RIGA GRADUATE SCHOOL OF LAW

ANNIJA SAMUŠA

MODERNIZATION OF THE CURRENT CANNABIS LEGAL FRAMEWORK AND ITS POTENTIAL ECONOMIC GAINS

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About the author:

Annija Samuša graduated from the University of Bremen Faculty of Economics in 2014 and later on obtained her LL.M in Law and Finance from the Riga Graduate School of Law in 2016. After graduation working at Allnex Latvia, finance department. Her main areas of interest are the interaction between finance and law and how the society could benefit from the respective fields. This is the publication of the author's distinction-awarded Master's thesis defended at the Riga Graduate School of Law in July, 2016.

Abstract:

The main topic of the article is to observe the current regulatory policy of cannabis and the reasons why it should be reorganized so that the society could gain largest potential economic benefit. The author basically wanted to prove the need for changes in international cannabis regulation. In order to gain the best results, the author uses legal and comparative analysis research methods and as credible sources exploits mainly drug reports published by international organizations, scientific journal and official government data.

The main findings are that the current international legislation regarding cannabis is outdated, ineffective and actually obstructs the society from researching the respective substance and its possible advantages. More liberal and at the same time more specific regulation of cannabis market is found to be more effective to defeat the black market and give benefit to society's overall well-being. In the conclusion the author recommends to change the international cannabis legislation by presenting several step control mechanisms of the respective substance.

Key words: Drug policy, cannabis, marijuana, legalization, international drug legislation, THC

TABLE OF CONTENTS

INTRODUCTION

The outdated international cannabis legal framework has to be modernized, because by changing the attitude towards it, we will discover cannabis real nature and potential economic benefits.

This article will prove that the existing international drug law regarding cannabis is unrighteous and has to be changed in order to utilize and research potential of the respective substance and its possible public and economic benefits. In this work the author will mainly focus on, firstly, international cannabis regulation - how it works in the real life and what is the situation in the countries, where the domestic cannabis law is in discrepancy with the international legislation. Secondly, the author will analyze the economic and other benefits related to cannabis policy in the countries, where the respective substance is liberated or even legalized.

The first part will contain observation of the existing international drug framework, which regulates cannabis and it related substances. Meaning "cannabis and it related substances" includes:

- *Cannabis* (*marijuana or marihuana*) - blooming parts of the cannabis plant, excluding the seeds and leaves;
- *Cannabis Plant* - any plant of the genus Cannabis;
- *Cannabis Resin* (known as "*hashish*") - separated resin obtained from the cannabis plant;
- *Cannabinoids* - different chemical ingredients of cannabis, the most significant - THC;
- *THC* (*dronabinol* or *Delta-9-tetrahydrocannabinol)* - the main psychoactive component of cannabis. The designation dronabinol is more commonly used in the U.S. and THC - in the Europe[1].

For purposes of clarity the author will mostly use word "cannabis", which is originated from the Latin language and is used in many official international legal documents. However, the article will also contain wording "marijuana or marihuana", which is utilized in many domestic law documents.

The first part of the work will mostly discover the history of how the legal framework was created, what were the main substantiations, how does the outline works and what contradictions does it consist. Moreover, the author will expose the loopholes and drawbacks of the international cannabis legislation, will give possible solutions to them and create step-by-step model of changing the legislation.

In the second part the author will collate three different jurisdictions with more liberal attitude towards cannabis. The comparison will include analysis of the differences between their cannabis policies, the social outcomes and economic gains. In the

[1] Definitions provided by the Drug Enforcement Administration and the Single Convention on Narcotic Drugs, 1961.

economic part the author will look at the cannabis taxation structure, the respective state's revenues and the different approaches how the three jurisdictions are exploiting the funds.

The first part of the analysis focuses on the Netherlands. Since the respective country is known for its tolerant cannabis policy it is, however, in the same time a member of the European community, which officially is strictly against the cannabis legalization[2]. As the second and third jurisdiction to be analyzed, the author has chosen the U.S. states of Colorado and Washington. Both states were the first jurisdictions in the world to legalize cannabis without taking much into account that at the federal level the U.S. policy still stands rigorously against the cannabis legalization. In this part of the work, the focus will be set on the diverse legislative approaches and the respective outcomes that will be observed taking into consideration the statistical data before and after the legalization of the respective substance.

Overall, in this article the author will use legal and comparative analysis research methods in order to obtain the most comprehensive insight into the legal regulatory system and to gain the most precise data of the real life situation. As credible sources, the author will mainly use drug reports published by different international organizations, articles from scientific journals and other material prepared by several national governments and their institutions.

[2] EMCDDA. *A cannabis reader: global issues and local experiences. "Cannabis Control in Europe", 2008,* pp. 98-99. Available on: http://www.emcdda.europa.eu/system/files/publications/497/emcdda-cannabis-mon-vol1-web_103716.pdf. Accessed in June 7, 2017.

I INTERNATIONAL UNITED NATIONS DRUG CONVENTIONS

At present there are three United Nations Treaties outlining the international legal framework of the drug control - UN Single Convention on Narcotic Drugs, 1961[3], amended by the Protocol in 1972; the UN Convention on Psychotropic Substances, 1971[4], and the Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances, 1988[5]. The listing of the classified substances was created and approved by the International Narcotics Control Board (INCB) and Commission on Narcotic Drugs of the Council (CND), in accordance with the recommendations of the World Health Organization (WHO)[6]. The aim of this comprehensive international legal approach is to control drug abuse at international level and build UN-based drug administration[7].

1.1 UN Single Convention on Drugs, 1961, amended by the Protocol in 1972

United Nations Single Convention on Drugs, 1961 (Single Convention) was the first comprehensive legal framework, which consolidated previously drafted drug control treaties between 1912 and 1953[8]. The Convention targets systematic control and prohibition of the production, manufacture, export, import, distribution and trade of the narcotic drugs and limits their use exclusively to medical and scientific purposes[9]. The Single Convention contains four schedules of controlled drugs and has developed mechanism how to include new substances into the schedules without fundamentally changing the Convention. Consequently, the substances have to be regulated and controlled accordingly to the schedule within they are embodied[10].

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[3] United Nations Single Convention on Narcotic Drugs, 1961. Available on https://www.unodc.org/pdf/convention_1961_en.pdf. Accessed March 21, 2016.

[4] United Nations Convention on Psychotropic Substances, 1971. Available on https://www.unodc.org/pdf/convention_1971_en.pdf. Accessed in March 24, 2016. In total, 34 States have signed and 183 parties have ratified the Convention of 1971.

[5] UN Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances, 1988. Available on: https://www.unodc.org/pdf/convention_1988_en.pdf. Accessed in March 24, 2016.

[6] *Supra* note 3, Art. 3.

[7] Jay Sinha, Government Division of Parliament of Canada, "*The history and development of the leading international drug control conventions*" (prepared for the Senate Special Committee on Illegal Drugs, published in February 21, 2001. Available on http://www.parl.gc.ca/content/sen/committee/371/ille/library/history-e.htm. Accessed in March 21, 2016.

[8] *Supra* note 3, Art. 44 "Termination of previous international treaties". The Single Convention was originally signed by representatives from 54 countries and now it is ratified by 125 states.

[9] *Supra* note 3, Art. 4(c) "General Obligations".

[10] Transnational Insitute, M. Jelsma, A. Armenta, "The UN Drug Control Conventions: *a primer",* published in October 2015. Available on

Cannabis and cannabis resin have been placed both in Schedule I and IV, meaning that it is considered to be particularly dangerous substance with high risk of abuse and without any significant therapeutic value[11]. The Single Convention sets a comprehensive regulatory and prohibition framework on how the respective substances should be controlled. First, cannabis shall only be used and cultivated for medical and scientific purposes[12]. Manufacturing of it is only permitted under license, which has to be issued by the State, or carried out by a State enterprise[13]. Secondly, the countries are requested to prohibit the possession of cannabis and any other mixtures containing the respective substance[14]. The trade and distribution is only allowed under State's license or if carried out by a State enterprise. In a case of any transaction related to the regulated substance, the State must control and verify the license and the specifics of the particular transaction[15]. In a case of illicit trafficking the Parties of the Convention are required to cooperate with each other and carry out coordinated preventative and repressive actions[16]. Moreover, there are specific provisions regarding the control of cannabis defined in the Article 28 of the Single Convention. This article emphasizes the need to prevent the misuse and illicit trafficking of cannabis, its leaves and plants[17]. The Single Convention also includes comprehensive penal provisions and requires that

> Each Part shall adopt such measures as will ensure the cultivation, production, manufacture, extraction, preparation, possession, offering, offering for sale, distribution, purchase, sale, delivery on any terms whatsoever, brokerage, dispatch, dispatch in transit, transport, importation and exportation of drugs contrary to the provisions of this Convention, and any other action which is the opinion of such Party may be contrary to the provisions of this Convention, shall be punishable offences when committed intentionally, and that serious offences shall be liable to adequate punishment particularly by imprisonment or other penalties of deprivation of liberty[18].

However, paragraph 4 of the same Article 36 states that principles how the State chooses to penalize the offences shall "be defined, prosecuted and punished in conformity with the domestic law of a Party"[19]. In other words, the Single Convention gives Parties discretion and allows domestic interpretation of the respective legal requirements. The main reason for this relatively flexible approach is that the Convention is not self-executing and the Parties themselves have to implement the Convention into their law system. Typical example is the Article 49 "Transitional Reservation", which gives Parties opportunity to reserve the rights to implementation

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https://www.tni.org/files/publication-downloads/primer_unconventions_24102015.pdf. Accessed in March 21, 2016.

[11] *Supra* note 3, Art. 3, paragraph 5.
[12] *Supra* note 3, Art. 22 "Special provision applicable to Cultivation".
[13] *Supra* note 3, Art. 29.
[14] *Supra* note 3, Art. 33 "Possession of Drugs".
[15] 3, Art. 30 "Trade and Distribution".
[16] *Supra* note 3, Art. 35 "Action Against the Illicit Traffic".
[17] *Supra* note 3, Art. 28 "Control of Cannabis".
[18] *Supra* note 3, Art. 36 "Penal Provisions".
[19] *Ibid,* para. 4.

restrictions regarding opium, coca leaf and cannabis. However, these reservation rights are only temporary - the medical and scientific use of cannabis must be suspended "in any case within twenty-five years from the coming into force of this Convention"[20]. Other examples for domestic interpretation can be found in Article 26, paragraph 2 "the Parties shall as far as possible" and in Article 30, paragraph 4 "If a Party considers such measures necessary or desirable"[21].

Another important field, which is covered by the Convention, is the preventative measures to hinder the abuse of drugs. The Article 38 states that Parties have to pay special attention to "early identification, treatment, education, after-care, rehabilitation and social reintegration of the persons involved"[22].

Overall, the Single Convention, on the one hand, requires Member States to prohibit most of the activities related to cannabis. On the other hand, in order to keep this Convention attractive to the countries, it gives relative domestic freedom on how and when the requirements shall be adopted. As we will see in the following parts of this work, in the real life there are several Member States that do not fully respect this convention and have actually very different domestic drug policy. In these cases the UN is observed to be powerless and is not able to force the countries to act accordingly to the Convention.

1.2 UN Convention on Psychotropic Substances, 1971

The main reason for the creation of the Convention on Psychotropic Substances was to introduce better control mechanism of the diversified drugs that became popular in 1960s. Convention of 1971 combined with the Single Convention created comprehensive and relatively strict legal framework of drug regulation, although, the latest Convention in comparison with the Single Convention is considered to be less rigid (except Schedule I [23]). In the Convention on Psychotropic Substances drugs are divided into four Schedules, similarly as it is done in the Single Convention.

Dronabinol (delta-9-tetrahydrocannabinol or THC), which is the main active ingredient of cannabis, is included in the Schedule II - substances with some therapeutic value. The substances from Schedule II require license or authorized person to be manufactured or distributed (including import/export)[24]. In addition, export and import of substances from Schedules I and II require a special authorization, which is created and approved by the CND[25]. Moreover, the Convention requires manufacturers and authorized people to keep record of traded and distributed substances from Schedules II and III[26]. The penal provisions and actions against the illicit traffic are stated in the

[20] *Supra* note 3, Art. 49 ""Transitional Reservations".
[21] *Supra* note 3, Art. 26, paragraph 2 and Art. 30, paragraph 4.
[22] *Supra* note 3, Art. 38 "Measure Against the Abuse of Drugs".
[23] *Supra* note 10.
[24] *Supra* note 4, Art. 8 "Licenses".
[25] *Supra* note 4, Art. 12 "Provisions Relating to International Trade".
[26] *Supra* note 4, Art, 11 "Records".

Articles 21 and 22 and, according to them, the States are required to cooperate with each other and fight against the illicit traffic[27]. In any case of intentional offence or any action against the Convention, the State shall apply adequate punishment, which is in conformity with the domestic law[28].

