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South African dagga: piping on the related intellectual property rights and indigenous knowledge systems

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Abstract

The use of dagga has been partially legalised and decriminalised in South Africa and there is increasing awareness with regards to its importance to national development. Thus, a dagga industry is emerging in South Africa. Intellectual property rights (IPR), and indigenous knowledge systems (IKS) are potential means for harnessing the economic benefits of dagga and developing the emerging dagga industry. Currently, there exists a scarcity of South African literature on the significance of IPR and IKS to the emerging dagga industry in South Africa. However, existing foreign literature on the subject demonstrate the intricate, varied and heterogenous implications of IPR and IKS on the use, cultivation, and growth of dagga for national economic development. Based on desk research, this paper determines the legal and policy strategies for the protection of IPR and IKS stakeholders and indigenous communities within the emerging dagga industry in South Africa. It examines the current legal and policy reforms surrounding the partial legalisation and decriminalisation of dagga in South Africa, the ensuing IPR and IKS issues and the various strategies applicable for harnessing their economic benefits.

KEYWORDS: dagga, cannabis, intellectual property rights, indigenous knowledge systems, legalisation, decriminalisation, South Africa

1. INTRODUCTION

Dagga is an Afrikaans word used to refer to cannabis or marijuana in South Africa. Unless the circumstances indicate differently, dagga is used in this paper to 'refer to species of the [dagga] plants (*sativa*, *indica*, and *ruderalis*) and [dagga] products, including but not limited to derivatives, oils, resins, and fresh and dried forms' (de Beer and Gaffen, 2017, p 623; Cannabis for Private Purposes Bill, Clause 1). As discussed further in part 4 below, dagga forms part of South African biological diversity and indigenous knowledge system (IKS). There is a rich body of indigenous knowledge around its cultivation and use that developed overtime and is passed down from generation to generation. Also, the modern cultivation techniques and deployment of dagga implicates, and are impacted by, intellectual property (IP) rights in different ways. These are discussed further in part 4 below.

Dagga is partially legalised and decriminalised in South Africa, unlike other African countries such as Nigeria, where it is still largely illegal and criminal (Prohibition Partners, 2019). The Constitutional Court of South Africa drew a distinction between legalisation and

decriminalisation of dagga in the recent case of *Centre for Child Law v Director of Public Prosecutions, Johannesburg and Others* ([2022] ZACC 35). The case is discussed in more depth in part 3 below. From the Constitutional Court's reasoning, legalisation implies the lawful use of dagga. It encompasses decriminalisation since a lawful use of dagga cannot lead to criminal liability. Decriminalisation, on the other hand, does not render the use of dagga lawful. It only protects the user against criminal liability. The user may, nonetheless, be exposed to civil or social processes such as being subject to a rehabilitation program (*Centre for Child Law v Director of Public Prosecutions, Johannesburg and Others* [2022] ZACC 35, paras 24, 97-98), or the payment of certain fines for the violation of civil codes. As discussed further in parts 2 and 3 below, while public cultivation, possession and use of dagga by adults for recreational purposes is illegal and criminal in South Africa, private cultivation, possession and use by adults is legal and decriminalised. The public and private cultivation, possession and use of dagga by children is illegal, but decriminalised. In South Africa, children are defined as persons under the age of 18 years (Children's Act, No. 38, 2005, section 1). On the other hand, medical, research, agricultural and industrial use of dagga is allowed in certain instances which includes obtaining permits from relevant government agencies.

Notwithstanding the partial legalisation and decriminalisation of dagga in South Africa, there is an increasing awareness of its importance to national economic growth and development. Awareness about the economic importance of dagga is propelling an emerging dagga industry in South Africa. At the governmental level, a national master plan for the establishment of the dagga industry is in the works following a 2019 cabinet decision to explore and exploit the economic potential of dagga (DALRRD, 2021; SabinetLaw, 2021). The government of the Eastern Cape Province in South Africa is exploring ways of harnessing the huge economic potentials of dagga within the dagga belt (Lewis, 2020). The South African dagga belt consists of rural communities in the Eastern Cape (Mpondoland or *Xhosa* land) and the KwaZulu-Natal Provinces. The dagga belt also stretches to areas in the Western Cape, Limpopo and Mpumalanga (near eSwatini) Provinces (Lewis, 2020; Gerwel, 2018; Kepe, 2003). On the private side, the South African Cannabis Research Institute (SACRI) was established in 2019 as a centre of excellence in research with the overarching goal of 'supporting the growth of the medicinal cannabis capability in South Africa, including drug development in the cannabis medicinal, veterinary, and complementary fields' (SACRI, <https://www.cannabisresearchinstitute.co.za/services>). Prior to this, the Cannabis Development Council of South Africa (CDCSA), founded in 2017, was registered as a non-governmental organisation (NGO) to work with the National Hemp Foundation (NHF) to self-

regulate the emerging South African dagga industry (Cannabis Law Report, 2017). The CDCSA is currently involved in rigorous lobbying aimed at influencing law and policy that will support the emerging dagga industry. It is also developing codes for the emerging industry. Among other things, the CDCSA's objectives include the enforcement of IP rights and shared benefits to indigenous communities. This is to ensure that the economic benefits of dagga are shared equitably in South Africa, while rewarding those who 'invest knowledge and resources' in the dagga industry (Cannabis Law Report, 2017).

It is, therefore, important to explore the role that IP rights and IKS will play in harnessing the economic potentials of the emerging dagga industry. In this regard, it is germane to identify the potential IP rights and IKS, and the strategies to adopt to ensure that the exercise of these rights promotes the social and economic interest of the indigenous communities within the South Africa dagga belt including the smallholder farmers and indigenous entrepreneurs, as well as investors in the emerging dagga industry and researchers in the dagga-related research. After all, viewed broadly, to contribute to economic development, especially in the South African context, IP rights and IKS must play an instrumental role of promoting access to innovation and creativity, and ensuring due reward for creators and innovators in their diverse spheres of application (Ncube, 2013).

For proper backgrounding, IP rights must be distinguished from IKS. IP rights can be referred to as limited intangible or incorporeal property rights conferred by law on human innovators and creators, and even entrepreneurs, to protect the products of their intellect, their innovative and creative efforts and their commercial reputation and goodwill. IP rights enable its owners to manage and commercialise the products of their intellect and derive economic benefits therefrom within the limits stipulated by IP laws (Oriakhogba and Olubiyi, 2021, p2). IP rights include patent, designs, trademarks, copyright and related rights, and other sui generis rights such as plant breeders' rights, geographical indication, among others. On the other hand, IKS can be viewed broadly to encompass expressions of folklore (indigenous arts and craft, etc), and the knowledge, know-how, skills, innovation, techniques and practices that are developed, sustained, form part of the cultural and spiritual identity of, and passed on from generation to generation within, an indigenous community. IKS can be found in a wide variety of contexts including agricultural, scientific, technical, ecological and medicinal knowledge as well as biodiversity-related knowledge (Oriakhogba and Olubiyi, 2021, p30). There is a growing debate about the suitability of deploying IP regimes for the protection of IKS since, given the communal nature of IK ownership, among others, IKS are not properly aligned with the utilitarian incentives and the rights of control and exclusion dynamics of IP rights

(Oguamanam, 2019; Okediji, 2018). The debate is beyond the scope of this paper. It is however, important to note that the debate has led to the development of sui generis legal frameworks for the protection of IKS in different countries, such as South Africa as will be demonstrated further in 4.2 below.

