies and the demands of a modern, regulated industry.

## Cannabis in the Nigerian Context

The discourse surrounding cannabis in Nigeria is a complex tapestry woven from urgent public health concerns, deeply entrenched cultural and religious norms, formidable legal prohibitions, and emerging economic possibilities. As the nation with the highest lifetime prevalence of cannabis use in Africa, and one of the highest globally (UNODC, 2018), the substance is firmly cemented in the Nigerian socio-economic landscape, moving from a strictly illicit crop to a potential subject of national policy reform.

This section moves beyond the simple legal classification to provide a data-driven, multi-faceted analysis of the role, impact, and policy challenges presented by cannabis. It is necessary to first establish a baseline understanding through epidemiological data, quantifying the scope of use and its associated consequences (UNODC, 2018). Building on this baseline, the study must critically assess the current capacity of the Nigerian healthcare system to manage potential public health outcomes while evaluating the deep-seated conflicts among key national stakeholders (Onwuzoo, 2021). Furthermore, the analysis should quantify the immense economic potential of transitioning the current illicit market, estimated at over \$20 billion, into a strictly regulated and taxable sector (Prohibition Partners, 2019; Proshare, 2019).

Finally, an examination of the key social and cultural factors that shape both public perception and political action (Nelson, 2021) is foundational to understanding the delicate balance of risks and rewards inherent in any future policy decision regarding cannabis in Nigeria."

## *Epidemiological Data*

Cannabis remains the most widely used illicit drug in Nigeria. The National Drug Use Survey (2018) provides the most comprehensive baseline data:

- **Prevalence Trends:** In 2018, an estimated 10.6 million people (10.8% of the adult population aged 15-64) reported past-year use of cannabis. This represents a significant increase from earlier figures, underscoring its growing entrenchment.
- **Age of Initiation:** The average age of initiation for cannabis use was reported to be 19 years (UNODC, 2018), highlighting its use among young people.
- **Routes of Administration:** The most common route involves smoking, but other forms, such as eating or infusion as tea, have been documented (Ajagun et al., 2024).
- **Co-use with Other Substances:** Cannabis users often present with polysubstance abuse, making treatment complex. Studies indicate co-use with alcohol and tobacco is frequent (Peters et al., 2012).
- **Geographic Distribution:** Cultivation and production are concentrated in the southern forest belt, with Ondo, Edo, Ekiti, Ogun, Osun, and Oyo states identified as principal areas. The highest density of cultivation is reported in the border areas between Edo and Ondo states (UNODC, 2022).
- **Socioeconomic Correlates:** Cannabis use is often linked to poor socio-economic backgrounds, unemployment, and is more prevalent among young, single males (UNODC, 2018; Nelson, 2021).
- **Mental Health Service Utilization and Treatment Demand:** Cannabis use constitutes a major source of demand for mental health services, with some tertiary facilities reporting that over 70% of drug related psychiatric presentations involve cannabis use. These patients,

predominantly young males, often present with severe psychopathology, particularly psychotic disorders, a pattern that has been hypothesised to relate in part to the high potency of locally available cannabis preparations (Oshodi et al., 2010).

### *Healthcare System Capacity Assessment*

Nigeria's healthcare system presents significant structural challenges for managing a regulated cannabis market.

- **Current Psychiatric Service Availability:** Psychiatric and mental health services are severely under-resourced and over-burdened (Fadele et al., 2024) . The existing infrastructure cannot adequately cope with the current level of substance-induced psychosis and dependence, much less an influx following any policy change.
- **Substance Use Disorder Treatment Infrastructure:** Treatment is offered by a mix of government hospitals, NGOs, and faith-based organizations, often emphasizing abstinence. Services, which include counselling and rehabilitation, are scarce, and there's a recognized lack of harm-reduction programs and a need for integrated mental health and substance use disorder services (UNODC, 2016).
- **Laboratory Capacity for Product Testing:** Current processes and laboratory infrastructure for testing, certifying, and standardizing cannabis-based oils and products may not yet be sufficiently developed to ensure rigorous assessment of purity, potency (THC/CBD ratio), and safety.
- **Prescriber Training Infrastructure:** There is an acknowledged gap in knowledge, skills, and attitude among healthcare professionals regarding the therapeutic use of controlled medicines, despite the existence of a National Policy for Controlled Medicines (NPCM) designed to improve

availability and rational use. Specific training on cannabis-based medicine remains non-existent in formal curricula.