From the very beginning the placement of dronabinol has been a controversial issue. At the time when the Convention on Psychotropic Substances was adapted dronabinol was placed in the Schedule I as a particularly harmful substance to the human health. In 1987 the CND at its twenty-sixth meeting rejected the WHO proposal to reschedule dronabinol to Schedule II. However, in 1991 on the grounds that dronabinol possesses low risk of abuse and has a therapeutic value dealing with weight loss of AIDS patients, nausea and vomiting of the cancer chemotherapy patients, the CND did follow the WHO recommendation and replaced dronabinol to the Schedule II[29]. In 2002 the WHO published "*Critical review*"[30], in which they suggested that dronabinol should be reclassified to Schedule IV because of its little harm to the public health and potential therapeutic value. This proposal, however, was rejected. In 2006 the WHO repeatedly recommended to reschedule the dronabinol and its stereoisomers, this time to Schedule III of the 1971 Convention[31]. At the meeting of the CND in 2007 the members agreed to postpone the decision due to the political pressure and argument that dronabinol needs to be researched more extensively. In 2014 meeting of the CND the WHO once again, based on the previous recommendation from 2006, proposed to replace dronabinol to Schedule III. With 9 votes in favor, 20 against and 12 votes absent, the proposal was rejected. However, the WHO still holds the position in favor of dronabinol replacement to Schedule III[32].

1.3 UN Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances, 1988

This particular convention was created to combat expanding transnational organized crime. It specially focuses on international cooperation between the 189 Member States and creates a comprehensive approach how to enforce the Single Convention and Convention on Psychotropic Substances. The Member States are required to establish

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[27] *Supra* note 4, Art. 21 "Action against the Illicit Trafic".
[28] *Supra* note 4, Art. 22 "Penal Provisions".
[29] ECDD, 34th report 2006/4.2*. Assessment of dronabinol and its stereo-isomers,* p. 1. Available on: http://www.who.int/medicines/areas/quality_safety/4.2DronabinolCritReview.pdf. Accessed in March 24, 2016.
30 WHO. Technical Report Series, thirty-sixth report. WHO Expert Committee on Drug Dependence, p. 4. Available on: http://apps.who.int/medicinedocs/documents/s21771en/s21771en.pdf. Accessed in March 24, 2016.
[31] *Ibid*.
[32] *Supra* note 30.

criminal law offences for any activities, where substances from Single Convention and Convention on Psychotropic Substances are involved[33].

The Convention of 1988 focuses mainly on manufacturing, distribution, possession and international sale (import, export)[34] and presents several methods how the Member States should punish the actions that are in conflict with the Conventions. First, the State of jurisdiction "shall take measures to identify, trace, freeze or seize property, instruments"[35] if an unlawful action regarding drugs and/or psychotropic substances has taken place. Article 6 focuses on extradition and encourages parties to cooperate and carry out multilateral agreements to successfully fulfill the criteria of the Convention[36].

The drug possession for personal use is criminally punishable under Article 3, paragraph 2 of the Convention, 1988:

> Subject to its constitutional principles and the basic concepts of its legal system, each Party shall adopt such measures as may be necessary to establish a criminal offences under its domestic law, when committed internationally, the possession, purchase or cultivation of narcotic drugs of psychotropic substances for personal consumption contrary to the provisions of the 1961 Convention, the 1961 Convention as amended or the 1971 Convention[37].

Cannabis is especially distinguished in the 1988 Convention, which requests the Member States to create criminal offences under national law when dealing with the cultivation of "cannabis plant for the purpose of the production of narcotic drugs"[38]. Another provision of the 1988 Convention that tackles cannabis restrictions is the prevention of the illicit cultivation of cannabis plants[39].

1.4 Drawbacks of the existing cannabis regulations

When the first legal regulations on cannabis came into force, they were aimed to prohibit the production, distribution and use of it and sanction all transactions thought a punishing mechanism. It was believed that the use of illicit drugs would be reduced or even eliminated in fear of harsh punishments. The two-tier system, on the one hand, attempted to limit the supply of cannabis (and other illegal substances) through the regulation of production and distribution and, on the other hand, strived to eliminate the demand for cannabis through punishing mechanism. Since the creation of the Conventions in 1961, 1971 and 1988 there have not been much of changes in the legal framework. However, the present situation shows that in the real life the existing law

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[33] International Drug Policy Consortium. *Drug Policy Guide*. Edition 2, March 2012, pp. 17-24. Available on: http://www.drugpolicy.org/sites/default/files/IDPC-Drug-Policy-Guide_2nd-Edition.pdf. Accessed in March 24, 2016.
[34] *Supra* note 5, Art. 3, para. 1a(i).
[35] *Supra* note 5, Art. 5, para. 4b.
[36] *Supra* note 5, Art. 6, para. 11.
[37] *Supra* note 5, Art. 3, para. 2.
[38] *Supra* note 5, Art. 3, para. 1a(ii).
[39] *Supra* note 5, Art. 14, para. 2.

outlines are not effective enough to combat the illicit cannabis transactions and its wide prevalence.

1.4.1 Wide prevalence of cannabis

Cannabis is the most widely used drug in the world with 181.8 million of global users[40]. However, the actual worldwide prevalence is difficult to measure, because it varies from one-time to permanent users and differs from continent to continent. The data from World Drug Report 2016 reveals that in Americas cannabis is the most popular illicit substance with 8.4% users of the population[41]. Moreover, 64% of the worldwide cannabis seizures were conducted in the U.S. and Mexico[42]. The recent data also shows increase in cannabis use in South America, especially in Chile and Columbia with respectively 7.5% and 3.3% of the previous year[43]. In Asia, however, cannabis consumption is still below the average world consumption and reaches 1.9% of the population aged 15-64[44]. In Oceania and Africa prevalence of cannabis is estimated as wide. Due to its historical and cultural roots, the level of cannabis users in Oceania reaches approx. 10.7%[45]. Similarly, also Africa tends to have high level of cannabis consumption. Although there is limited data available, the approximate estimates indicate 7.5% of cannabis users among the population aged 15-64[46]. Even though the European cannabis market is one of the largest in the world, the prevalence of cannabis use in recent years has remained stable or even slightly decreased[47]. The EMCDDA Drug Report 2016 estimates that approximately 80 million adult Europeans have consumed cannabis at least once in their lifetime and over 22 million have done it in the previous year[48]. Moreover, cannabis with 38% share is the most commonly sold illicit drug in the EU and approximately 1% of EU population uses it daily[49].

The EU market is mostly supplied with locally cultivated cannabis. Nevertheless, the cannabis resin (hashish) is mostly imported from Morocco. In addition, the recent years show tendency that the imported hashish contains higher THC level, which, in

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[40] United Nations Office on Drugs and Crime. *World Drug Report 2015*, Chapter I, p. 57. Available on: https://www.unodc.org/documents/wdr2015/World_Drug_Report_2015.pdf. Accessed in March 25, 2016.
[41] United Nations Office on Drugs and Crime. *World Drug Report 2014*, Chapter 1, p. 40. Available on: https://www.unodc.org/documents/wdr2014/World_Drug_Report_2014_web.pdf. Accessed in March 25, 2016.
[42] *Ibid*, p. 59.
[43] *Supra* note 41, p. 59.
[44] *Supra* note 41, p. 61.
[45] *Ibid*.
[46] *Supra* note 41, p. 62.
[47] *Supra* note 41, p. 60.
[48] EMCDDA. *EU Drug Markets Report 2016*: *In-Depth Analysis*, p. 58. Available on: http://www.emcdda.europa.eu/system/files/publications/2373/TD0216072ENN.PDF. Accessed in March 26, 2016.
[49] *Ibid*, p. 11.

other words, means that the imported substances become more harmful to the users. The increase of THC can be explained differently. On the one hand, the cultivation techniques have developed significantly and there are available higher-potency cannabis strains. On the other hand, even though officially cannabis is among the illegal drugs in Europe, the intensity of its production is increased sharply due to the growing demand[50].

Overall, the UN Drug reports show an annual increase of the worldwide use of cannabis. This trend evidently shows that the existing legal policy against the cannabis use, illicit production, distribution and trafficking is failing. This failure can be largely associated with the internationally unbalanced regulation of the production and consumption of the respective substance. Although internationally cannabis is strictly prohibited, many countries in their national law systems *de facto* recognize it as less harmful substance and apply much more tolerant policies (Appendix 1). This disharmonized and disproportionate law regime leads to consequences that cannabis is the most widespread illicit drug it the world.

1.4.2 Incommensurate regulation

The international drug control framework and each country's national legislation schedule substances according to their actual and potential harm caused both to the users themselves and the society. The substances included in schedules are subject to corresponding restrictive measures, prohibitions and penalties that punish offences related to the respective drugs. The question is, however, whether this principle has been applied to all substances adequately, taking into account all the qualities that the respective substance possesses.

The Single Convention was created 50 years ago when the scientific evidence and proof of many substances was not complete. One of the most often disputed issues is cannabis placement in the strictest groups of substances - Schedule I and IV. Since the foundation of the Single Convention the WHO has several times recommended rescheduling of cannabis based on the recent evidence of its therapeutic value against "spasticity, chronic pain and some neuropsychiatric symptoms"[51]. Recently several research projects in the U.S. have shown cannabis THC potential in killing cancer cells. Laboratory experiments on rats reveal that cannabinoids kill cancer cells while protecting normal cells. It also shows that THC may reduce the risk of colon, breast and liver cancers[52]. Moreover, recently researchers have found that physical harm and risk of

[50] *Supra* note 48, p. 57.
[51] ECDD, 36th agenda item 8.2, 2014, p. 8. Available on: http://www.who.int/medicines/areas/quality_safety/8_2_Cannabis.pdf. Accessed in March 30, 2016.
[52] The Telegraph, *US government says cannabis kills cancer cells,* August 24, 2015. Available on: http://www.telegraph.co.uk/news/worldnews/northamerica/usa/11820620/US-government-says-cannabis-kills-cancer-cells.html. Accessed in April 1, 2016.

dependence on cannabis is less likely to happen, in comparison with such legal substances as tobacco and alcohol (Image 1).

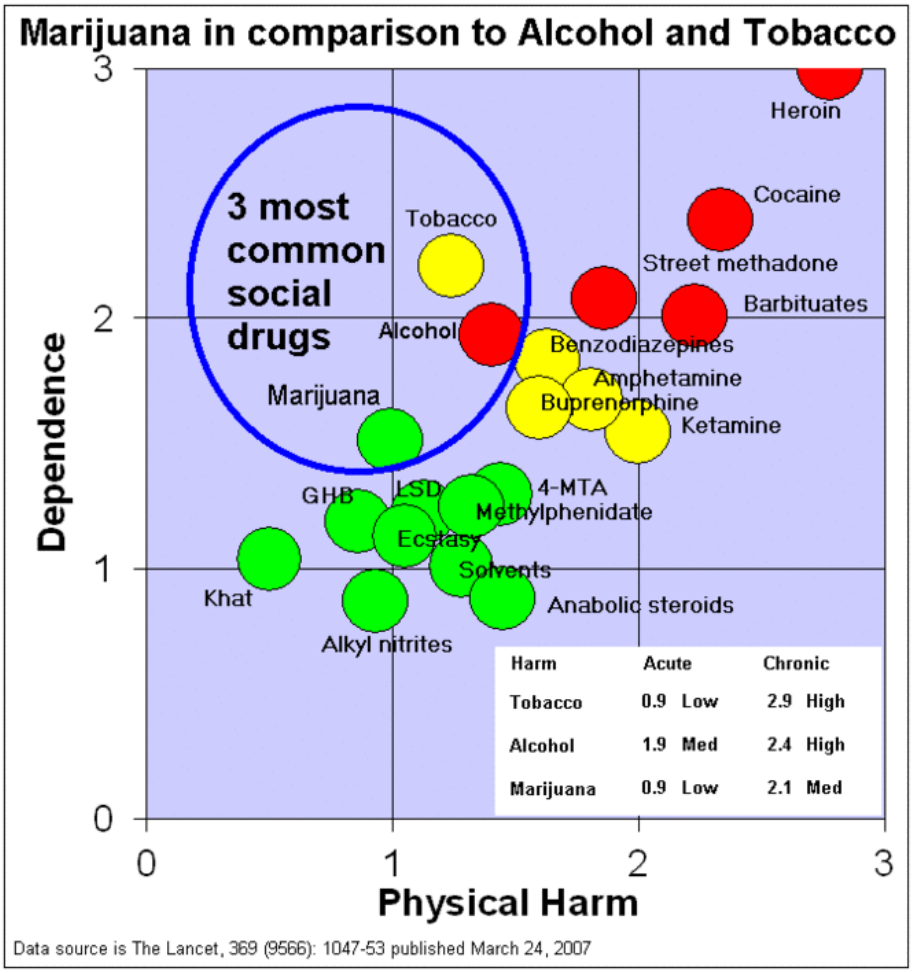

Image 1. Source:" The Lancet" 369 (2007).[53]

In addition, the US National Institute of Health analyzed the probability of developing dependence among nicotine, alcohol, cannabis and cocaine users. To gather data the Institute used National Epidemiological Survey on Alcohol and Related Conditions (NESARC). The results showed that the accumulated estimate of potential transition to dependence for nicotine users was 67.5%, for alcohol users 22.7% and for cannabis

[53] Daniel Kroll, "Obama's right: Marijuana is far safer than alcohol, but not entirely risk-free", *Forbes Online,* February 1, 2014. Available on http://www.forbes.com/sites/davidkroll/2014/02/01/obamas-right-marijuana-is-far-safer-than-alcohol-but-not-entirely-safe/#1f20d39e1400. Accessed in March 30, 2016.

users 8.9%[54]. This research gives another proof that cannabis is the least harmful from the three most frequently used recreational substances.