There is a paucity of South African literature dealing with dagga from IP rights and IKS perspectives (However, see Peirera & van der Walt, 2022). However, a growing body of literature is addressing the questions from the USA and Canadian contexts. The literature shows an increase in IP rights filings, especially in the area of pharmaceutical patents and plant breeders or variety rights protection for agricultural technologies relating to dagga cultivation and traditional breeding (Wyse & Luria, 2021; Dyal, 2021; Barnett, 2020; Christen, 2019; Rowand & McMahon, 2018; de Beer & Gaffen, 2017; Willis, 2017; Jacods, 2017; Pyclik, 2017; Olesko & Copenhaver, 2016; Kamin & Moffat, 2016). The literature further suggests that for the growth of a dagga industry, a lot depends on the ability of investors to distinguish their goods and services from one another and the ability of each investor to deploy innovation and creativity to their benefits (Wyse & Luria, 2021; Dyal, 2021; Barnett, 2020; Christen, 2019; Rowand & McMahon, 2018; de Beer & Gaffen, 2017; Willis, 2017; Jacods, 2017; Pyclik, 2017; Olesko & Copenhaver, 2016; Kamin & Moffat, 2016). Also, innovation in dagga involves varied and multiple activities from the raw plant to the manufacturing and marketing of the dagga inspired product. Thus, as will become apparent in part 4 below, it is not surprising that the IP rights implicated by dagga 'are quite intricate, varied, and heterogeneous' (Wyse & Luria, 2021, p. 3). While the same situation may play out within the South African context, the interest of the indigenous communities around the South African dagga belt, including smallholder farmers and indigenous entrepreneurs, must not be neglected. This raises questions around appropriate legal strategies that exist for the protection of the IP rights and IKS of stakeholders and indigenous communities within the emerging dagga industry in South Africa.

This paper unpacks and addresses the foregoing issues. The paper does not join the argument for or against complete decriminalisation and legalisation of dagga in South Africa. Nonetheless, the partial decriminalisation and legalisation, discussed in parts 2 and 3 below, offers some leeway to interrogate the IP rights and IKS issues related to South African dagga. Moreover, as shown below, the complete decriminalisation and legalisation of dagga in South Africa seems imminent. Thus, it will not be out of place to foreshadow the dagga-related IP rights and IKS issues. The paper is divided into five parts, including the introduction. The second part gives a general background on the decriminalisation and legalisation conversations around dagga in South Africa. Part three discusses current legal and policy actions (including

ongoing reforms) on the partial decriminalisation and legalisation of dagga in South Africa. Part four focuses on the IP and IKS issues. This part is exploratory: it identifies and discusses IP rights and IKS related to South African dagga; and discusses strategies for harnessing their economic benefits. In this regard, the paper draws from the hoodia and Rooibos settlement cases (Schroeder, et al, 2020; Oriakhogba, 2019; Wynberg, Schroeder & Chennells, 2009) to identify lessons for the emerging dagga industry. The fifth part contains the concluding remarks.

2. BACKGROUND: ARGUMENTS FOR AND AGAINST DECRIMINALISATION AND LEGALISATION OF DAGGA

There is an ongoing debate about the decriminalisation and legalisation of dagga in South Africa (for instance, Mogoro & Odeku, 2020; Shelly & Sigsworth, 2020; Mokwena, 2019; Shaw, et al, 2016; Stein, 2016; Scott, 2016; Minnaar, 2015; Parry & Myers, 2014; Peltzer & Ramlagan, 2007). By virtue of the combined reading of sections 4, 5, 13 and 17 of the Drugs and Drug Trafficking Act 140 of 1992 (Drugs Act), section 40(1)(h) of the Criminal Procedure Act 51 of 1977 (CPA) and sections 22A, 29 and 30 of the Medicines and Related Substances Act 101 of 1965 (Medicines Act), it is generally a crime to cultivate, manufacture, possess, use, supply, and acquire dagga for medical and recreational purposes in South Africa unless in circumstances allowed under the Medicines Act. Thus, while the criminalisation of recreational dagga is very wide, subject to private use by adults and the use by children as discussed further in part three below, medical, industrial, and research uses of dagga are prohibited in a limited sense. Dagga may be allowed for medical, industrial, or research purposes in circumstances stated under section 22A of the Medicines Act (especially Schedules 4, 6 and 7) and under a permit by the Director-General (DG) of the Department of Health (DoH). These will be discussed further in part three below.

It suffices now to note that the broad prohibition of dagga for recreational use is influenced by South Africa's international obligations relating to the prevention of the spread of narcotics and other psychotropic substances (Shaw, et al, 2016; Parry & Myers, 2014).¹ In this regard, the "harm" argument has been the strongest justification for the criminalisation of dagga in South Africa (DSD & CDA, 2013). A body of empirical evidence on both the harm from dagga and the value of dagga is emerging in South Africa (Shaw, et al, 2016; Parry & Myers, 2014). The argument is that dagga contains a very harmful substance, known as delta-9 tetrahydrocannabinol (THC), that is highly intoxicating. Also, that recreational dagga can further increase the problem of drug addiction in South Africa. It is further argued that, because

of the effect of THC, recreational dagga has very high tendencies to lead to the commission of violent crimes like murder, rape, and increase road vehicle accidents. Moreover, the smoking of dagga has been linked to cardiovascular, respiratory, cognitive impairment, psychotic and medical disorders (PMG, 2015).

Contrariwise, those advocating for the legalisation and decriminalisation of dagga have argued that its use is not harmful. There is the view that although dagga has harmful tendencies, the harm associated with its use is minimal compared to the harm caused by alcohol and tobacco (Shaw, 2016). Cohen, Weizman and Weinstein (2019), for instance, concluded in their study that there is a missing causal link between the use of dagga and mood disorders, cognitive alterations, schizophrenia, psychosis, and cardiovascular and respiratory cardiovascular disorders. In their study, Adejumo, et al (2018) found that the use of dagga is associated with a reduced incidence of liver disease in alcoholics. As such, the more effective approach to solving the harm problem is not by criminalising and declaring it illegal, but by legalising it and bringing it under strict control of relevant agencies in South Africa, just as alcohol and tobacco. Moreover, studies show that countries where dagga has been decriminalised and legalised did not experience an increase in crime as a result of the decriminalisation (Adejumo, et al, 2018). This argument is strengthened by the social and economic benefits associated with legalisation of dagga, and the fact that it is increasingly being partially legalised and decriminalised across Africa (Prohibition Partners, 2019).

The social and economic benefits include empowerment of local growers, employment opportunities and development of the communities within the dagga belt, promotion of IKS, promotion of innovation, increased availability and access to essential medicines derived from dagga, the development of a dagga industry, and the overall growth of the South African economy (Lewis, 2020; Prohibition Partners, 2019; Gerwel, 2018). A report in 2003 shows that South Africa is the fourth largest producer of dagga in the world (Thompson, 2003). Another 2007 Report, by the United Nations Office on Drugs and Crime (UNODC), places South Africa in the third position in dagga production globally. This report noted that South Africa was a major source of dagga export to Europe (UNODC, 2007). Recent report proves that South Africa still maintains third place in terms of production of dagga globally with an estimated 2500 tonnes production annually (Prohibition Partners, 2019, p. 36-44). The report also confirms the dagga industry was worth R14 billion, and this was projected to increase to R28 billion by 2024, with an estimated ten to twenty-five thousand job creation capacity (Prohibition Partners, 2019, p. 36-44; DALRRD, 2021). Thus, the further argument is that decriminalisation and legalisation would lead to increased revenue for the government through

taxation and direct investment in dagga. Moreover, if completely decriminalised and legalised, robust opportunities exist for dagga to contribute to South African growth and development in areas, such as pharmaceuticals, green economy, textile production, agriculture, small and medium enterprises (SMEs) and the promotion of dagga-related IKS (Lewis, 2020; Gerwel, 2018).