- **Drug Monitoring Systems:** Robust, centralized, and secure systems for the prescription tracking and controlled dispensing of Schedule 1-type controlled substances are not adequately developed, presenting a high risk of diversion into the illicit market.

### *Stakeholder Analysis*

The diverse positions of key Nigerian stakeholders illustrate the deep policy conflict.

- **Government Ministries Positions:** NDLEA continues to strictly enforce the prohibition of local recreational and non-medical use, citing public health and security risks. However, the agency has shown a pragmatic openness to the controlled and regulated export of cannabis oil for foreign markets (Businessday NG, 2025), acknowledging the economic potential. The National Assembly continues to debate medical cannabis legislation.
- **Medical Professional Associations** While guarded, they remain cautious, citing the lack of local clinical research, the absence of standardized products, and the need for definitive prescribing standards.
- **Religious Leadership Perspectives:** Both Christian and Muslim bodies express strong moral and religious objections to cannabis use, primarily viewing it as an intoxicant that leads to spiritual and cognitive impairment (Haram/Sin) and social deviance. This religious conservatism remains a powerful political counterforce to reform efforts.
- **Cannabis Farmers/Cultivators Perspective:** Illicit farmers in the South-West are a key but criminalized constituency. They seek economic inclusion and a transition from a perilous shadow economy to a formal, taxable sector, offering an

alternative income stream in states where cultivation already thrives (Proshare, 2019).

- **Law Enforcement Views:** Predominantly focusing on the enforcement of existing prohibitionist laws, seeing cannabis as a key driver of crime, violence, and social disorder, views often shaped by decades of negative media and political framing.



Figure 7: Stakeholder Division on Cannabis Reform

## *Economic Analysis*

A regulated cannabis industry could offer substantial economic benefits, transforming an illicit liability into an asset.

- **Current Illicit Market Size and Value:** Estimates suggest that the annual illicit trade in Nigeria's cannabis market is worth about \$20 billion (₦30 trillion), based on a purported production/import figure of 2 million tons (Proshare, 2019). This massive shadow economy is untaxed and uncontrolled.
- **Potential Tax Revenue from Regulated Market:** Analysts estimate a legal cannabis market could be worth over \$1.5 billion annually within five years of regulation, which would generate significant tax revenue for the government (Prohibition Partners, 2019).
- **Agricultural Opportunity Assessment:** Nigeria's favourable agro-climatic conditions are ideal for cultivating high-quality medicinal-grade cannabis. Legalization could spark a new agricultural value chain, creating jobs in cultivation, processing, and research, particularly in the South-West.
- **Export Potential (Realistic Assessment):** The global cannabis oil market is projected to be nearly \$40 Billion by 2034. Nigeria could realistically become a major exporter of non-psychoactive CBD oil to regulated international markets, capitalizing on its low production costs and NDLEA's stated willingness to regulate exports (Businessday NG, 2025).
- **Investment Requirements for Regulatory Infrastructure:** Significant upfront Public-Private Partnership (PPP) investment would be required for establishing a Central Cannabis Regulatory Authority (CCRA), developing certified testing laboratories, implementing seed-to-sale tracking systems, and training all personnel across the supply chain.

## *Social and Cultural Factors*

- **Detailed Stigma Assessment:** The stigma surrounding cannabis use is profound, linking users to mental illness, social deviance, violence, and criminality (Nelson, 2021). This "weed" stigma affects patient uptake of potential medical products and limits political will for reform.
- **Gender Dimensions:** While use is overwhelmingly dominated by males, studies indicate a growing, albeit less visible, use among young women, often linked to poverty and precarious socio-economic backgrounds (Nelson, 2021).
- **Traditional Medicine Integration Questions:** The historical use of cannabis by communities in Southern Nigeria for medicinal purposes presents an ethical and policy question about integrating traditional knowledge into a modern, regulated framework, ensuring cultural equity and scientific validation.
- **Media Portrayal Analysis:** The media has historically played a significant role in reinforcing negative perceptions, often framing cannabis use through a lens of urban deviance and mental health catastrophe. However, a developing counter-narrative, particularly among educated urban youth and in recent business media, reflects the changing global perspective.