Another research carried out in the UK by scientist David Nutt and published in the Lancet journal[55] shows that cannabis causes much less harm both to users and to other than, for instance, alcohol and tobacco (Image 2).

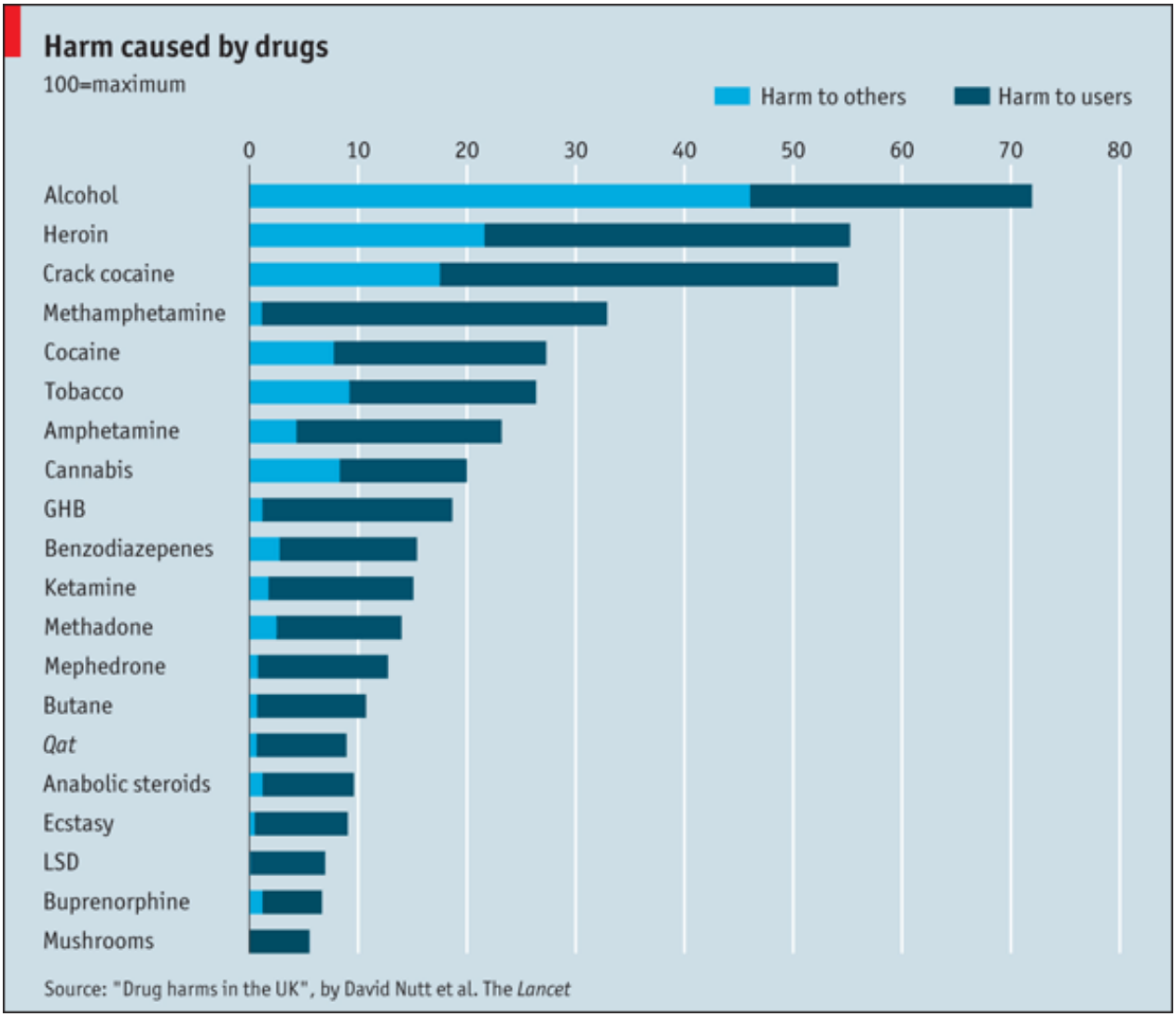

Image 2. Source: D. Nutt, "Drug harms in the UK", Lancet, 2010.

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[54] US National Institutes of Health; C. Lopez-Quintero, J.P. De los Cobos, D.S. Hain, M. Okuda, S. Wang, B.F. Grant, C. Blanco. *"Probability and predictors of transition form first use to dependence on nicotine, alcohol, cannabis and cocaine: Results of the NESARC, 2012"*. Available on: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3069146/ Accessed in March 30, 2016.

[55] "Drug harms in the UK: a multicriteria decision analysis*"*. *Lancet,* 376 (2010): pp. 1558-1565. Available on: http://www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736(10)61462-6.pdf Accessed in June 7, 2017.

The research was carried out based on two-stage mechanism. First was the choice of harm criteria, which were recommended by the UK advisory council of the Misuse of Drugs (ACMD). It suggested to distinguished 16 potential harm areas, 9 related to self-harm and 7 associated with harm to the society (Appendix 2). Second stage was to create Independent Scientific Committee on Drugs (ISCD), which consisted of experts and external experts and developed the MCDA model with purpose to assess the scores for 20 most widespread drugs in the UK. The expert groups then assessed, openly discussed and scored each drug based both on its harm to users and to the society. In order to ensure that the weighted scores are unprejudiced and could be crosschecked and combined with each other the researchers applied concept of swing weighting. So, for instance, the evaluation criterion "drug related mortality" was judged as most serious aspect and was given a weight of 100.

The most harmful substances to society were revealed to be alcohol (46% out of 100%=max), heroin with 21% and crack cocaine with 17%. The most harmful drugs to the users are crack cocaine (37%), heroin (34%) and methamphetamine (32%). In overall comparison alcohol scores the largest amount of points with 72%, heroin with 55% and crack cocaine with 54%. If we compare the three most used substances worldwide - alcohol, tobacco and cannabis, the lowest score received cannabis (20%), in comparison, tobacco scored 26% out of 100%.

Another important research that specially triggers the issue of existing disproportionate scheduling of cannabis was also published by The Lancet journal[56] and its researcher group lead by Nutt, only earlier - in 2007 (Table 1). This research evaluates the discrepancy between the levels of different drug control strictness and levels of existing (and potential) harm presented by the respective substances. In the Table 1 the substances were classified in four groups based on the UN classification - most dangerous, moderate risk, low risk and not subject to international control.

The most dangerous and under strictest control were revealed to be heroin and cocaine. Alcohol, however, was also considered as one of the harmful substances, yet it is not subject to the UN regulations or any other international drug related legal frameworks. Moreover, tobacco also scored higher result and was recognized as more health-harmful substance than cannabis. The latest is placed in the 10th place from 17 analyzed substances but is still regulated more strictly than any other of the substances above.

[56] D. Nutt, LA King, W. Saulsbury, C. Blakemore, "Development of a rational scale to assess the harm of potential misuse". *Lancet*, 369 (2007): pp. 1047-1057. Accessed in April 1, 2016.

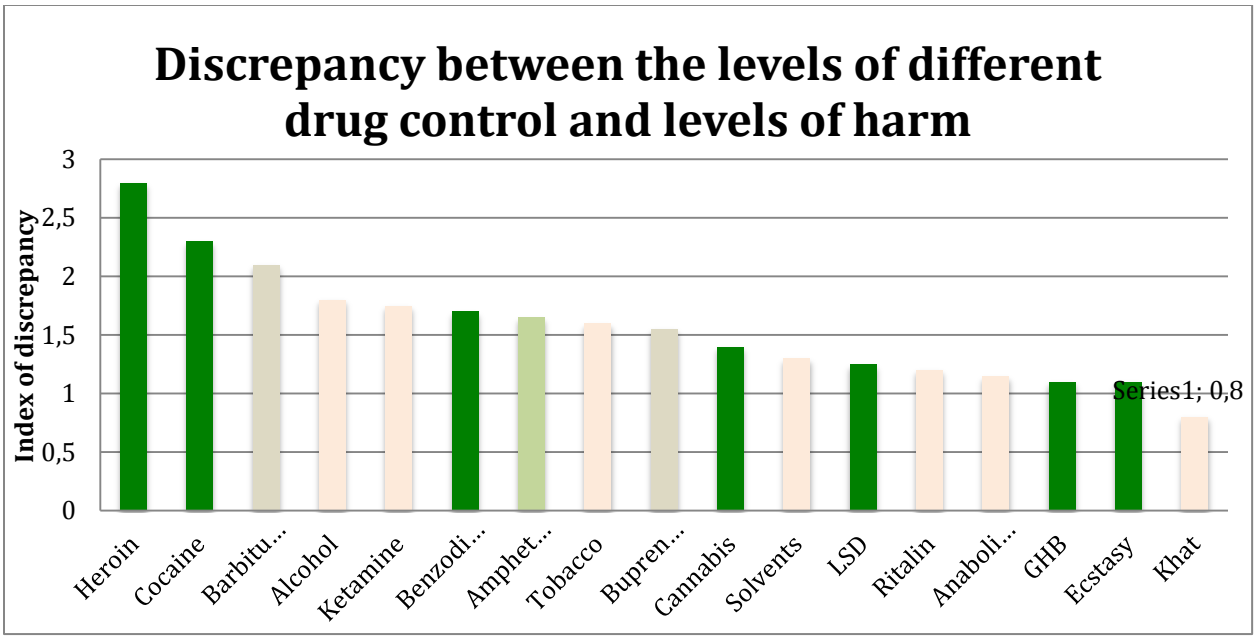

Table 1. Source: War on Drugs, Report of the Global Commission on Drug Policy, 2011.

1.4.3 International cannabis control framework inconsistency with the human rights

The international drug control framework (the three Conventions) embodies many restrictive measures that aim to limit production, sale, distribution (trafficking) and use of cannabis and it consisting substances. There have been discussions whether the benefit of such regulations is more valuable that the restriction of several important aspects of human rights. One the one hand, the intended result of the Conventions is to protect society health and well-being but, on the other hand, the outline of the existing regulatory mechanism is violating several human rights basic principles.

As it is mentioned above, the Convention-system's main target is to improve the society health, welfare and protect it from the violence and organized crime related actions. Nevertheless, in order to ensure that all the legislative outlines are in conformity, we have to take into consideration not only prohibiting and restrictive regulations regarding specific substances but also rights and obligations that countries and international organizations owe to the public. One of the main international documents that provide such standards of individual rights is the Universal Declaration of Human Rights. The Article 25, paragraph 1 of the Human Rights Declaration obviously emphasizes that "Everyone has right to (…) medical care"[57]. In this regard, several researches carried out in the past decade show that cannabis has a therapeutic value dealing with pain relief of HIV/AIDS, Diabetic neuropathy, Alzheimer's disease, cancer

[57] Universal Declaration of Human Rights, Art. 25, para. 1. Available on: http://www.ohchr.org/EN/UDHR/Documents/UDHR_Translations/eng.pdf. Accessed in March 29, 2016.

chemotherapy- induced nausea and vomiting[58]. In other words, researches prove cannabis medical effects and their use in several medical treatments. Basically, Articles 25 and 12 require countries to provide patients with the possibility to use different treatment methods, which, in some cases, include cannabis.

Another important aspect regarding cannabis is its cultivation and production. Historically people in many countries (especially in Africa and South America) have grown and used cannabis for medical purposes. However, with the international prohibition regarding the respective substance these people have become undesirable and their occupation - illegal. In Article 22 and 23 of the Universal Declaration of Human Rights it is stated that every member of the society has rights to work, choose his/her own field of employment and, accordingly, develop work skills[59]. In this context the author agrees with the International Drug Policy Consortium report (see footnote 33) and its researchers that by prohibiting the cultivation of cannabis (especially in places where it has been done for centuries) the human rights are being violated, the potential of economic and employment system is not fulfilled and the argument to protect the social well-being is actually failing[60].

Moreover, another important field affected by the prohibiting Conventions is the individual rights to privacy. The Universal Declaration of Human Rights, Article 12 states that

> No one shall be subjected to arbitrary interference with his privacy, family, home or correspondence, nor to attacks upon his honor and reputation. Everyone has the right to the protection of the law against such interference or attacks.[61]

The Single Convention, however, authorizes the Member States to "use measures as may be necessary to prevent the misuse of and illicit traffic in[62]" cannabis. Based on this requirement, Member States use their national forces (usually police) on suspicion of transactions with cannabis and search people and property (including schools and pupils)[63]. Regarding these actions, the principle of proportionality should be taken into considerations because under the Declaration of Human Rights, privacy of the home and individuals is not to be disturbed by the arbitrary interference of state institutions.

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[58] 37th ECDD Agenda item 6.2, 2015. Bertha K. Madras, "*Update of Cannabis and its medical use*", pp. 21-24. Available on: http://www.who.int/medicines/access/controlled-substances/6_2_cannabis_update.pdf?ua=1&ua=1. Accessed in March 29, 2016.

[59] *Supra* note 56, Art. 22 and 23.