Whatever may be the position, legal and policy scales are weighing in favour of partial decriminalisation and legalisation of dagga in South Africa. The policy and legal actions are discussed in the next part.

3. PARTIAL DECRIMINALISATION AND LEGALISATION OF DAGGA

In 2014, a bill was introduced in South Africa's parliament for the legalisation and control of medical dagga (Medical Innovation Bill [PMB1-2014]). The bill was rejected on the ground that the Medicine Act already provided some framework for use of dagga for medicine and medical research (Jansen, 2017). However, the Central Drug Authority (CDA) called for a phased strategy to dealing with the dagga question, while advocating for an evidence-based approach to the debate. According to the CDA, the 'immediate focus [...] should be on decriminalisation rather than legalisation'. As a first step, decriminalisation will pave the way for substantial research on the harm and value of dagga. The research will then determine the most effective strategy to reduce whatever harm associated with it (Stein, 2016, p. 570).

In 2017, the South African Health Products Regulatory Authority (SAHPRA - formerly known as the Medicines Control Council), released guidelines to control the cultivation of dagga for medical uses. The guidelines aim to ensure 'sufficient local supply for medical, scientific and clinical research purposes and the implementation of control measures necessary to prevent diversion and misuse, as well as to ensure patient safety'. In essence, the guidelines will promote the local growth of standardised and quality medicinal dagga that will result in the 'manufacture of suitable pharmaceutical products.' In this regard, the guidelines are made to govern the issuance of licenses for cultivation of medical dagga and to provide information on the 'standards required for the production and processing of [dagga] as [an] herbal starting material'. The guidelines further highlight the 'critical production steps that are needed to ensure a product of reliable and reproducible quality' (SAHPRA, 2017, p. 4).

In 2019, the South African Cabinet decided to develop a 'national strategy for industrialisation and commercialisation of [dagga] in order to increase economic growth, create jobs' and 'alleviate poverty' (DALRRD, 2021). The Department of Agriculture, Land Reform and Rural Development (DALRRD) was charged to lead other relevant departments –

including those in charge of health, justice, small business development and science and innovation – to develop a national dagga master plan. Consequently, a draft master plan was presented before the parliamentary portfolio committee on justice and correctional services on 25 August 2021 (DALRRD, 2021). The overall goal of the master plan is to establish and develop a dagga industry in South Africa with the aim of increasing the ‘volumes and variety of Cannabis products destined for both local and export markets’; establishing and increasing the ‘capacity of South African farmers to produce dagga’; creating ‘opportunities for [the] creation of [SMEs] across the [dagga] value chain; and replacing ‘imported [dagga] products with locally produced products’. Other aims of the master plan include increasing ‘investments in research and technology development to support increased production, productivity and competitiveness of the [dagga] industry’; establishing and increasing the ‘manufacturing capacity of the South African [dagga] industry’; and the ‘development and maintenance of an effective regulatory system by strengthening law enforcement measures to deter the production, manufacturing and sale of [dagga] outside the legal framework’ (DALRRD, 2021). The pillars on which the master plan will be implemented include an effective regulatory system, sustainable seed supply and producer support systems, and effective research and technology, and manufacturing and product development systems (DALRRD, 2021).

Following the above, the DALRRD had amended regulations under the Plant Improvement Act 53 of 1976 (PIA),² to accommodate dagga (cannabis sativa and hemp) and its propagating materials under the framework of the PIA.³ Consequently, the DALRRD released guidelines and rules setting out conditions for the cultivation of dagga for agricultural and industrial purposes, the import, export and sale of dagga propagating materials, for the breeding and research of dagga; and the tariffs for obtaining relevant dagga-related permits under the PIA.⁴ Similarly, the regulations under the Plant Breeders Rights Act 15 of 1976 (PBRA),⁵ discussed further below, was amended to include dagga (cannabis sativa and hemp) as a plant, the variety of which can be registered by plant breeders for IP protection under the PBRA.⁶

From the judicial angle, the High Court declared the provisions criminalising dagga as inconsistent with the right to privacy guaranteed under section 14 of the Constitution of the Republic of South Africa 1996 (CRSA) to the extent that those provisions extend the criminalisation to the private use, possession and cultivation by adults in South Africa. Parliament was given a period of 24 months from the date of the judgment (31 March 2017) to amend the relevant provisions in line with the judgment. This was the case of *Prince v Minister of Justice and Constitutional Development and others (Prince)* ([2017] 2 All SA 864 (WCC)),

which was based on consolidated applications that were seeking an order, inter alia, of the High Court declaring provisions of the CPA, Drug Act and Medicine Act invalid to the extent that they criminalise the possession, cultivation, and consumption of dagga in private by adults. The plank of the application is that the enforcement of such provisions is infringing on the right to privacy and are unjustifiable under section 36 of the CRSA. According to the High Court, per Davis J,

[i]f privacy, considered to be analysed as a continuum of rights which starts with an inviolable inner core moving from the private to the public realm where privacy is only remotely implicated by interference, it must follow that those who wish to partake of a small quantity of cannabis in the intimacy of their home do exercise a right to autonomy which, without clear justification, does not merit interference from the outside community or the State. [...] A similar conclusion must follow therefore with regard to the cultivation of a plant in the garden of one's home, if the plant was to be used exclusively for personal consumption. The adjective 'small' is of course difficult to define but is used to connote that the quantity must be exclusively for personal consumption. When 'quantity' is defined in legislation, the definition would need to pass constitutional muster in terms of a justifiable limitation of the right (Prince, 2017, paras. 25-26).

The Constitutional Court, which earlier held by a 5/4 majority that the criminalisation of dagga does not unjustifiably limit the constitutional right to religious freedom (section 15 of the CRSA) (*Prince v The President Cape Law Society* 2002 (2) SA 794 (CC)), upheld the decision of the High Court in the above case. This was based on confirmatory proceedings initiated in terms of section 167(5) of the CRSA combinedly read with Rule 16 of the Constitutional Court Rules (*Minister of Justice and Constitutional Development and Others v Prince* 2018 (6) SA 393 (CC)). Confirming the decision of the High Court, the Constitutional Court, per Zondo ACJ (as he then was), stated what "private" means in relation to cultivation of dagga as follows:

[t]he issue of the cultivation of [dagga] in private by an adult for personal consumption in private should not be dealt with on the basis that the cultivation must be in a dwelling or private dwelling. It should be dealt with simply on the basis that the cultivation of [dagga] by an adult must be in a private place and the [dagga] so cultivated must be for that adult person's personal consumption in private. An example of cultivation of [dagga] in a private place is the garden of one's residence. It may or may not be that it can also be grown inside an enclosure or a room under certain circumstances. It may also be that one may cultivate it in a place other than in one's garden if that place can be said to be a private place (Prince, 2018, para. 85).