## Conclusion and Recommendations

Nigeria stands at a crossroads. The nation must reassess its current stance and, while embracing an evidence-guided path that is globally relevant, the Nigerian government must ensure its position is culturally appropriate and locally-beneficial while also safeguarding public health and safety. Given that CBD oil is neither a first-line nor a standalone treatment for any medical condition, a cautious and phased framework, led by the Federal Ministry of Health and Social Welfare (FMOH&SW), NAFDAC and the NDLEA, is advised, if Nigeria is to consider legalising CBD oil for medical use. This should begin with research, advancing to export, and evolving towards limited medical use locally. This approach probably represents the safest and most rational path. However, even this is only conceivable under a very strict and efficient regulatory environment.

Therefore, the Academy urges the NDLEA and the federal government to act decisively but carefully: invest in institutional readiness, reform the legal framework, and, only then, initiate controlled pilot programmes. Measured action today will define Nigeria's leadership in Africa's emerging medical cannabis economy tomorrow.

### *Recommendations*

The analysis of the potential benefits, profound risks, and significant evidence gaps surrounding cannabis oil in Nigeria mandates a policy approach defined by caution, phased implementation, and robust evidence generation. It should be noted that legalization of cannabis oil for medical use in Nigeria can only be done when there is sufficient confidence that strict regulation is possible. The following recommendations are designed to establish a controlled, science led framework that maximizes potential economic benefits while strictly safeguarding public health and social stability.

#### **1. Establish a Phased Regulatory Roadmap**

Nigeria should avoid an all-or-nothing approach and adopt a phased, cautious policy roadmap, drawing lessons from global best practices. Policy evolution should follow a strictly controlled

sequence (and the process can be halted at any phase if the challenges encountered threaten to overwhelm the existing related systems):

- a. Phase 1: Research-Only: Legalize cultivation and processing solely for scientific research and clinical trials under the strict supervision of relevant agencies. Research efforts should also focus on developing cannabis strains with low THC and high CBD content.
- b. Phase 2: Export-Only (Pilot): Once research capacity is established, permit strictly controlled cultivation and processing within designated export-only zones (EOZs) for revenue generation, while domestic sales and use remain prohibited.
- c. Phase 3: Limited Medical Use: Introduce limited domestic medical use, only upon successful completion of Phases 1 and 2, and only when institutional capacity to regulate effectively is proven. This phase must also establish formal education and training for healthcare professionals.

## **2. Foster Inter-agency Coordination**

Establish a presidential committee or inter-agency task force immediately to harmonize policies among the key government institutions, such as the NDLEA, NAFDAC, the Pharmacists Council of Nigeria (PCN), the Nigerian Institute of Medical Research (NIMR), the National Institute for Pharmaceutical Research and Development (NIPRD), Nigeria Natural Medicine Development Agency (NNMDA) etc. This body should develop a cohesive national roadmap and unified regulatory standards.

## **3. Strengthen and Expand Existing Legislation**

Enforce existing legal provisions that allow cannabis for certified medicinal use and expand them to specifically support research and Phase 2 (as above) controlled medical/export use, while maintaining the prohibition of recreational use. Furthermore, to reduce the burden on the justice system, the decriminalization of minor, non-commercial possession, paired with treatment pathways and prevention programmes, should be considered.

#### **4. Prioritize Local Research and Evidence Generation**

Policy decisions should be anchored on Nigeria-specific research and data before any widespread medicinal or commercial programme is considered. Priority should be given to the filling of critical local evidence gaps. Policy decisions must be rooted in verifiable Nigerian data. Key steps include:

- a. **Mandate and Fund Local RCTs:** Prioritize robust local clinical studies, including RCTs, to validate the efficacy and safety of pharmaceutical-grade cannabis oil.
- b. **Support research to map the profiles of THC, CBD, and other cannabinoids in Nigerian cannabis strains.** This will provide data for dosage standards and quality control. Research should also include the development of low/no THC, high CBD varieties of the cannabis plant.
- c. **Conduct Epidemiological and Net Benefit Analysis:** Comprehensive epidemiological studies are necessary to estimate the true patient population that would benefit from medicinal cannabis. Concurrently, a net benefit analysis should be carried out to weigh the economic gains against public health risks (e.g. psychosis, CUD etc.) before broad policy adoption.

#### **5. Public Health and Social Safeguards**

Given Nigeria's high cannabis abuse rates, strong social and health safeguards are critical. Actions in this regard include:

- a. **Strengthen Public Health Education:** Launch sustained, evidence-based public education campaigns, including youth targeted prevention programmes that clearly distinguish between medicinal cannabis and illegal recreational use. Integrate mental health support into primary healthcare settings to address CUD and related risks. Countering misinformation by regulating online content and addressing false or exaggerated claims about cannabis efficacy would be necessary.