[60] E. Single, P. Christle, R. Ali, "The impact of cannabis decreminalization in Australia and in the US," *Journal of Public Health Policy*, 21,2 (2000): pp. 158-159. Available on: http://www.parl.gc.ca/content/sen/committee/371/ille/presentation/single-e.htm. Accessed in March 29, 2016.

[61] *Supra* note 57, Art. 12.

[62] *Supra* note 17.

[63] *Police Powers in New South Wales, Australia*. Available on: http://www.legalanswers.sl.nsw.gov.au/guides/hot_topics/drugs/police.html. Accessed in March 29, 2016.

The last but not least important issue in relation to the Conventions is the lack of scientific evidence regarding cannabis. Although this area is not directly related to the human rights, it affects information about cannabis use for medical purposes, and therefore, gives impact to people who potentially could benefit from the respective substance. The main issue is to prove the precise harm to the public health. The main reason for the incomplete assessment is that the results depend on several variable factors - testing people's medical history (mental and physical), dosage, frequency of use, other medicine taken simultaneously, etc. In addition, the research and proof mechanism is getting more complex due to the new synthetic substances that come into market and are used more often. All these factors lead to the consequences that objective research is getting more difficult to carry out and the outcome in many cases is disputable and biased. New research attempts and methods could help to gain more comprehensive information about cannabis use and its possible benefits in fighting such illnesses as cancer, multiple sclerosis and others.

From the facts above we can conclude that the overall existing international legal control framework of cannabis main deficiencies are:

- inadequate placement of cannabis in Schedules I and IV alongside with particularly dangerous substances;
- incapacity of the UN to harmonize *de facto* domestic cannabis regulatory laws of the Member States and the international three Convention framework;
- several Three Convention framework contradictions with the UN human rights standards;
- misuse, unsuitable allocation and defalcation of the government resources to combat relatively "small" issues instead of dealing with global crime and drug trafficking.

II ANALYSIS OF IMPLEMENTED POLICIES IN REAL LIFE - THE NETHERLANDS AND THE USA

In order to understand and be able to analyze the best approach to the cannabis policy and its regulation it is important to observe not only the countries whit prohibiting cannabis law but also the countries, where the drug policy is more flexible and the society more tolerant. The first country chosen to be analyzed is the Netherlands, due to its relatively long history of indulgent cannabis policy and public position.

As for the other examples, the author will observe the cannabis policy and actual situation in two of the U.S. states, where the respective substance is legalized - Colorado and Washington. Both states have legalized cannabis and now have strictly regulated market. In addition, the author will observe the differences between the diverse policies and analyze the best approach how to cohere the country's (state's) aspirations with the international drug policy.

2.1 The Netherlands

2.1.1 History and national legislation

Historically the Netherlands did not have such drug related problems as, for instance, the USA or the UK. However, the situation changed in the 19th century as a result of Dutch colonies. In early 20th century the Netherlands had become the largest cocaine producer in the world and also gained huge profit from opium production. After the Hague Convention in 1912 the Netherlands ratified its own Opium Act, which still remains the main law framework of Dutch drug policy[64].

Although the Netherlands is a Member State of UN drug conventions, it has established its own, more liberal drug policy regarding cannabis and its related substances. The Dutch approach to cannabis regulation was first adopted in 1976 and was called "Opium Act Revised"[65]. The main goal was to separate cannabis, which was considered as relatively low-risk substance, from other drugs. The main reason for distinguishing "soft" and "hard" substances was to reduce the public and individual health risks. In addition, the Netherlands hopped to combat the illicit "hard" drug trafficking. In essence the drug policy in the Netherlands emphasizes "compassion and treatment for those who develop drug use problems"[66]. The Dutch national drug policy distinguishes two Schedules of regulated substances. The first Schedule contains "hard" drugs and the second Schedule includes so-called "soft" drugs - traditional hemp

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[64] Parliament of Canada. *National Drug Policy: The Netherlands.* Available on: http://www.parl.gc.ca/content/sen/committee/371/ille/library/dolin1-e.htm. Accessed in April 6, 2016.

[65] The Netherlands. *Opim Act and its Decision*. 1928. Available on: http://www.cannabis-med.org/dutch/Regulations/Opium_Act.pdf. Accessed in April 7, 2016.

[66] *Supra* note 63.

products (cannabis, hashish and other cannabis related products). The Dutch authorities have allowed possession/preparing/sale/supply/transporting of Schedule II cannabis or cannabis related substances up to 5 g and cultivation up to 5 plants[67]. Small amount possession for personal use of cannabis is decriminalized in the Netherlands but sale of it is technically prohibited under the Opium Act.

Besides the Opium Act there are other important Dutch national drug laws and regulations that apply to cannabis, such as:

- Opium Act and its Decision[68];
- Opium Act Directive;
- Victor Act;
- Regulated Opium Act Exemptions.

Since 2001 the institution of Dutch government - Office for Medical Cannabis (OMC) produces four types of medical cannabis - Bedrocan, Bedrobinol, Bediol and Bedical, all available in the pharmacies Statewide. The medical cannabis is not only supplied to the local patients but also to the clients in Italy, Finland and Germany[69].

Cannabis in the Netherlands has on average THC potency of 14.6%, which, compared to other markets, is quite high[70]. However, in 2011 the government advisory committee recommended to classify cannabis with more than 15% of THC in Schedule I as a hard drug. Nevertheless, the process of adoption is still pending. In 2014 the Senate also adopted act against the illegal large-scale cultivation of cannabis. This measure was aimed to target the organized crime and illicit trafficking and directly affected the Dutch growth shops and other professional breeders[71]. As the main target of the Dutch government is to combat the organized crime the officials proposed a new article of Opium Act, which came into force in March 2015 and criminalized large-scale production and trafficking of cannabis[72]. However, starting from the 2010 possession up to 15 g of cannabis is no longer a criminal offence.

Nevertheless, the Netherlands effectively introduced decriminalization of the personal, small amount possession of cannabis and started to develop "coffee shop" system[73]. The Dutch government also introduced criteria for legal coffee shops:

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[67] *Supra* note 64.
[68] *Supra* note *64*.
[69] EMCDDA, Report to the EMCDDA by the Reitox National Focus Point: The Netherlands Drug Situation 2014. Available on: http://www.emcdda.europa.eu/system/files/publications/994/National%20Report%202014%20Final.pdf. Accessed in June 7, 2017.
[70] *Ibid.*
[71] *Supra* note *69.*
[72] *Supra* note *69.*
[73] Transform: Getting Drugs under control*. Cannabis Policy in the Netherlands: moving forwards not backwards*. Available on: https://www.unodc.org/documents/ungass2016/Contributions/Civil/Transform-Drug-Policy-Foundation/Cannabis-policy-in-the-Netherlands.pdf. Accessed in April 6, 2016.

- in one transaction up to 5 g of cannabis per person are allowed to be sold;
- prohibition to sell drugs included in Schedule I;
- no cannabis advertisements are allowed;
- coffee shops shall not cause any disturbance for the district or the neighbors;
- prohibited to keep in stock more than 500 g of cannabis;

Cannabis is not allowed to be sold to people under 18. Moreover, minors are prohibited to enter the coffee shop.[74]

In 2012 the Dutch coffee shop policy became stricter and two additional criteria were adopted - the private club and residence criterion. The main goals were to limit the drug-tourism and fight against the organized crime. The private club criteria or "*wietpas*" stated that coffee shops could only give permit of access to a certain group of registered coffee shop members. The number of registered members was set to maximum 2000 members per coffee shop[75]. However, a year later the private club criterion was abandoned due to the resident dissatisfaction. The other criterion of residence was adopted in 2013 and prohibited non-residents to access the coffee shops. The implementation of the restriction depended on the municipalities and the actual enforcement was to a limited extent[76]. A survey in 2014 indicated that 85% of the municipalities do not impose the residence criterion[77]. Currently there are about 700 coffee shops statewide. The largest density is in the largest cities, especially in Amsterdam, where there is one coffee shop per 3000 locals. The Dutch drug policy, especially regarding cannabis, inhere other characteristics that other countries are elusive to implement.

2.1.2 Cannabis prevalence in the Dutch population

The Dutch drug report 2013 revealed that excluding tourist consumption, the local population consumed between 44 and 69 tons of cannabis per year. The smallest group of intensive users consumed the largest proportion of cannabis - 77% of the total amount[78]. The total use of cannabis including foreigner tourists was estimated to reach 58 to 143 tons per year[79]. As we can observe in the Table 2 below, the lifetime prevalence (proportion of population that at some point in their life used cannabis) between 12 and 18 year-olds has decreased in comparison with 2003. The statistics about last month use are not so unambiguous and show fickle data. In comparison with other European countries, the cannabis use in the Netherlands is twice as high as in

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[74] *Supra* note 69.
[75] Cahier 2013 summary: *The private club and the resindece criterion for Dutch coffeeshops*. Available on: https://www.wodc.nl/binaries/cahier-2014-12-summary-and-conclusions_tcm28-71741.pdf. Accessed in June 7, 2017.
[76] *Supra* note 69.
[77] *Supra* note 69.
[78] EMCDDA Dutch Drug Report 2013. Available on: http://www.emcdda.europa.eu/system/files/publications/770/EMCDDA_NR_2013_Netherlands_472317.pdf. Accessed in April 7, 2016.
[79] *Ibid*.

other European countries (15% against 7%)[80], however, the consumption of other hard-profile drugs is lower than in other European countries (4% against 6%)[81]. In 2003 16% of 12-16 year-olds had had their first experience with experimenting with cannabis; in 2013 the proportion had lowered to 9% and the last data of 2015 show even larger drop form 8% to 5% in the current period. In other words, in the Netherlands, where cannabis is relatively softly regulated, the consumers tend to use this "soft drug" instead of other European populations, where soft and hard drugs are treated equally and temptation to use hard drugs is stronger.

Cannabis use among teenagers, the Netherlands, %

	1996	1999	2003	2007	2011
Lifetime prevalence (12-18 years)	21.6	19.5	18.7	16.7	17.4
Last month prevalence (12-18 years)	11.1	9.3	8.6	8.1	7.7
Lifetime prevalence (15-16 years)	no data	no data	28.0	28.0	27.0
Last month use of cannabis (15-16 years)	no data	no data	13.0	15.0	14.0

Table 2. Source: EMCDDA Report on Drugs, 2013.

2.1.3 Prevention

The Dutch government specially pays attention to the high-potency cannabis, which is considered to be equal to the hard drugs, which are especially dangerous to people in young age[82]. In 2011 the government started to focus on selective prevention aimed to particular risk groups. One of such risk groups was teenagers, which was considered to be appropriate group for the preventative measures instead of later addiction treatment options.

Another important field related to prevention is further research of the cannabis impact on health, possible harm and gains of its therapeutic value. The Netherlands has established government funded research organization "The Netherlands Organization for Health Research and Development" (ZonMw) to carry out the scientifically based researches on cannabis and other drugs. Since 2005 ZonMw in cooperation with the Netherlands Organization for Scientific Research (NWO), the Ministry of Health and

[80] *Supra* note *78.*
[81] *Supra* note *78.*
[82] *Ibid*, p. 44.

Ministry of Justice has launched its first research project "Risk Behavior and Dependency Programme". The main research objects were cocaine and cannabis in relation to risky behavior and the target was to "identify key factors that influence the onset, course and chronicity of substance dependency"[83]. In other words, it researched the possible drug prevention and treatment methods in accordance with the factors that cause the addiction. It also revealed external factors that at each life stage affected substance dependency, especially in the adolescent years of life.

2.1.4 An insight into economic aspects

The research data of the public expenditure on drugs, especially on cannabis in the Netherlands are rather scarce. The study of 2006[84] estimates that in 2003 the Dutch government spent around 0.5% of its GDP on drug related issues. 75% of the amount was spent in law enforcement measures, 13% devoted to treatment, 10% to harm reduction and 2% to prevention[85]. The Opium Act related issues compile relatively small amount of the total expenditures on crime. As cannabis related offences are treated as "soft drug" offences, they are relatively less costly than those crimes related to the hard drugs.

Another angle of the economic analysis is related to the cannabis tax and coffee shop revenue, which gains a considerable amount of state's profit. There are no official government data available about the estimated state tax income from cannabis and coffee shop industry. However, the Dutch TV program "Reporter" in 2008 estimated that the Dutch government earns around 400 million Euros annually from the country's coffee shop industry[86]. The same TV research calculated that approximately 610 Dutch coffee shops sell about 265.000 kg of cannabis and its resin annually, in total earning around 2.8 billion Euros in revenue. In comparison, the latest data from the EMCDDA drug report 2016 reveals that the estimated minimum retail value of the EU cannabis "grey market" industry has reached 9.3 billion Euros annually (ranging from 8.4 to 12.9

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[83] ERANID. *Comparative Analysis of Research into Illicit Drugs Across Europe*. Available on: http://www.eranid.eu/fileadmin/www.eranid.eu/images/D2.1 Comparative Analysis Report Final NSC comments included June 2015.pdf. Accessed in April 11, 2016.

[84] H. Rigter, "What drug policies cost: drug policy spending in the Netherlands in 2003", *Addiction*, 101 (2006): pp. 323-329.

[85] EMCDDA. *Netherlands, country drug report*. Available on: http://www.emcdda.europa.eu/countries/netherlands. Accessed in April 7, 2016.