Recently, an attempt to rely on *Prince's* case to escape criminal prosecution for large scale commercial cultivation and recreational dagga was rejected by the High Court in *The Haze Club (Pty) Ltd and Others v Minister of Police and Others* (Case No.: 2102/2021, decided 29 August 2022). In this case, the applicants operate a 'grow club model' which is a socialised and commercial system of dagga cultivation. Under the system, the applicant's rent out private spaces operated by them, in the form of sub-leases to members of the grow club. The members

then employed the applicants as professional horticulturists to cultivate the dagga for them. The applicants sought an order to restrain the police from raiding the grow club premises and arresting their members; or, alternatively an order declaring certain provisions of the Drugs Act unlawful. For this, the applicants contended that their grow club model qualifies as cultivation of dagga in private space, and is consistent with the Constitutional Court's judgment discussed above. As such, the Police acted in contravention of their right to privacy by raiding their premises and arresting their members. Rejecting the applicant's claim and dismissing the application, the High Court held, through Slingers J, that

The grow club model attempts to extend the nature and scope of private space to the transactional sphere where lease agreements and remuneration for the cultivation, drying and processing of [dagga] form the foundation for the claim to privacy. The second applicant unequivocally stated that the grow club model arose because he saw the possibility of a business opportunity. It is apparent from clause 7.3.2 and the definition of 'common areas' contained in the contract concluded between the first applicant and the member, that part of the cultivation process occurs in the common area. Therefore, it must be accepted that the entire cultivation process is not undertaken in a private space. As the entire cultivation process does not occur within a private space, the grow club model, as proposed by the applicants, cannot be said to be consistent with [the above Constitutional Court's judgment] (*The Haze Club*, 2022, paras. 49-50).

Another recent attempt to rely on *Prince* to reverse an employer's policy against dagga was rejected by the Labour Court through Prinsloo J in the case of *NUMSA & 1 Other v PFG Building Glass Pty Ltd & Ors* ([2022] ZALCJHB 292). In that case, the applicants were dismissed from the first respondent's employment for misconduct on the ground that they tested positive for THC, a derivative of dagga, in their system within the workplace. Arbitral award from the arbitration proceedings initiated by the applicants found that their dismissal was substantively fair. The applicants applied to the Labour Court for review of the award. The applicants argued, among others, that the Constitutional Court has decriminalised dagga because dagga is not a drug, but a mere plant. In any case, argued the applicants, the first respondent does not have a policy against the use of dagga. Their policy is against alcohol and drugs.

Rejecting the applicants' arguments and dismissing the application as lacking merit, the Labour Court noted that the applicants 'confused issues relating to the decriminalisation of the use of dagga in private and the right to institute criminal proceedings and to prosecute an individual who uses dagga with an employer's right to take disciplinary action against an employee who contravened a disciplinary code' (*NUMSA*, 2022, para 53). The Labour Court went on to reiterate the main point of *Prince's* judgment (already discussed above) (*NUMSA*, 2022, paras. 54-62), and concluded that the judgment 'did not interfere with the definition of a

‘drug’ nor did it declare dagga [...] to be a plant or a herb’ (NUMSA, 2022, para 62). As such, Prince’s judgment ‘does not offer any protection to employees against disciplinary action should they act in contravention of company policies or disciplinary codes’ (NUMSA, 2022, para 63) which are alcohol and drugs in the workplace. Relying on previous judgments (*Enever v Barloworld Equipment* [2022] 10 BLLR 962 (LC); *SGB Cape Octorex (Pty) Ltd v Metal and Engineering Industries Bargaining Council and Ors*, Unreported judgment under Case No. JA90/2021, delivered 18 October 2022), the Labour Court further held that the fact that the use or consumption of dagga occurred in the private space of the applicants either before or after work hours does not exempt them from their employer’s policy against alcohol and drug and such policy does not contravene the judgment in *Prince* (NUMSA, 2022, paras. 78-85).

Still on judicial actions, the Constitutional Court was recently called upon, in the case of *Centre for Child Law v Director of Public Prosecutions, Johannesburg and Others* ([2022] ZACC 35), to apply the principle in *Prince* to confirm a decision of the High Court that invalidated section 4 of the Drug Act to the extent that it criminalises the possession and use of dagga by children. The applicants urged the Constitutional Court to approach the issue through the lens of *Prince*, and rule that a status offence against children has been created under section 4 of the Drug Act, and that the section is, therefore, discriminatory against children under the CRSA because it exposes them to criminal liability in situations that the adults would not be liable. The Constitutional Court rejected this approach and drew a distinction between *Prince* and the present case. Among other things, the Constitutional Court noted that *Prince* legalised the private cultivation, use and possession of dagga by adults, while the present case relates to the public and private use and possession by children. The Constitutional Court was of the view that the better approach in cases of this type is to consider the best interest of children which is of paramount importance in every circumstance, the right of children not to be detained except as a measure of last resort, and children’s right to dignity, as stipulated under section 28(1), 28(2) and 10 of the CRSA respectively (*Centre for Child Law*, paras. 41-68).

The Constitutional Court held that legalisation of the use and possession of dagga by children will not be in their best interest because of the social, psychoanalytic, and health issues that may arise. Thus, the court excluded legalisation as an issue to consider. Instead, it focused on criminalisation, which it concluded will not be in the best interest of children either. According to the court, criminalisation can inflict considerable trauma on children, lead to incarceration with harmful consequences, such as having a criminal record, and being exposed to social stigma, serious forms of criminal records and substance abuse (*Centre for Child Law*,

paras. 37-40). Consequently, the Constitutional Court refused to legalise the possession and use of dagga by children. Instead, it confirmed the invalidity of section 4(1) of the Drug Act to the extent that it criminalises the use and possession of dagga by children. This is based on the finding that criminalisation of the use and possession of dagga by children is not in their best interest and it is against their right to dignity, especially since it unreasonably exposes them to incarceration which should be a last resort. Moreover, the Court found that other social means of responding to the illegal use and possession of dagga by children, such as ‘rehabilitation, support and recognising the inherent vulnerability of the child’ are more effective than criminalisation (Centre for Child Law, paras. 97-98).

The Constitutional Court’s judgment in *Prince* has propelled some legislative action on the dagga decriminalisation and legalisation question. There is currently, before parliament, the Cannabis for Private Purposes Bill ([B19-2020]), which primarily aims to give legislative imprimatur to *Prince*. The Bill, which was introduced in parliament in September 2020, has eleven proposed sections and five Schedules. A detailed discussion of the Bill is beyond the scope of this paper. However, it should be noted that the Bill seeks to

- a. respect the right to privacy of an adult person to possess [dagga] plant cultivation material; to cultivate a prescribed quantity of [dagga] plants; to possess a prescribed quantity of [dagga]; and to smoke and consume [dagga];
- b. regulate the possession of [dagga] plant cultivation material; the cultivation of [dagga] plants; the possession of [dagga]; and the smoking and consumption of [dagga] by an adult person;
- c. protect adults and children against the harms of [dagga];
- d. provide for the expungement of criminal records of persons convicted of possession or use of [dagga];
- e. delete and amend provisions of certain laws [provisions of the Drugs Act, Medicines Act, and CPA]; and
- f. provide for matters connected therewith.

(Memorandum on the Objects of the Cannabis for Private Purposes Bill, 2020).

In connection to the foregoing, the Bill defines “adults” as persons who are eighteen years and above, and “private place” to mean ‘place, including a building, house, room, shed, hut, tent, mobile home, caravan, boat or land or any portion thereof, to which the public does not have access as of right’ (Cannabis for Private Purposes Bill, Clause 1).