- b. **Restrict Domestic Access:** Even in the limited medical use phase, access must be highly restricted. A national Patient and Prescription Monitoring System should be established to track supply from cultivation to dispensing and prevent diversion.
- c. **Engage Religious and Traditional Leaders:** Proactively engage religious and traditional leaders to address cultural concerns and mitigate against moral backlash.

## **6. Build Institutional and Economic Capacity**

Effective regulation and economic success, now or in the future, hinge on institutional capacity and an export-driven model. Enforcement personnel should be trained to effectively distinguish legal medicinal products from illegal recreational substances. Additionally, the NDLEA and NAFDAC should jointly establish cannabis product quality and safety units equipped with ISO/IEC 17025-accredited laboratories to monitor THC/CBD ratios, detect contaminants, and verify labelling accuracy. A national cannabis registry, digital and biometrically linked, should track every gram produced from seed to export, minimizing diversion risk and enabling pharmacovigilance.

Robust prescription monitoring systems would have to be deployed, and border and port controls strengthened to mitigate the risk of diversion of export-grade cannabis into the existing illicit domestic market. The primary economic goal should be to leverage the existing global market. Regulated cannabis value chains with transparent, clear taxation policies would be necessary to ensure tax revenue generation and reinvestment into public health and enforcement. Strict oversight of the EOZs should be maintained to ensure accountability and prevent contamination of local agriculture.

Table 10: Policy Recommendations

| S/N | Recommendations                                   | Key Actions                                                                                                                                                                                                                                                                                                                                                      | Lead/Supporting Agencies                                                                                     |
|-----|---------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| 1.  | Establish a Phased Regulatory Roadmap             | <ul style="list-style-type: none"> <li>Phase 1: Research Only: Legalize cannabis use for supervised research and trials.</li> <li>Phase 2: Export Only: Allow cannabis cultivation in export-only zones for revenue.</li> <li>Phase 3: Limited Medical Use: Permit restricted medical use after Phases 1 and 2, only with proven regulatory capacity.</li> </ul> | NDLEA, FMOJ (Federal Ministry of Justice), The National Assembly etc.                                        |
| 2.  | Foster Interagency Coordination                   | <ul style="list-style-type: none"> <li>Develop a unified national cannabis policy and roadmap.</li> </ul>                                                                                                                                                                                                                                                        | NDLEA, NAFDAC, PCN, NEPC (Nigerian Export Promotion Council) etc.                                            |
| 3.  | Strengthen and Expand Existing Legislation        | <ul style="list-style-type: none"> <li>Enforce and expand medical cannabis laws to support research and export.</li> </ul>                                                                                                                                                                                                                                       | NDLEA, FMOJ (Federal Ministry of Justice), National Assembly, etc                                            |
| 4.  | Prioritize Local Research and Evidence Generation | <ul style="list-style-type: none"> <li>Fund local research (RCTs), profiling of local strains of cannabis, estimating burden of eligible diseases, etc.</li> </ul>                                                                                                                                                                                               | NDLEA, NIPRD, NIMR, FMOAFS (Federal Ministry of Agriculture and Food Security), NEPC, State Governments etc. |
| 5.  | Institute Public Health and Social Safeguards     | <ul style="list-style-type: none"> <li>Launch youth-focused education, integrate mental health in primary health care, curb online cannabis myths, etc.</li> <li>Engage religious and traditional leaders to address cultural</li> </ul>                                                                                                                         | NDLEA, FMOH&SW (Federal Ministry of Health and Social Welfare), NAFDAC etc.                                  |

|    |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                 |
|----|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
|    |                                           | concerns and prevent moral backlash.                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                 |
| 6. | Build Institutional and Economic Capacity | <ul style="list-style-type: none"> <li>• Train enforcement personnel to effectively distinguish legal medicinal products from illegal recreational substances.</li> <li>• Establish cannabis product quality and safety units as well as a national cannabis registry to monitor safety and enable pharmacovigilance.</li> <li>• Ensure institutional strength and export focus with trained enforcement, certified laboratories, registry, and strict oversight of export-only zones.</li> </ul> | FMITI (Federal Ministry of Industry, Trade and Investment) NEPC, FMOAFS (Federal Ministry of Agriculture and food security), NDLEA, NAFDAC etc. |

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