[86] J.P. Grund, J. Breeksema; CVO-Addiction Research Centre. *Coffee Shops and Compromise*, 2013. Available on: https://www.opensocietyfoundations.org/sites/default/files/coffee-shops-and-compromise-20130713.pdf. Accessed in April 10, 2016.

billion Euros p.a.), which equals 38% and is the largest share of the European illicit drug market[87].

The key issues here are, however, not the size of the industry, but the origin of the cannabis and the ways in which the government tax revenue is spent. In regard to the first, the Reporter estimates that about 40% of the total cannabis is cultivated locally in the Netherlands while the rest of the demand is satisfied by exported, untaxed cannabis via black market. In other words, it is believed that the largest proportion of the cannabis market is supplied through organized criminal markets that import foreign cannabis to the Netherlands, avoiding the official tax and government authorities. In addition, this also means that all the regulations valid in the Netherlands are not respected and the cannabis available in the market contains substances with unknown origin and content. Regarding the issue of the use of the government income from the cannabis and coffee shop industry tax, this question is very complex and is actually not possible to solve legally under the existing international law.

2.1.5 Dutch cannabis policy advantages

The Dutch drug policy regarding cannabis and its resin is one of the most liberal in the Europe. In the previous text the data comparison reveals that cannabis use in the Netherlands is higher than in the other EU countries where cannabis is treated more stringed. However, the prevalence of stronger drugs is higher in other EU countries. This conclusion leads us to a dilemma situation - whether to mitigate the cannabis regulation in order to encourage people to choose softer substances or leave the existing control mechanism and observe the consequences of larger consumption of hard drugs. The Netherlands has chosen the first option in order to reduce the harm exposed to the public because the history has showed - people still will be using different drugs even if they are harshly banned. The only way to prevent the harmful effect to the public health is to create considerate and intelligent control mechanism to regulate the substances that enter the consumption market.

By softening policy towards the small amount possessors and cultivators of the cannabis the Dutch police is able to allocate its forces to more important areas and combat large-scale organized drug cartels. One of the crucial points in the Dutch and generally in the EU drug policy is international cooperation to ensure that the organized trafficking groups and other criminal organizations do not grow in power and in effectiveness. This determination is particularly important in Schengen area where officially there is no interstate border control. In some research, carried out by Dutch civil servant working group, it is estimated that if the coffee shop business would be

[87] EMCDDA. *EU Drug Markets Report: Strategic Overview 2016*. Available on: http://www.emcdda.europa.eu/system/files/publications/2374/TD0416161ENN_1.PDF Accessed in April 11, 2016.

regulated more effective, the Dutch police and justice system would save up to 160 million Euros and the tax income would increase by approximately 260 million Euros[88].

2.1.6 Cannabis policy loopholes in the Netherlands

The liberal Dutch cannabis policy leads to several problems related to drug tourism and personal cross-border cannabis trafficking. Previously mentioned data from the Dutch Drug Report 2013 reveals that the domestic consumption reached approximately 44-69 tons of cannabis in 2013 while the total consumption was 58-143 tons of the respective substance. This means that on average foreign tourists consumed 14-74 tons of cannabis, which equals to 24-52% of the total consumption. In other words, the highest estimates show that the foreign drug tourists consume more cannabis that the domestic population. This issue is particularly complex in the Schengen zone due to its lack of boarder control. In this context, the Netherlands is facing objections from the neighboring countries, where the border guards regularly carry out vehicle inspections with the purpose to alienate prohibited substances.

The Dutch cannabis policy regarding coffee shops presents ambiguous paradox. On the one hand, the *front-door* sale and possession of small amounts of cannabis is decriminalized and *de facto* licit. On the other hand, the *back-door* cultivation and supply to coffee shops is still illegal and strictly prohibited. This ambidextrous policy gives coffee shops almost no opportunity to operate their business in a "clean" way and creates possible loopholes for criminal actions and fraudulence.

The Netherlands is facing lack of information about the actual cultivation process of the local cannabis plants. The EMCDDA Drug Report 2016 suggests a new dangerous trend to be use in cannabis cultivation- butane gas from the United States, which again affects the human health in a harmful way[89]. Moreover, lately a connection between so-called Dutch "grow shops" and organized criminal groups is detected. These facts have led to the more stringed control measures carried out by the Dutch authorities in collaboration with other European countries.

As it is mentioned before, the Dutch cannabis tax system lacks transparency and targeted allocation of the resources they earn from the coffee shop industry. They do fund the different drug treatments and other health facilities but it is carried out rather chaotically, without stringed intention and concrete action plan. Instead of setting specified measures and short- middle- and long-term goals, the Dutch drug policy only considers general targets, such as "well-being of the society" and "protection of public health". This kind of policy is not likely to be effective in a long-term and does not guarantee sustainable drug regulatory system.

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[88] Transnational Institute. *Cannabis policy reform in Europe*. Available on: http://druglawreform.info/images/stories/documents/dlr28.pdf. Accessed in April 12, 2016.

[89] *Supra* note 87.

2.2 The U.S. federal and state level cannabis policy

In the United States exists two tier legislative system - at the higher level is federal law and at the local level applies state law. At federal level the U.S. has prohibited any kind of cultivation, production, sale and possession of many drugs that are intended purely for recreational use with exceptions of alcohol and tobacco. There are, however, several exceptions regarding medical use of particular substances. One of the most contradictory regulated substances is cannabis, which now gains more and more attention due to the inconsistency in its regulation at federal and state law levels.

The history of official federal drug law regarding cannabis started in 1937 with Marijuana Tax Act[90], which introduced prohibitive taxation regime of cannabis. This Act stated that

> Every person who imports, produces, compounds, sells, deals in, dispenses, prescribes, administers, or gives away marihuana shall (…) each year pay (…) special taxes[91].

Officially this Tax Act allowed to carry out transactions related to cannabis but in the reality the transfers were taxed $100 per ounce, which was a massive tax rate and financially was not affordable. The only objection was made by the American Medical Association, which argued that there was no scientifically proven evidence to confirm the federal ban on cannabis[92].

In 1970 the Tax Act of 1937 was replaced by the Comprehensive Drug Abuse Prevention and Control Act of 1970 (Controlled Substances Act or CSA)[93], which was enforced by Drug Enforcement Administration (DEA). In the CSA the substances were placed into five Schedules - Schedule I being the most harmful with no therapeutic value. Cannabis was placed in Schedule I, part C, which states that "There is a lack of accepted safety for use of the drug or other substance under medical supervision"[94]. In 1980s the drug regime became harsher and in 1984 the Congress adopted Comprehensive Crime Control Act of 1983[95]. The main goal of this act was to ensure the public safety. Later on the U.S. adopted Anti-Drug Abuse acts of 1986 and 1988 that defined minimum penalties for possession of and transactions with small amount of drugs, including cannabis.

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[90] Full text of the Marijuana Tax Act of 1937. Available on: http://www.druglibrary.org/schaffer/hemp/taxact/mjtaxact.htm. Accessed in April 12, 2016.
[91] *Ibid*.
[92] J. Richard, B.Ch.H. Whitebread, II, "*The Marijuana Conviction*", 1999, pp. 164-172.
[93] Comprehensive Drug Abuse Prevention and Control Act of 1970. Available on: http://legcounsel.house.gov/Comps/91-513.pdf. Accessed in: April 12, 2016.
[94] *Ibid*.
[95] Legislative history of the Comprehensive Crime Control Act of 1983. Available on: https://www.fd.org/sites/default/files/criminal_defense_topics/essential_topics/sentencing_resources/deconstructing_the_guidelines/legislative-history-of-the-comprehensive-crime-control-act-of-1983.pdf. Accessed in June 7, 2017.

Despite all the prohibitions and restrictive legislation at federal level, the states are willing to experiment with new drug policies, especially regarding cannabis for medical and also for recreational use. Until now 23 U.S. states and Washington D.C. have legalized cannabis for medical use (see Appendix 3). Moreover, states of Alaska, Colorado, Oregon, Washington and cities of Portland, South Portland, Michigan, Maine and Keego Harbor have legalized not only cannabis for medical purposes but also for recreational use. In total, only 22 U.S. states have remained stringed in their position against cannabis. Nevertheless, at federal level the U.S. has not deliberated its restrictive policy regarding cannabis. Since the U.S.-wide there exist so different cannabis legislations and law based regulations, it is important to observe the most significant of them and analyze, which approach is the most suitable for appropriate cannabis regulation. In order to be able to carry out such analysis, the author will evaluate states of Colorado and Washington - the first two of the U.S. states and jurisdictions worldwide that have legalized cannabis and started to regulate its market.

2.3 State of Colorado

2.3.1 History and current cannabis legislation

Colorado state legislative history regarding cannabis begun in 1917, when its local government made the possession and cultivation of the respective substance a criminal offence. In 1975 Colorado along with such states as California, Mississippi, New York and others decriminalized cannabis based on president Nixon's administration federal commission report of 1972[96] (other known as Shafer Commission). The most significant recommendation of this report was to decriminalize the possession and non-profit transactions related to cannabis. During the existence of the Shafer Commission it administrated the most comprehensive control mechanism of cannabis in the U.S. history. Colorado state government ruled that personal possession of 28.35 g of cannabis would be fined with $100 penalty and possession or any transaction with more than 28.35 g of cannabis would we counted as harsh offence.

However, the times were changing and in 2000 Colorado voters with 54% of the vote passed the legalization of medical cannabis. The Amendment 20, other known as Medical Use of Marijuana Act was adopted and came into force[97]. This amendment allowed people with "debilitating medical condition"[98] cultivation, possession and use of cannabis. The Act defined that patients are authorized to possess 28.35 g of cannabis and cultivate up to 6 plants. Cannabis legislation also set limit of THC potency of the

[96] CSDP Research Report. *Nixon Tapes Show Roots of Marijuana Prohibition: Missinformation, Culture Wars and Pejudice*, 2002. Available on: http://www.csdp.org/research/shafernixon.pdf. Accessed in April 13, 2016.
[97] Miscellaneous Art. XVIII, Section 14. *Medical use of marijuana for persons suffering from debilitation medical conditions*. Available on: https://www.colorado.gov/pacific/sites/default/files/CHEIS_MMJ_Colorado-Constitution-Article-XVIII.pdf. Accessed in April 13, 2016.
[98] *Ibid.*

edible cannabis products - 10 mg of THC per serving and maximum 100 mg per package. The system was administered by Colorado Department of Public Health and Environment (CDPHE), which on a patient's request issued cannabis permits based on a specialist's recommendation[99]. In the first years of medical cannabis legalization its use did not change dramatically, however, starting from 2009 the use of medical cannabis increased.

In 2010 House Bill 1284, which legalized medical cannabis centers, cannabis cultivation and manufacturing of edible products consisting cannabis[100] came into force. By 2012 there were 532 licensed centers statewide and 108.000 officially confirmed patients with legal access to medical cannabis[101]. Finally, in November 2012 Colorado voters with 55% in favor of the Amendment 64 legalized cannabis in the state of Colorado for recreational use. This amendment allowed persons over the age of 21 to cultivate, possess and use cannabis for recreational purposes. The amendment set limits of possession to no more than 28.35 g per person on a single transaction and allowed growing of no more than 6 cannabis plants. The new regulation also authorized cannabis vendor stores, cultivation and testing places as well as edible manufactures[102]. The amendment stated that cannabis production must be taxed similarly as it is done by the alcohol, and the first $40 million of the annual revenue shall be used for funding public school construction and renovation[103].

In early 2013 the Governor Hickenlooper developed House Bill 13-1325, which regulated more precisely the details of allowed cannabis consumption. First, it defined that maximal limit of THC in a driver's blood could not exceed 5 ng (nanogram) per ml of blood. Second, it stated that non-resident of the state was not allowed to buy more than 7 g of cannabis in one transaction. Third, it suggested proposing referendum regarding the desirable tax rate on the respective substance[104]. In September 2013 the Colorado Department of Revenue enforced final regulation of recreational cannabis commercial transactions. This document mostly regulated issues related to such disciplines as licensing (premises, entities), storage and transportation, record keeping

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[99] Rocky Mountain HIDTA report. *The Legalization of Marijuana in Colorado*, 2013. Available on: http://www.rmhidta.org/html/final%20legalization%20of%20mj%20in%20colorado%20the%20impact.pdf. Accessed in April 13, 2016.

[100] Second Regular Session Sixty-seventh General Assembly of State of Colorado. *A bill for an Act concerning regulation of medical marijuana*. Available on: http://www.leg.state.co.us/clics/clics2010a/csl.nsf/fsbillcont/0C6B6577EC6DB1E8872576A80029D7E2?Open&file=1284_01.pdf. Accessed in April 13, 2016.

[101] *Supra* note 99, p. 4.

[102] Amendment 64. *Use and Regulation of Marijuana*. Available on: http://www.fcgov.com/mmj/pdf/amendment64.pdf. Accessed in April 13, 2016.

[103] *Ibid*.

[104] First regular session sixty-ninth general assembly of state of Colorado, House Bill 13-1325. Available on: http://www.leg.state.co.us/clics/clics2013a/csl.nsf/billcontainers/746F2A0BF687A54987257B5E0076F3CD/$FILE/1325_rer.pdf. Accessed in April 13, 2016.

and inventory, advertisement, marketing, packaging and, of course, medical differentiation between various types of cannabis[105].