The Constitutional Court’s judgment in *Prince* also triggered amendments to Schedules 4, 6 and 7 of the Medicines Act by the Minister of Health through Government Notice No. R586 published in Government Gazette No. 43347 of 22 May 2020. In terms of the Notice, medicines that have dagga and dagga-related substances (such as cannabinoids - CBD) and which have been registered by SAHPRA can be procured in pharmacies upon prescription by

an authorised medical practitioner. Nonetheless, such medicines (containing CBD) must have been listed under Schedule 4 or 6 of the Medicines Act before it can be obtained on prescription. There are unscheduled products containing CBD that can be procured from the shelves of pharmacies, and supermarkets, for instance, without prescription (Medicines Act, section 22A(a)). Such products include ‘complementary medicines containing no more than 0.001% of THC and no more than 0.0075% of CBD, where only the naturally occurring quantity of [CBD] found in the source material are contained in the product’ (Bulose, 2022). However, in terms of section 22C of the Medicines Act, such products must have been produced under good manufacturing practice by a licensed facility.

The medicines not listed under Schedule 4 or 6 still remain prohibited under Schedule 7 (Government Notice No. R586 published in Government Gazette No. 43347 of 22 May 2020). Schedule 7 list includes THC and, as stated above, the whole of part of the raw dagga itself. These are regarded as psychoactive in nature and of no medicinal value. As such, they can only be accessed subject to a license issued by the Director-General of the Department of Health (Bulose, 2022). However, synthetic THC, such as Dronabinol, may be allowed to be issued by pharmacists for therapeutic purposes subject to a prescription by a medical practitioner. Also, THC and raw dagga are excluded from the effect of Schedule 7 -

- a. if they are used for industrial purposes including for
 - i. the processing of hemp fibre products such as ceiling boards, bricks, thread, and textiles, provided the THC concentration is $\leq 0,01$ %; the product is in a form not suitable for ingestion, inhalation or smoking; and it does not contain whole dagga seeds; and
 - ii. the processing of dagga seed products, such as hemp seed oil and cosmetics containing hemp seed oil provided the THC concentration is $\leq 0,001$ %; and the product does not contain whole dagga seeds.
- b. if raw dagga is cultivated, possessed, and consumed for personal private use by an adult.

As stated in part one above, the foregoing allowable uses of dagga for medical, research, industrial and recreational purposes in South Africa offer a leeway for an exploration and discussion of the South African dagga related IP rights and IKS. These are considered in the next part.

4. PERSPECTIVES ON SOUTH AFRICAN DAGGA-RELATED IPR AND IKS

The legal and policy developments discussed above offers great opportunity for South Africa to invest in dagga-related research, innovation and commercialisation in order to seize the

chance to harness the benefits of IP rights and IKS to promote economic growth and development as envisaged in the dagga master plan discussed in 3.2 above. As recent evidence show (Wyse & Luria, 2021), dagga-related IP rights registration by big corporate players in the field is still largely localised in territories, such as Japan, China, USA, and Korea, despite the ‘potential profitable markets’ (Wyse & Luria, 2021, p. 12), in places such as South Africa, as legislative liberalisation of dagga continues to grow internationally (Prohibition Partners, 2019). Thus, there is opportunity for relevant government agencies and NGOs to encourage, support and promote IP registration and commercialisation, and knowledge sharing culture that will enable local investors, SMEs, indigenous entrepreneurs, smallholder farmers, and indigenous communities within the South African dagga value chain to quickly establish a system of collaboration, and control the emerging dagga market and industry, before the space is flooded by big (foreign) corporate players. This, in turn, will spur further dagga-related research and innovation for the production of relevant scientific, medical and agricultural technology for the overall development of the emerging dagga industry in South Africa.

According to the literature, IP systems implicated by dagga include patent, trademark, and plant breeders or variety right (PBR – a *sui generis* IP right). However, this paper will dwell more on patents and PBR in part 4.1 below. It suffices now to note that dagga-related trademarks, registrable for protection under the Trade Marks Act 194 of 1993 (TMA), would be useful to distinguish the names and marks of the entities trading in the various dagga value chain within the industry, as well as the names and marks associated with the different variety of dagga goods and services offered by the players in the market. In essence, such a trademark would be useful for branding and quality assurance by the respective entities for their goods and services in the market (de Beer & Gaffen, 2017). This will in turn be useful for advertisement purposes, subject to relevant advertising laws in South Africa. In this connection, certification and collective marks, under sections 42 and 43 of the TMA will be highly useful in protecting the goods and services of indigenous entrepreneurs, SMEs and smallholder-farmer groups within the communities in the dagga belt, given the communal nature of their activities. The application of certification and collective marks within indigenous craft and entrepreneurship contexts has been examined in-depth elsewhere (Oriakhogba, 2020). It suffices now to note that, in terms of section 9 of the Intellectual Property Laws Amendment Act 28 of 2013 (IPLAA), certification and collective marks have been extended to cover traditional terms and expression, which includes indigenous knowledge and culture. However, the IPLAA is not yet in force because the requisite presidential proclamation has not been made (IPLAA, section 15).

While conventional IP systems, such as patent, and PBR, will match contemporary scientific, medical and agricultural research, and innovation dynamics, they are suitable, as pointed out in part one above, to promote and support the interest of indigenous entrepreneurs, smallholder farmers and the indigenous communities (the so-called IK custodians and practitioners) that continue to preserve and deploy the IK techniques around the cultivating and use of dagga, especially in the dagga belt in South Africa. The peculiar nature of IK as unwritten knowledge passed down from generation to generation makes its compatibility with the conventional IP systems highlighted above difficult (Oguamanam, 2019; Okediji, 2018; Ncube 2016). Thus, such a group of stakeholders within the emerging South African dagga industry ‘must be safeguarded against being excluded from rewards and economic opportunities now flowing towards the burgeoning developed world industrialization’ of dagga (Wyse & Luria, 2021, p. 18). There exist other regimes, apart from certification and collective marks discussed above, that are important to safeguard the interest of indigenous entrepreneurs and smallholder farmers in communities around the dagga belt for the overall development of the South African dagga industry. The IKS regimes are discussed in 4.2 below.

4.1 Dagga and intellectual property rights

In this part, patents and plant breeders’ rights as tools to promote the cultivation and use of dagga in South Africa, including strategies for harnessing the economic benefit of dagga related IP, are discussed.

4.1.1 Patents

Apart from excluded matters under section 25(2) of the Patents Act 56 of 1978 (i.e., discoveries; scientific theories; mathematical methods, literary, dramatic, musical or artistic works; computer programs; etc.), patents may be granted for inventions which are new, involve an inventive step and which are capable of being used or applied in trade or industry or agriculture (Patent Act, section 25(1)). It follows that patents may be granted for inventions around South African dagga where such inventions satisfy the requisite criteria. However, such inventions must be a product of a process involving the production of dagga. This is because, by virtue of section 25(4)(b), no patent shall be granted for ‘any variety of animal or plant or any essentially biological process for the production of animals or plants, not being a microbiological process or the product of such a process.’

For South African dagga, as with cannabis across the world, several inventions exist and there are emerging innovations particularly with several advanced and emerging technologies. The innovation landscape shows increased use of [patented] CRISPR technology to edit dagga plant genes and generate gene-edited dagga seedlings (Xiaoyu, et al, 2021). Recently, a group of researchers successfully employed the NHEJ-based CRISPR/Cas9 method to create new varieties of dagga (Xiaoyu, et al, 2021). There are also claims that the same method and other new variants of the CRISPR technology can be used to produce new ornamental dagga varieties (Mohsen, et al, 2022, p. 10). Wyse and Luria's (2021, p. 7). Study of publicly available patent filing data and trends for medical dagga in 116 countries, including South Africa, show increased filings and innovation in the area of agricultural technologies for improving dagga yield, efficiency and quality as well as inventions that address problems in dagga cultivation such as crop protection, issues around plant yield, harvest and post-harvest of dagga, etc. Patents have also been granted on extraction methods for chemicals (mostly THC and CBD) in dagga and new varieties of dagga that have better and desirable uses/applications. Essentially, the use of patents to protect research and investments in the development of dagga has continued in an upward trend. Legalisation and decriminalisation have been credited as a driving force for the continued increase in patent filings and grants in many countries (Wyse & Luria, 2021, p. 9).