In late 2013 so called "Proposition AA" on retail marijuana tax was passed and adopted by 65% of Colorado voters in favor. It mainly proposed four important recommendations on cannabis taxation rates and the advisable purposes for utilization of the respective tax revenue. Firstly, it suggested applying 15% state tax on the average sales price when cannabis is first sold. The annual revenue of the first $40 million shall be invested in the public school construction and renovation. Secondly, it enforced 10% state sales tax on retail cannabis and it consisting products, additionally taking into account the existing 2.9% state sales tax. The earnings from this position shall be devoted to cannabis industry related education, information, health and public safety expenditure. Thirdly, the proposition suggested that 15% of the income earned form the 10% state sales tax should be devoted to cities and locations, where the actual retail of cannabis took place. Fourthly, the state is allowed to increase tax rate on cannabis as long as the rate of either tax is not higher than 15%. In addition, the state of Colorado also introduced different fees for diverse positions:

- *Application fee* for cannabis vendor store, growing facility, production - $5.000, for testing facility - $1.000;
- *License fee* for cannabis vendor store - $3.000, for cultivation facility - $2.200, for cultivation of plants (2.601-6.000 plants) - $.4000, for cultivation of plants (6.001-10.200 plants) - $8.000, for production - $2.200, for testing facility - $2.200;
- *Renewal License Fee* for retail, cultivation, production and testing the base license fee + renewal fee of $300
- *Renewal License fee* for cultivation of plants (2.601-6.000 plants) and (6.001-10.200 plants) the base license fee + doubled renewal fee ($600).
- *Administrative fees*
    - Transfer of proprietorship - New owners- $2.000;
    - Transfer of proprietorship - Reallocation of proprietorship- $800;
    - Change of Corporation of LLC structure per person - $800
    - Change of trade name - $40;
    - Change of location applicant fee - $500;
    - Modification of license premise - $120;
    - Duplicate business license - $40
    - Duplicate occupational license - $10
    - Indirect financial interest background investigation - $150;
    - Off premise storage permit - $2.200;

[105] Colorado Department of Revenue. *Permanent Rules Related to the Colorado Retail Marijuana Code*, 2013. Available on: https://www.colorado.gov/pacific/sites/default/files/Retail%20Marijuana%20Rules,%20Adopted%20090913,%20Effective%20101513%5B1%5D_0.pdf. Accessed in April 13, 2016.

- Subpoena fee - $200[106].

In general, this comprehensive fee and tax system both gives more freedom to cannabis market and in the same time limits its extent by maximizing the control measures. In this way the government of Colorado tries to kill two birds with one stone- gain the maximal potential benefit from the respective industry and keep the cannabis policy "public health friendly".

2.3.2 State law in conflict with federal legislation

Possibly the largest challenge dealing with the development and adoption of the Colorado cannabis law has been its inconsistency with the federal legislation, especially with the CSA. The U.S. federal Department of Justice was concerned about Colorado new initiative and requested to cooperate in three fields:

- continued enforcement of CSA;
- banking system accessibility to the cannabis business;
- federal business expense tax adaption to the cannabis business.

Regarding the first criterion of CSA, the state of Colorado undertook to ensure robust cannabis policy and respect such requirements as:

- minor prevention from cannabis use;
- combat against criminal bodies in cannabis business;
- prevent state-authorized activity regarding any kind of trafficking or any other illegal activities;
- penalize and exclude driving under influence (in this case cannabis);
- prevent public cannabis use and ensure environmental safety.

Due to the risk of money laundering and other illicit activities, the federal government required Colorado to ensure that the cannabis business would have access to banking system. This requirement would also help state authorities to control the cannabis business, their accounts, revenues and audit tax payments. In 2014 the U.S. Treasury Department's Financial Crimes Enforcement Network (FinCEN) published guiding principles to explain Bank Secrecy Act (BSA) and its capacity dealing with cannabis related business. FinCEN also created stricter obligations regarding Suspicious Activity Reports (SARs) for the financial institutions dealing with cannabis industry.

Regarding the third issue related to taxation, cannabis business possessed higher taxable income. To avoid any shortcomings, Colorado with its House Bill 13-1042[107] ruled that starting from 2014 the cannabis business entities would be able to claim a state income tax deduction for business expenses that are also appropriate to be

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[106] 2013 State Ballot, Proposition AA. *Retail Marijuana Taxes*. Available on: https://www.colorado.gov/pacific/sites/default/files/2013%20Blue%20Book%20ENGLISH%20INTERNET.pdf. Accessed in April 13, 2016.

[107] First regular session sixty-ninth general assembly of state of Colorado, House Bill 13-1042. Available on: http://www.leg.state.co.us/clics/clics2013a/csl.nsf/fsbillcont/D12657F864EC4B2F87257AEE0058844F?Open&file=1042_01.pdf. Accessed in April 14, 2016.

claimed as federal income tax deduction[108]. The Image 3 presents detailed distribution of Colorado cannabis tax structure.

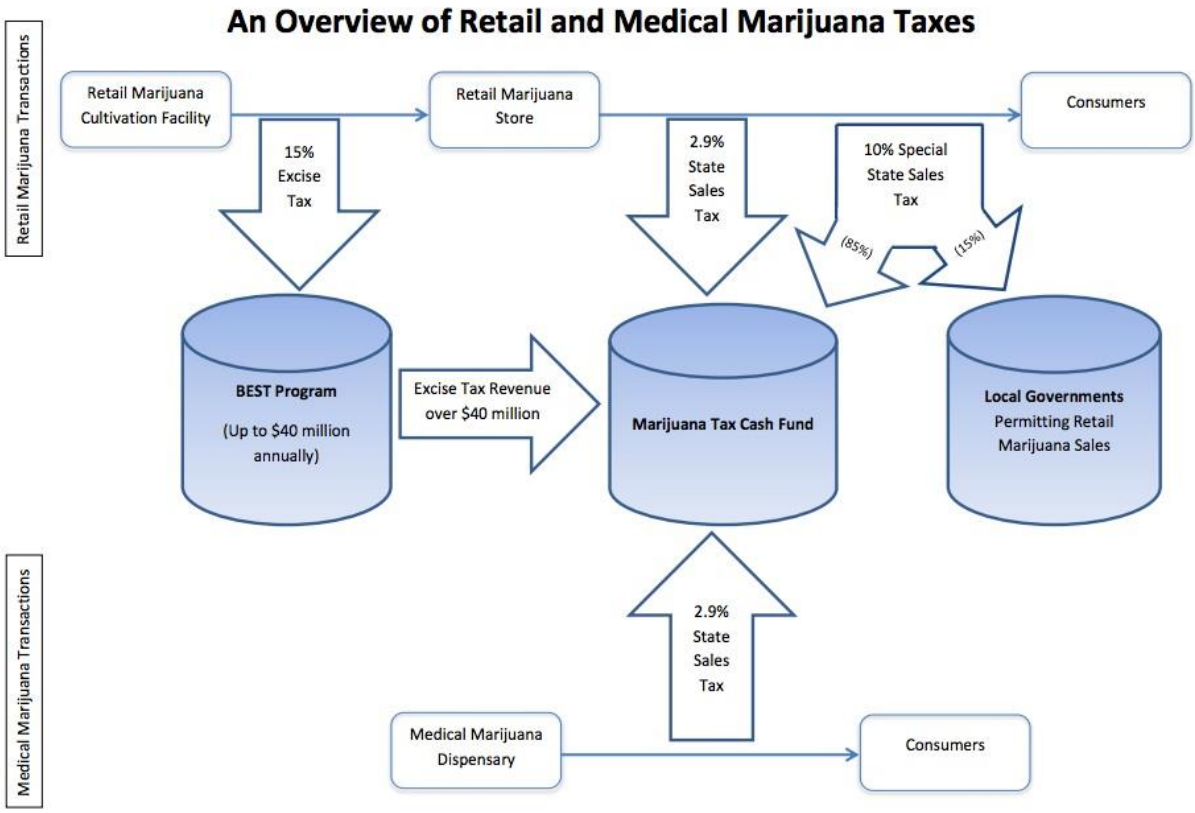

Image 3. Source: Office of Marijuana Coordination, Colorado.

[108] D. Blake, J. Finlaw, "Marijuana Legalization in Colorado: Learned Lessons", *Harward Law and Policy Review*, pp. 361-380.

2.3.3 An insight into economic aspects

The medical cannabis was imposed by *2.9% state sales tax*, from which the revenue goes to the Marijuana Tax Cash Fund (MTCF). This fund is responsible for investment in cannabis regulatory mechanisms improvement and other costs connected to the respective substance. In January 2016 Colorado earned $897.973[109] from the medical cannabis taxation.

The recreational cannabis was imposed by three different tax rates. First, there *is regular state sales tax of 2.9%*, which in January 2016 composed $1.584.113 earning of the state of Colorado. In total, in January Colorado earned $2.482.086 form the state sales tax. Comparing to January 2015, when the total state sales tax on cannabis reached $1.874.283, the revenue has increased by 51.6%. In total, in 2014 the sales tax revenue on cannabis was $12.219.878, in comparison with 2015, when the state earning reached $17.930.141, there has been substantial increase of 46.7%. These data allows us to forecast that in 2016 the state sales tax revenue increase will continue.

Next tax rate, which was imposed to the retail cannabis, is *10% special state sales tax (or retail marijuana sales tax)*, from which the revenue is also delivered to the MTCF. The *retail marijuana sales tax* consists of three components - local government distribution (15% of total), marijuana tax cash fund transfer (85% of total) and collections not yet allocated. In 2014 the total retail cannabis sales tax revenue was $21.341.444, whereas in 2015 it reached $36.906.479 creating 72.9% increase in comparison with the previous year[110]. The third tax rate group is *retail marijuana excise tax* of 15%. This tax rate also consists of three main components - public school capital construction assistance fund transfer, marijuana tax cash fund transfer and collections not yet allocated. In 2014 the excise tax revenues reached $10.326.161, whereas in 2015 it peaked to $21.390.975, which was 107.2% more than in last year. Additionally, there is duty on licenses and fees, which in 2014 earned $8.682.599 state income and in 2015 $9.047.776 (4.2% rise in comparison with the previous year). In total, state earnings from cannabis taxation in 2014 were $52.570.081 ($39.033.365 devoted to cash fund transfers) whereas in 2015 it peaked to $85.275.371 ($58.451.059 into cash funds). In other words, in period 2014-2015 the total state income from cannabis tax, licenses and fees increased by 62.2% and the investment devoted to the different funds in the respective period increased by 49.7%[111].

Cannabis tax revenue apportionment can be observed in the Chart 1 below. The largest proportion of the funding of $14.4 million was spent for regulatory supervision, more than a quarter of the funds was devoted to preventative measures regarding youth use of cannabis ($10.9 million). Almost a fifth of the revenue or $7.5 million was used for treatment facilities and programs, 16% or $7 million were used for public

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[109] Colorado Department of Revenue. Colorado Marijuana Tax Data, January 2016. Available on: https://www.colorado.gov/pacific/revenue/colorado-marijuana-tax-data. Accessed in April 13, 2016.
[110] *Ibid*.
[111] *Supra* note 109.

health and the rest were used for law enforcement, public safety and administrative coordination.

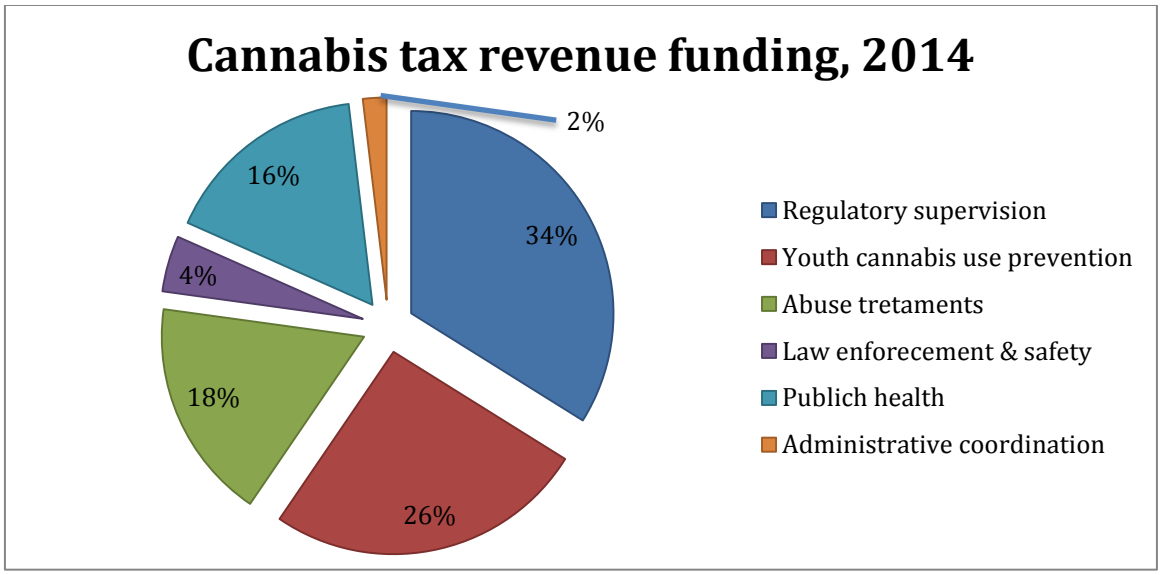

Chart 1. Source: Department of Revenue Funding, Colorado.