Apart from the indications from patent filing, patent enforcement through litigation and opposition is another evidence of competitive and commercial activities in the dagga industry (Wyse & Luria, 2021, p. 7). This may not be an immediate concern/indicator for South Africa as it currently operates a depository system for patent applications (Shozi and Vawda, 2021; Okorie, 2020). A depository system can be referred to as a patent filing regime that conduces only formal examination of applications before granting patents. The filing system does not include substantive examination. Formal examination involves checking to confirm that the application conforms to documentation, financial and administrative requirements; that the inventor and applicant are qualified persons under the requisite law; and that the invention is not designated as excluded subject matter, such as computer programs (Ndlovu, 2015). On the other hand, Substantive examination:

entails an analysis of the patent application for technical quality, adequate disclosure, unity of claims, and whether the prior art signifies that the claimed invention is new and involves an inventive step. Such examination also seeks to establish the potential industrial applicability of a patent application (Ndlovu, 2015).

As with patents in other fields, data relating to dagga in patent registers offer a trove of information on leading inventors, scientists and companies in dagga innovation as well as current uses and applications of dagga in specific industries (Wyse & Luria, 2021, p. 8). Patent register data also reveal inventions which are or will soon be in the public domain due to patent expiration.

But it is not all roses with using patent law to protect inventions and innovations in dagga growth and commercialisation. Patent laws contain certain provisions that limit the scope of patent protection and/or exclusive rights for certain purposes mostly in the public interests and in specified circumstances. In the case of South Africa, excluded matters include those falling within private and/or non-commercial use, experimental use and/or scientific research, extemporaneous preparation of medicines, prior use, acts for obtaining regulatory approval from authorities, exhaustion of patent rights, compulsory licensing and/or government use, and certain use of patented inventions by farmers and breeders Patent Act, sections 55, 56, and 69A).

Also, the capacity to manage and commercialise inventions around dagga is another issue to consider. The challenges and barriers to the commercialisation process differ across countries and most times, across sectors (Gilsing, Bekkers, Freitas & van der Steen, 2011). It would also depend on the institutions or firms involved. Where inventors are unaware of the benefits of IP, their involvement in the commercialisation process may be somewhat limited resulting in business approaches that do not promote commercialisation of the patented invention (Lubango & Pouris, 2010). Another significant challenge is marketing particularly in South Africa (Harman, 2010). Every invention that must be commercialised requires its unique marketing strategy and such strategy depends on the type of innovation and the resulting product (Mohr, 2016, p. 52; Mohr, Sengupta & Slater, 2009, p. 96). For a product such as dagga, it can be said that the market already exists. However, work will need to be done in the segmentation, targeting and positioning of dagga products. Here, the negative connotations around certain uses of dagga would require appropriate segmentation and positioning (Fan, Golder & Lehmann, 2017, p. 114).

4.1.2 *Plant breeders' rights*

As a form of IPR, plant breeders' right (also referred to as “plant varieties right”) provides exclusive protection of new plant varieties such that the new plant varieties may not be

exploited without the permission of the right holder. Breeding of new plant varieties including of dagga necessitates investments in time, research and developments. Plant breeders' rights and related laws designed to recognise new varieties of plants seek to reward, encourage and/or promote such investments. For South Africa, section 23 of the Plant Breeders' Rights Act 1976, as amended, stipulates that the exclusive rights granted to plant breeders consist of the right to undertake:

- (a) production or reproduction (multiplication);
- (b) conditioning for the purpose of propagation;
- (c) sale or any other form of marketing;
- (d) exporting;
- (e) importing;
- (f) stocking for any of the purposes referred to in paragraphs (a) to (e), of-
- (i) propagating material for the relevant variety; or
- (ii) harvested material, including plants, which was obtained through the unauthorised use of propagating material of the relevant variety.

Breeding techniques and science such as controlled mating (Barcaccia, et al, 2020); DNA sequence encoding and Cas9 (Xiaoyu, et al, 2021); CRISPR-mediated epigenome editing for producing novel ornamental cannabis varieties (Mohsen, et al, 2022, p. 10); in vitro culture and genetic engineering methods; and morphogenic genes, and hairy root culture, that can help improve gene transformation and dagga plant regeneration (Mohsen, et al, 2021) could result in plant varieties that may enjoy protection if they are new, distinct, uniform and stable (PBR Act, section 2).

The Plant Improvement Act 53 of 1976 (PIA) provides for the 'registration of establishments from which the sale of certain plants or the cleansing, packing and sale of certain propagating material may be undertaken'; the conditions subject to which such 'plants or propagating material may be sold for the purposes of cultivation'; and the 'recognition of certain varieties of plants.' The PIA also provides for a system of certification of plants and propagating material with the object of maintaining the quality of certain plants and propagating material, and ensuring the usefulness of the products thereof for agricultural and industrial purposes; and for the control of the import and export of certain plants and propagating material (PBR Act, preamble).

The protection under these statutes is available for 'any plant grouping within a single botanical taxon of the lowest known classification, which grouping, irrespective of whether or not the conditions for the grant of a plant breeder's right are fully met, can be': (PBR Act, section 1)

- (a) defined by the expression of the characteristics resulting from a given genotype or combination of genotypes;
- (b) distinguished from any other plant grouping by the expression of at least one of the said characteristics; and
- (c) considered as a unit with regard to its suitability for being propagated unchanged.

In essence, IPRs protection in the form of patents and PBR are available to secure economic benefits from dagga. This is so because IPR protection confers on IP owners the capacity to commercialise and move their IP products to the market either directly or through third parties whom have obtained appropriate licenses or assignments from the IPR owners. Even so, in terms of strategies for harnessing the economic benefit of dagga related IP, there appears to be significant benefits – and risks – in exploring varied forms of open business models. A good example of both benefits and risks of open business models in this sphere is the Open Cannabis Project. This was a US non-profit project established with the objective, inter alia, to protect dagga genome from patent trolls (Dolgin, 2019; de Beer & Gaffen, 2017).

As highlighted above, applications of gene sequencing technologies, molecular genetic markers and other breeding technologies have resulted in several advances related to innovations in dagga for multiple effective uses and applications across many fields. Open business models, which involve sharing of genomic data, and collaborations for better licensing and growing and selling dagga, can be a veritable strategy to promote research and development in dagga, and can help harness the economic benefit of dagga related IP (Gettman & Kennedy, 2014; McNabb & Steven, 2020). However, as the reasons for the dissolution of the Open Cannabis Project has shown, openness has its downsides especially where a product or invention is capable of dual uses (Okorie, 2022), but also because of trust issues that data sharers or data subjects may have (Backes, 2018).