2.3.4 Cannabis prevalence

Based on statistics from 2013-2014, 7.22% of the teenagers aged 12-17 in the U.S. consumed cannabis in the previous month, in comparison, in Colorado these data reached 12.56%. Cannabis use in Colorado among 12 to 17 year-olds has changed a little in period 2012-2014 (11.16% in 2012 and 12.56% in 2014). Compared to U.S. wide data - the average past month use of cannabis reaches 7.15% of the 12-17 year-olds. Risk of harm from smoking cannabis once a month data, however, in Colorado is on average lower than U.S. wide and in period 2012-2014 have increased. In 2012 the risk in Colorado was estimated to be 19.58 (U.S. wide 25.34) and in 2014 the risk was even lower in Colorado reaching 17.04 (23.54 on average in the U.S.). This trend shows that even with the relaxed cannabis policy the youth health harm does not increase in Colorado. In other words, the state's preventative measures and public health protection policy is showing positive effect on youth protection from the potential cannabis harm. The data from the National Survey on Drug Use and Health reveal that Colorado is among those states where cannabis level of use has remained unchanged in period 2012-2014[112].

[112] Substance Abuse and Mental Health Service Administration CGHSQ Report, 2015. Available on: http://www.samhsa.gov/data/sites/default/files/report_2121/ShortReport-2121.pdf. Accessed in April 14, 2016.

2.3.5 Prevention

Colorado cannabis preventative measure policy works from different angles. First, the state has prohibited commercialization of cannabis industry. Promotion, advertising and marketing is strictly limited, in many occasions even prohibited. This policy comes from the previous experience with the alcohol and tobacco, where the commercials and promoting campaigns were made appealing to the public, especially the youth and encouraged them to sample the respective products. Another reason behind this prohibition is the previous experience with tobacco products, where the softly regulated industry expanded enormously and gained overwhelming power over law and policy makers by lobbying and corruption.

Another important aspect of preventative measures is to prevent juvenile consumption. As the young people are at higher risk of abuse and other harmful effects it is crucial to prevent them from early use of the respective substance. It is also believed that the adolescents more often mix different substances and are willing to sample cannabis with high level of THC. This argument also speaks against cannabis market share of edibles, which are frequently made in form of candies and the user cannot evaluate how much of the active substance he/she is actually consuming. As Colorado legislation permits the production and sale of such edibles, their availability to the youth is very controversial issue. The state of Colorado also regularly monitors the latest statistical data about cannabis prevalence among adolescents and act accordingly to the results.

2.3.6 Advantages of the cannabis legislation in Colorado

The largest advantage of Colorado cannabis regulation is its detailed tax system and tax revenue investments into problematic public fields. The differentiated, proportional tax rates and distinguished tax regime of cannabis for medical and for recreational purposes show that it is possible to create proportionate and considerate cannabis taxation, which in the same time benefits other fields, such as medicine and education. Colorado also sets successful example how taxation can decrease the black market and the importance of criminal organizations regarding cannabis industry.

One of the benefits of legalizing cannabis is the decrease of unemployment, which is observed taken into account the annual statistics. The data of the U.S. Bureau of Labor statistics reveal that the unemployment is steadily decreasing from the year when cannabis was legalized (in October 2015 unemployment rate was 3.6%, in the March 2016 it dropped to 2.9%). In other words, the more people are employed, the faster is the state's economy growing and developing. This tendency shows that Colorado is one of the fastest growing state economies in the U.S. and, taking into account its future potential, the growth rates are believed to increase. All and all, the tendency of economic expansion and no serious harmful side effects of the cannabis legalization can be potentially strong reason for other states to reconsider their attitude towards the respective substance.

After the legalization of cannabis it related arrests have dropped. The reason, of course, is that the retail, cultivation and possession of certain amount of cannabis and it related products are legally allowed. This means that the judicial and police system can focus its resources on more complex and more serious issues such as combating organized crime or street gangs. Data about other crimes with indirect (or possible) cannabis involvement are contentious. The official Colorado crime statistics shows that the violent crime rates in Colorado are lower than the average U.S. rates and there have been no significant changes in the rates after the legalization of cannabis (in 2010 323.2, in 2012 302.0, in 2014 305.7 crimes per 100.000). This means that, basically, the overall crime situation in Colorado has not changed or even has improved after the legalization of cannabis.

2.3.7 Loopholes of the cannabis policy in Colorado

One of the unsolved issues regarding use of cannabis is driving under influence of the respective substance. Since 2012 when Colorado legalized commercial transactions with cannabis the statistical data have been divisive and in many categories unpromising. Although the overall fatalities on roads have not changed significantly, the proportion of cannabis-involved fatalities in period 2011-2014 has increased by 4%. The number of all drivers tested positive for drug use the cannabis related proportion also increased in period 2010-2014 form 56% to 68% of all drug positive tested drivers[113].

This tendency shows the need for better information for drivers, stricter regulation and fine system for those who are caught driving under cannabis influence. The system should be created similarly as to the one regulating the alcohol consumption and use behind the wheel.

Another typical problem is to determine precise THC concentration in blood. The THC testing methods are more complex that those used in alcohol control and, similarly to alcohol, cannabis has different effects to different individuals over time. Setting allowed THC limits is not enough if the control is not comprehensive and does not involve police force and their training to recognize potential drug influenced drivers.

Amendment 64 and Amendment 20 have created a gap in Colorado cannabis policy regarding medical cannabis and its caregivers. Colorado Department of Public Health and Environment defines "primary caregiver" as

> Person other than the patient and the patient's physician, who is eighteen years of age or older and has significant responsibility for managing the well-being of a patient who has a debilitating medical condition[114].

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[113] Colorado Department of Transportation, Drugged Driving Statistics. Available on: https://www.codot.gov/safety/alcohol-and-impaired-driving/druggeddriving/drugged-driver-statistics. Accessed in June 7, 2017.

[114] Colorado Department of Public Health and Environment, proposed amendments to 5 CCR 1006-2, Medical Use of Marijuana, 2014. Available on: https://www.colorado.gov/pacific/sites/default/files/MMR%20HRG%20Packet%208.8.14.pdf. Accessed in April 14, 2016.

A caregiver is officially allowed to cultivate 6 cannabis plants on behalf of the each registered medical cannabis patient. Due to this ambiguity in legislation, there are operating many unlicensed cultivation places claiming to be caregivers and developing new form of black market. However, if such plantation is caught it can be easily charged because of the facts that in Colorado legislation one caregiver is allowed to have no more than five patients and for each patient are allowed no more than 6 cannabis plants. Theoretically, if the caregiver himself has a permit to cultivate 6 cannabis plants, in total he/she can grow up to 36 plants of cannabis.

Another form of innovative cannabis cultivation within the legal framework is development of so called "cooperatives". The idea behind this model is to gather as many over 21-year-olds together and make an agreement to cultivate allowed amount of cannabis plants (6 per person) in order to maximize the return on investment. This method falls under "home cultivation", which in Colorado is unregulated. Theoretically, such cooperatives could become larger and even outcompete the official cultivation facilities. The government of Colorado should pay additional attention to such communities and control whether such cooperatives pay license costs and are appropriately regulated.

In addition, in 2014 state financed study "Market Size and Demand for Marijuana in Colorado" carried out by the Marijuana Policy Group for the Colorado Department of Revenue's Marijuana Enforcement Division. The research revealed unpleasant data regarding cannabis consumption - in 2014 cannabis demand reached 130 metric tons, in the same time the legal cannabis market could only account for 77 metric tons[115]. This data discrepancy shows that the illegal cannabis related transactions have not been interrupted and the black market is still present. In context with the above stated facts, this black market share could be supplied with the unregulated home growths.

Other Colorado surrounding states are affirming that the local cannabis legislation in Colorado is in conflict with their cannabis law and, in general, does not comply with the federal law. In late 2014 states of Nebraska and Oklahoma claimed U.S. Supreme Court to annul Colorado legislation Amendment 64 regarding cannabis legalization[116]. Both states argued that by cannabis legalization and commercialization Colorado has infringed federal law and jeopardizes other states' policies against cannabis. In addition, cannabis, which is legal in Colorado but remains illicit in other states, is being trafficked across respective state borders thereby damaging other states. The U. S. Supreme Court refused to hear this lawsuit as argument mentioning that cannabis policy is intra-state decision of Colorado and both states of Nebraska and

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[115] Colorado Department of Revenue. *Market size and demand for marijuana in Colorado*. Available on: https://www.colorado.gov/pacific/sites/default/files/Market%20Size%20and%20Demand%20Study,%20July%209,%202014%5B1%5D.pdf. Accessed in April 18, 2016.

[116] Supreme Court of the United States, Nebraska, Oklahoma v. Colorado. Available on: https://www.ok.gov/oag/documents/NE%20%20OK%20v%20%20CO%20-%20Original%20Action.pdf. Accessed in April 14, 2016.

Oklahoma have no rights to intervene into the legislation of Colorado. The solicitor G. D. Verrilli added, that Nebraska and Oklahoma cannot prove the fault of Colorado for injuring their sovereign interest nor can they prove that Colorado as a state entity has authorized any individual to traffic/transport cannabis in their territories.

All in all, Colorado has created its own cannabis policy and control standards. Its government has critically considered all the pros and cons and has chosen to have more flexible approach regarding the respective substance.

2.4 State of Washington

2.4.1 History and existing cannabis legal framework

The first official state level legislative document related to cannabis was presented to the public in 1998 and was called Initiative 692 or other known as Medical Use of Marijuana Act[117]. This initiative was approved by 59% of voters[118] and the act acknowledged that "some patients with terminal or debilitating illnesses, under their physician's care, may benefit from the medical use of cannabis"[119]. In other word, the initiative legalized medical cannabis for personal use with requirements that the person has received permit form the physician and cannabis is supplied up to 60-days.

In 2007 the State of Washington Department of Health in Senate Bill 6032 stated more precise rules of quantity for 60-day supply of medical cannabis[120]. It also stated the health conditions and disease parameters for which cannabis use was legal. In 2009 the State of Washington adopted another Senate Bill 5798 that expanded the list of professionals who were authorized to prescribe medical cannabis[121]. In addition, in 2011 the Senate Bill 5073 was adopted.[122] This Senate Bill established regulatory requirements for licensed production and distribution of medical cannabis.

The most important breakthrough came in 2012 when the residents of Washington passed Initiative 502, which legalized cannabis for recreational use for

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[117] State of Washington, U.S. Initiative 692 (Medical Use of Marijuana Act), 1998. Available on: https://www.sos.wa.gov/elections/initiatives/text/i692.pdf. Accessed in April 18, 2016.

[118] Washington State Senate. *History of Washington State Marijuana Laws*. Available on: http://www.ncsl.org/documents/summit/summit2015/onlineresources/wa_mj_law_history.pdf. Accessed in April 18, 2016.

[119] *Supra* note 117, Section 2 "Purpose and intent".

[120] State of Washington. Senate Bill 6032, 2007. Available on: http://lawfilesext.leg.wa.gov/biennium/2007-08/Pdf/Bills/Senate%20Bills/6032.pdf. Accessed in April 18,2016.

[121] State of Washington. Senate Bill 5798. Available on: http://lawfilesext.leg.wa.gov/biennium/2009-10/Pdf/Bills/Senate%20Bills/5798.pdf. Accessed in April 18, 2016.

[122] State of Washington. Senate Bill 5073. Available on: http://lawfilesext.leg.wa.gov/biennium/2011-12/Pdf/Bills/Senate%20Bills/5073.pdf. Accessed in April 18, 2016.

adults reached 21 years[123]. This initiative established tight regulatory framework of cannabis licensing, taxation, cultivation, distribution and possession. The packaging, labeling and other cannabis related activities had to be coordinated under the state's law[124]. All the taxation, fee and licensing related income should create a "dedicated marijuana fund", which then would devote its resources to "education, health care, research and substance abuse prevention[125].

The Initiative 502 stated that person, who is 21-years-old or more, is allowed to deliver, distribute and sale following amounts of cannabis and it related products:

- up to one ounce (approx. 28 g) of smokable cannabis;
- up to 16 ounces (456 g) of solid edible;
- up to 72 ounces (2 kg) of liquid edible and
- up to 0.24 ounces (6.8 g) concentrates[126].

Individuals are allowed to cultivate no more than 15 medical cannabis plants in a housing unit if he/she has received an official permit, otherwise, house cultivation remains illegal. Any kind of consumption of cannabis in public is also prohibited and can be panelized by up to $100 fine. The Initiative 502 also regulates driving under drug (in this case) cannabis influence. Any individual who is driving a motor vehicle is prohibited to consume cannabis if the concentration of THC in blood exceeds 5 ng to 1 ml or if the individual shows apparent behavior signs of intoxication[127]. In Washington cannabis is allowed in smokable, concentrated and edible state of aggregation, except the edibles that are appealing to children like colorful candies and cookies.