One of the reasons for the dissolution of the Open Cannabis Project was that its former business partner, Phylos Bioscience revealed its intention to use the genomic data it obtained from the Open Cannabis Project to enhance a breeding program to create new, better strains of dagga contrary to the understanding it had with cannabis farmers (Shepherd, 2019). Farmers had openly shared genomic data with Phylos Bioscience on the understanding that the data may not be used for purposes such as breeding new strains of dagga. While the dissolution of the Open Cannabis Project was more or less a trust issue, it may be argued that not every form of openness is suitable for specific industries. In this regard, an open business model that

envisages uses and reuses of data (and addresses the trust issues underlying the refusal of new uses of data) may be more suitable for securing economic benefits from dagga (Backes, 2018).

4.2 Dagga and indigenous knowledge systems

South African dagga consists of some of the most sought-after strains – Mpondo Gold and Durban Poison – in the global dagga market because of their rich medicinal and recreational value, which they derived from the peculiar environmental and climatic conditions, and the traditional cultivation techniques of the indigenous communities around the South African dagga belt (Lewis, 2020; Prohibition Partners, 2019, p. 36-44; Gerwel, 2018).

The historical origin of dagga in South Africa is unclear. Some accounts link it to pre-colonial trade with Arabs and Indians (Nkosi, et al, 2020; Paterson, 2009; du Toit, 1976). What is clear, however, is that dagga was already growing in the wild, being cultivated, and used in the South African dagga belt before the advent of the Europeans. Similarly, there was evidence of inter-ethnic trade in dagga between the *Xhosa* (the suppliers – in the dagga belt) and the *KhoiSan* (the buyers – in what is now the Western and Northern Cape Provinces) indigenous peoples, before the advent of white settlers (Wyse & Luria, 2021, p. 18; Lewis, 2020; Prohibition Partners, 2019, p. 36-44; Paterson, 2009). Also, the indigenous peoples in the dagga belt already developed rich traditional cultivation techniques for dagga, and established knowledge of its use for traditional medicine especially for easing childbirth, treating menstrual fatigue, blood poisoning, malaria, fever and diarrhoea, and traditional textile making and nutritional supplement (Wyse & Luria, 2021, p. 18; Lewis, 2020; Prohibition Partners, 2019, p. 36-44; Paterson, 2009). It forms part of traditional worship (Rastafari) in segments of South African society (Wyse & Luria, 2021, p. 18; Lewis, 2020; Prohibition Partners, 2019, p. 36-44; Paterson, 2009). A substantial number of indigenous entrepreneurs and smallholder traditional farmers, relying on traditional cultivation techniques passed from generation to generation, are still involved in the growing of dagga in the dagga belt (Lewis, 2020, p. 5-6; Clark & Hendricks, 2019; Clark & Hendricks, 2019a). In particular, the Eastern Cape is reported as having a ‘subtropical climate’ and traditional techniques of organic dagga cultivation that produces the unique dagga strain, which has become globally famous as Mpondo Gold or Transkei Gold (Lewis, 2020; Gerwel, 2018). Other popular strains, such as Durban Poison, are said to develop from the Mpondo Gold (Lewis, 2020; Gerwel, 2018).

Legal regimes exist in South Africa which can be relied upon to ensure that the indigenous communities, local growers and smallholder farmers, as well as indigenous entrepreneurs within the dagga belt harness and share in the economic benefit accruing from

the exploitation of South African dagga. The capacity of certification and collective marks in this regard has already been highlighted above. It remains to note now that indigenous entrepreneurs can rely on such mechanisms to ensure quality assurance, branding and market control for the dagga-related products which developed using dagga-related indigenous knowledge in South Africa. Regimes, such as the National Environmental Management: Biodiversity Act 10 of 2004 (Biodiversity Act) and the Regulations on Bio-prospecting, Access and Benefit-Sharing GG No 30739, GN 138, 8 February 2008 (BABS Regulations), as well as the Protection, Promotion, Development and Management of Indigenous Knowledge Act 6 of 2019 (IKS Act) are important legal frameworks that will enable protection, promotion, preservation and management of the IKS around South African dagga. In terms of section 34, the IKS Act will come into effect on a date determined by the President by way of proclamation in the official gazette.

Taken together, the Biodiversity Act and the BABS regulations, provide a framework for the fair and equitable sharing of the benefit accruing from the exploitation of dagga, as an indigenous biological or genetic resource, and its related-IKS between indigenous stakeholders and large corporations exploiting South African dagga and related-IKS through bioprospecting. In this regard, the Biodiversity Act requires the interest of indigenous communities and other local stakeholders who are custodians of the plant species in question and curators of the related-IKS to be taken into cognisance and protected in applications for bioprospecting permits. Accordingly, before a permit is granted, the granting authority (Minister of Environmental Affairs and Tourism) is obligated to ensure that access and benefit sharing and material transfer agreements, approved by the authority, are in place between the indigenous community or local stakeholders, as the case may be, and the applicant for the permit. The agreements must be based on prior informed consent and mutually agreed terms (Biodiversity Act, sections 80-86). The Biodiversity Act and the BABS Regulations are given vent to by South Africa's ratification of the United Nations Convention on Biodiversity 1992 (CBD), and the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits arising from their Utilisation 2010 (Nagoya Protocol). According to Wyse and Luria, although the regimes are not IP rights for rewarding innovation as such, the rights they confer fulfil an IP right function 'for the custodianship and curation of important plant species', such as dagga, that are very important for agriculture (Wyse & Luria, 2021, p. 18). Thus, relying on these regimes, the South African government can ensure that 'fair distribution of benefits and fair access can be allotted to [the indigenous communities] and other custodians' (Wyse & Luria, 2021, p. 18) of dagga-related IKS within the South African dagga belt.

The IKS Act is another important legislation. It provides a *sui generis* registration system for IK in South Africa (Oriakhogba, 2022; Tong, 2019). The IKS Act recognises IK as property of the indigenous communities from where they originated. IK is protected as property defined under section 25 of the CRSA. However, section 9 of the IKS Act requires registration for the protection of IK. For this purpose, the IKS Act vests custodianship over IK on trustees of the indigenous communities. The trustees hold the IK in trust for the communities and are responsible for the protection of their rights. The trustees are accountable to the communities. The IKS Act defines trustees to mean

a natural or legal person that is duly delegated in terms of the practices of an indigenous community to represent that indigenous community in matters pertaining to indigenous knowledge and to be vested with the custodianship of indigenous knowledge emanating from it, which person is deemed to be a trustee appointed in terms of the law of trusts and to have the powers and duties of such a trustee, with any reference in this Act to an act performed, or the rights held, by an indigenous community deemed to be a reference to that act performed, or rights held, by the trustee of that indigenous community (IKS Act, section 1).

The National Indigenous Knowledge Systems Office (NIKSO), established under section 4 of the IKS Act, acts as trustees in respect of IK for which their originating indigenous communities have not been identified or designated (IKS Act, section 12). For effective coordination, NIKSO is empowered to, among others, protect and recognise IK as property owned by the indigenous communities; and ‘facilitate the redress of rights and benefits to indigenous communities which have previously been deprived of such rights and benefits’ (IKS Act, section 5).

Through the coordination of NIKSO, indigenous communities within the dagga belt can take advantage of the IKS Act to register their dagga-related IK. The registration will vest positive rights on the communities, exercised through their trustees, by which they can commercialise their dagga-related IK through grants of commercial licences. Indeed, the IKS Act requires third parties to obtain a licence for the use of IK from the relevant indigenous communities and to conclude licensing agreements with their trustees for this purpose (IKS Act, section 26). NIKSO is empowered, in consultation with indigenous trustees, to facilitate licensing agreements between indigenous communities and third parties (IKS Act, section 26). Upon request of the communities, NIKSO may provide assistance for the commercialisation of their dagga-related IK. In this regard, the IKS Act requires NIKSO to ‘promote partnerships for innovation and product development, coordinate funding, develop market strategies, and promote commercial use of products, services, processes and the use of technology’ (IKS Act, section 25).

Local experiences exist from which the indigenous communities, local growers and smallholder farmers, as well as indigenous entrepreneurs, within the dagga belt can draw some lessons on how to deploy the above legal frameworks to harness the economic benefits of dagga (Department of Forestry, Fisheries and Environment, 2022; Schroeder, et al, 2020; Oriakhogba, 2019; Wynberg, Schroeder & Chennells, 2009). The cases demonstrate the need for the local growers and smallholder farmers, as well as indigenous entrepreneurs, within the dagga belt to organise, seek professional assistance from non-governmental organisations (NGOs) and professional bodies, develop community protocols and codes of ethics that will guide their engagement with third parties exploiting their IK, and to work with the relevant government agencies in enforcing claims to their IK.

The Hoodia case involving the San indigenous peoples and the Council for Industrial and Scientific Research (CSIR) is important. The case predates the Biodiversity Act, BABS Regulations and the IKS Act. The case has been exhaustively discussed elsewhere (Wynberg, Schroeder & Chennells, 2009). However, it is important for the present purpose to mention that the San indigenous peoples, found in South Africa, Botswana, Namibia, Zimbabwe, Angola, and Zambia, have for many centuries developed an IK for the use of the Hoodia plant as appetite suppressants. The San peoples relied on Hoodia to suppress their appetite especially when they embarked on their hunting expedition and other bush activities. The CSIR became aware in 1963 of this traditional use of Hoodia through a publication and the activities of the San people who were members of the military. Consequently, the CSIR conducted research on Hoodia and isolated its active ingredient - the P57 compound - which the CSIR patented in 1995. The CSIR did not seek consent of the San communities. The CSIR licensed the patent to Phytopharm, which in turn granted a sub-licence to Pfizer for 21 million USD, after confirming the potency of the compound.

The San peoples became aware of this development through their attorney, who was then representing them in a land reclamation claim in South Africa. This led to a meeting between the Working Group of Indigenous Minorities in Southern Africa (WIMSA), umbrella body of the San peoples, and CSIR in 2001 around possible benefit sharing based on the San Hoodia-related IK. Same year, the South African San Council (SASC) was formed out of WIMSA to represent the San peoples on the benefit sharing negotiations. The parties reached an agreement in 2003. In terms of the agreement, the San peoples were entitled to 6% of all milestone payments made to CSIR by Phytopharm, and 8% of all royalties from the products developed out of the P57 compound. Payments are to be made to the fund managed by the San Hoodia Benefit-Sharing Trust consisting of representatives of the regional San councils,

WIMSA, CSIR and a representative of the Department of Science and Technology (now Department of Science and Innovation) as observer. The fund was to be deployed for the development, empowerment and training of the San communities and peoples.

Although the commercial exploitation of Hoodia was eventually stalled due to safety and efficacy issues (Wynberg, 2016), the Hoodia case remains a model for benefit-sharing agreements on the use of IK. In fact, it paved the way for legislative reforms, such as the enactment of the Biodiversity Act, BABS Regulations, the amendment of the Patent Act discussed in 4.1 above, and South Africa's ratification of the Nagoya Protocol. The San-Hoodia settlement also paved the way for subsequent benefit-sharing agreements, such as the recent Khoi and San Rooibos benefit-sharing settlement in 2019. The settlement has been exhaustively examined elsewhere (Schroeder, et al, 2020; Oriakhogba, 2019). It suffices now to note that settlement was given further impetus by the legal framework provided by the Biodiversity Act and BABS Regulation. Rooibos is the raw material for the popular Rooibos tea. Research shows that the tea was developed based on Khoi and San IK-related to the use of Rooibos as a beverage (DEA, 2014). The commercial exploitation of Rooibos gave rise to a multi-million-dollar industry that continued to flourish without acknowledgement of, and benefit to, the Khoi and San IK.

The foregoing triggered a decade-long struggle by the Khoi and San communities, through the SASC, which commenced in 2010 and led to the benefit-sharing settlement noted above. In terms of the settlement, the Khoi and San communities were entitled to a 1.5% share of the farm gate price of Rooibos. The farm gate price is the price that agribusinesses pay for unprocessed rooibos. The 2019 value of the communities' share was considered to be 12 million ZAR. The 1.5% share will be split equally between the Khoi and the San communities. The settlement subjects the Khoi's share to a further split in favour of the community of non-white local farmers living in the Rooibos Belt and who suffered deprivations as a result of Apartheid. The Khoi and San were aided by Natural Justice - a non-governmental organisation (NGO). As noted elsewhere, Natural Justice assisted the communities to organise and provided advocacy, education and training on the development of community protocols and codes of ethics for third-party research on, and use of, their IK (Oriakhogba, 2019). The government recently announced the payment of over 12.2 million ZAR to the Khoi and San communities as part of the pilot phase of the implementation of the agreement (Department of Forestry, Fisheries and Environment, 2022).

5. CONCLUSION

As the analysis in this paper has shown, IP rights and IKS will play a significant role in harnessing the economic potentials of the emerging dagga industry. However, beyond the possibility of actual IP and IKS protection, the management and commercialisation of such rights will be necessary to reap the economic benefits from dagga and promote access to innovation and creativity within the emerging dagga industry in South Africa. Within the context of South Africa, where smallholder farmers and indigenous entrepreneurs hold sway, open business models that take cognisance of the agency of these farmers would have much utility. Access and benefit-sharing arrangements, and development of community protocols and codes of ethics for third-party research on, and use of, dagga are also strategies to adopt to ensure that the exercise of IP rights promotes the social and economic interest of the indigenous communities within the South Africa dagga belt, including the smallholder farmers and indigenous entrepreneurs, as well as investors in the emerging dagga industry and researchers in the dagga-related research. Finally, the partial decriminalisation and legalisation, offers a form of rallying point for marketing strategies for the commercialisation of dagga.

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¹ the United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances UNTS 1582, 95. South Africa ratified the convention on 14 December 1998.

² The Plant Improvement Act 53 of 1976 (PIA 1976) was repealed by the Plant Improvement Act 11 of 2018 (PIA 2018). In terms of section 66, the PIA 2018 will come into effect on a date determined by the President through a proclamation in the Gazette. The presidential declaration has not been made at the time of writing. Thus, the paper still refers to PIA 1976 as the extant law

³ See Regulations Relating to the Establishment, Varieties, Plants, and Propagating Materials: Amendment, Government Gazette No. 45275, Notice No. 1008 of 8 October 2021

⁴ Generally, see DALRRD Plant production guidelines and application forms at <https://www.dalrrd.gov.za/Branches/Agricultural-Production-Health-Food-Safety/Plant-Production/Hemp-Low-THC-Cannabis-Regulatory-System> (access 3 December 2022).

⁵ Note that the Plant Breeders Rights Act 15 of 1976 (PBRA 1976) was repealed by the Plant Breeders Rights Act 12 of 2018 (PBRA 2018). In terms of section 60, the PBRA 2018 will come into effect on a date determined by the President through a proclamation published in the gazette. At the time of writing, the presidential proclamation has not been made.

⁶ See Regulations Relating to Plant Breeders' Rights: Amendment, Government Gazette No. 46382, Notice No. 2098 of 20 May 2022.