State of Washington also regulated the THC potency in the cannabis products. For edible products the limit is 10 mg per serving and maximum 100 mg per package. Other products have limit of 60% of THC per unit of the respective substance. In 2015 Washington supplemented existing cannabis legal framework with several clarifications. First, the Senate Bill 5052[128] applied the legislative mechanism, developed in Initiative 502, to the poorly regulated medical cannabis market, which required cannabis vendors to obtain permit in order to be able to sell medical cannabis to lawfully qualified patients[129]. The new regulation also replaced uncontrolled cannabis dispensaries with maximum four-member cooperatives starting from the July 1, 2016, which must be registered with the Liquor and Cannabis Board (LCB)[130]. In addition, Senate Bill 5121 of

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[123] State of Washington. Initiative Measure No. 502, 2012, Section 1(3). Available on: http://sos.wa.gov/_assets/elections/initiatives/i502.pdf. Accessed in April 18, 2016.
[124] *Ibid*, Section 4.
[125] *Supra* note 123, Section 1(2).
[126] *Supra* note 123, Section 15(3).
[127] *Supra* note 123, Section 31.
[128] State of Washington. Final Bill Report 2SSB 5052, 2015. Available on: http://lawfilesext.leg.wa.gov/biennium/2015-16/Pdf/Bill%20Reports/Senate/5052-S2%20SBR%20FBR%2015.pdf. Accessed in April 18, 2016.
[129] *Ibid*, p. 3.
[130] *Supra* note 128, p. 4.

January 2015 developed licensing system of cannabis cultivation and possession for research purposes[131]. The first two educational institutions that obtained the permits were University of Washington and Washington State University. House Bill 2136[132], however, deals with the cannabis taxation regulation. Originally, the effective cannabis tax rate consisted of several positions that summed up in total of 44%[133]. The new regulation diminished the total tax rate and combine producer, processor and retailer tax into tax of 37%, which is paid by the retail customer. The changes in taxation were maid due to the fact that the previous structure hindered retailers from claiming the tax as business expenditure. The medical cannabis patients receive sales and tax exemptions. The tax revenue must also be shared with the local municipality similarly as it is done by the alcohol tax. Additionally, the state has introduced following fees applicable to the cannabis transactions:

- application fee for producer, processor and vendor - $250 each;
- annual fee issuance and renewal for producer, processor and vendor - $1.000 each;
- administrative fees for change of location or proprietorship - $75 each[134].

2.4.2 An insight into economic aspects

The actual purchase of recreational cannabis in Washington started in June 2014 and in the first month the sales reached $3.8 million and approx. $1 million in tax revenue[135]. In November 2014 tax revenues reached $0.24 million in local sales tax, $0.65 million in state B&O taxes and $0.65 million in state retail taxes, in total the cannabis tax revenue in November 2014 reached $1.5 million (this tax income is additional to the excise tax income)[136]. In period from January 1, 2014 to June 30, 2015 the cannabis sales reached

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[131] State of Washington. Senate Bill 5121, 2015. Available on: http://lawfilesext.leg.wa.gov/biennium/2015-16/Pdf/Bills/Senate%20Bills/5121.pdf. Accessed in April 18, 2016.

[132] State of Washington. State Bill 2136, 2015. Available on: http://lawfilesext.leg.wa.gov/biennium/2015-16/Pdf/Bills/House%20Passed%20Legislature/2136-S2.PL.pdf. Accessed in April 18, 2016.

[133] J. Henchman, "Taxing Marijuana: The Washington and Colorado Experience". Tax Foundation, 2014. Available on: http://taxfoundation.org/sites/taxfoundation.org/files/docs/FF437.pdf. Accessed in April 18, 2016.

[134] Commonwealth of Massachussetts. Report of the Special Senate Committee on Marijuana, 2016. Available on: http://www.telegram.com/assets/pdf/WT1817038.PDF. Accessed in June 7, 2017.

[135] *Supra* note 132, p. 4.

[136] State of Washington, Department of Revenue. Available on: http://dor.wa.gov/content/home/. Accessed in April 18, 2016.

$259.5 million and the total tax revenue increased to $64.9 million[137]. This is an enormous increase compared to the first months of legal cannabis sale data.

Currently there are 317 licensed vendor places statewide and average daily sales reach $2.9 million. Moreover, in fiscal year 2015 the total sales were estimated $259.8 million, from which the tax income reached $64.9 million. The forecast calculation of 2016 reveals that the total sales volume will reach $702.9 million and tax income will be $134.8 million. In the Image 4 there is given data with total sales and tax income monthly. The volume of sales is increasing every month and the forecasted data is believed to reach even higher volume of sales.

2.4.3 Prevalence

Washington State Health Youth Survey (WSHYS) data in period 2006-2012 revealed no significant change in cannabis use among students in 6th to 10th grade. The situation however was different for 12th graders, where the consumption of cannabis was increased by 4% in period 2006-2012[138]. The newest data from National Survey on Drug Use shows that in period 2012-2013 in Washington on average 9.81% of adolescents aged 12 to 17 had consumed cannabis in the past month and in period 2013-2014 this number was estimated to be 10.06%. In comparison, across the U.S. the average youth share that had used cannabis in the past month was 7.22%[139].

Substance Abuse and Mental Health Service Administration (SAMHSA) data reveals comprehensive 12-year observation of cannabis use tendencies in across the U.S. and in the states separately (see Appendix 4). From these data we can observe that, even though the cannabis consumption in Washington has been higher than the average of the U.S. data, the prevalence of cannabis among youth has not changed significantly before the legalization of cannabis and after. For example, cannabis past year consumption was 17.64% among 12-17 year olds in 2002-2003, however, in 2013-2014 the consumption has even slightly diminished to 17.53%. First use of cannabis among 12-17 year olds has also declined from 7.14% in 2002-2003 to 6.7% in 2013-20114. In other words, the main goal of children and youth prevention measures against the cannabis early consumption has been successful fulfilled, even though the legislative system has become more flexible regarding the prohibitive cannabis control mechanism. In the adult cannabis use the trends have not changed significantly. The only exception is the age group of 45 to 64, where the increase of past month use of cannabis changed form 4% in 2011 to 7% in 2013, which equals to 33% annual rise[140].

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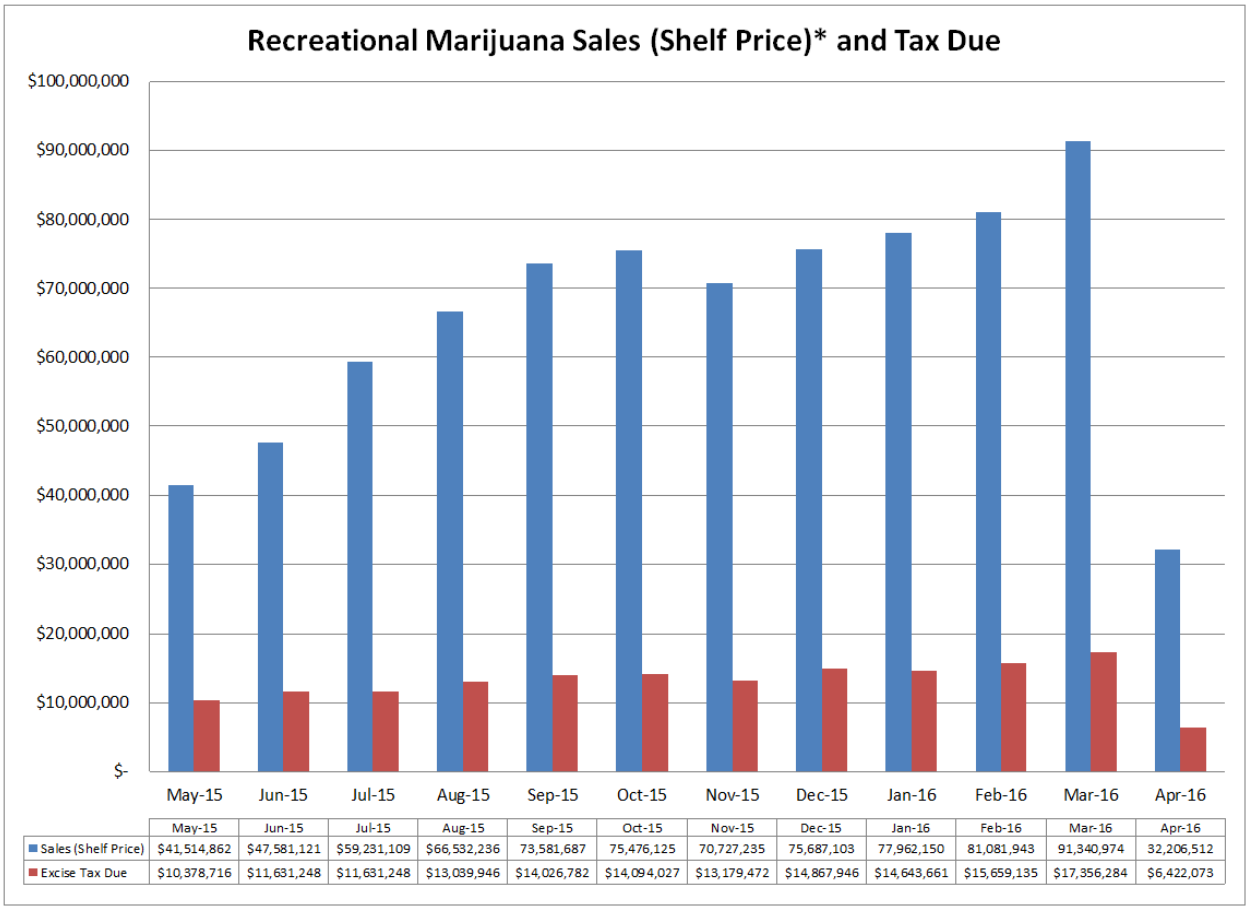
[137] Washington State Liquor and Cannabis Board. Marijuana Sales Activity, fiscal year 2015. Available on: http://www.liq.wa.gov/records/frequently-requested-lists. Accessed in April 18, 2016.

[138] Washington State Department of Health. WSHYS Reports. Available on: http://www.doh.wa.gov/DataandStatisticalReports/DataSystems/HealthyYouthSurvey/Reports. Accessed in April 19, 2016.

[139] *Supra* note 111.

[140] *Ibid*.



	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16
Sales (Shelf Price)	$41,514,862	$47,581,121	$59,231,109	$66,532,236	73,581,687	75,476,125	70,727,235	75,687,103	77,962,150	81,081,943	91,340,974	32,206,512
Excise Tax Due	$10,378,716	$11,631,248	$11,631,248	$13,039,946	$14,026,782	$14,094,027	$13,179,472	$14,867,946	$14,643,661	$15,659,135	$17,356,284	$6,422,073

Image 4. Source: Washington State Liquor and Cannabis Board http://lcb.wa.gov/printpdf/marj/dashboard.

2.4.4 Prevention

The state of Washington had to accept the same federal level criteria in fight with cannabis as the state of Colorado and, additionally, it established its own prevention mechanism.

The largest share of preventative measures funding is planned to be financed from the cannabis tax income. The main state institution responsible for the coordination of the measures is Washington State Department of Health (WSDH). When cannabis was legalized by Initiative 502 in 2012 the WSDH developed its implementation plan[141]. The first funding form the state's government was received in 2015 and in total for the period 2015-2017 the funding was expected to reach $19 million. In accordance with the preventative and informative campaign program the WSDH in cooperation with Department of Social Health Services (DSHS) developed Community Grant Program for

[141] Washington State Department of Health. Initative 502 Implementation Plan (draft). Available on: http://www.theathenaforum.org/sites/default/files/DBHR_implementation%20for%20initiative%20502%20mandates_Final.pdf. Accessed in June 7, 2017.

educational institutions with high risk of cannabis abuse. This program gives opportunity to apply for grants intended to adoption of informative campaigns and prevention programs related to drug free extra curriculum activities and other alternative activities. Another goal is to created comprehensive media campaign. The target audience is set to be youth in age of 12-20, parents, and pregnant/breastfeeding mothers. The main campaign message is to encourage open discussions about cannabis and to promote health and active lifestyle choices.

In general, the institutions of Washington have carried out the necessary preventative measures to assure that the public health system faces possible low harm level of the new drug policy. They specially focus on youth and it related informative campaigns to ensure that young people do not jeopardize their health.

2.4.5 Cannabis policy advantages in state of Washington

As mentioned before, the state of Washington supports and encourages cannabis, it related products and their potential therapeutic value further research. The Senate Bill 5121, adopted in March 2015, clearly states that special permits are available for:

- testing cannabis, its structure and potency;
- research of further cannabis therapeutic qualities and potential use in medicine;
- research on most effective and well-considerate administrative measures regarding cannabis;
- research on potential genome or agricultural use[142].

Regarding the issue of complex THC presence examination in the blood of suspicious drivers, state's investment in research is already successful because the Washington State University is close to inventing cannabis breathalyzer, which in the future could be used to catch individuals driving under cannabis influence. As the Washington State University Chemistry Professor Herb Hill said about the development of such breathalyzer: "It's taken years, but the goal is in sight"[143].

Similarly to the state of Colorado experience, also in Washington the cannabis related crime rates have dropped significantly. The crime rates are decreased almost in all crime categories and the cannabis legalization has not had a negative impact on overall crime situation in the state[144]. The related factor of the decrease in crime is the reallocation of police forces to more serious and global issues like hard drug, violent crimes, homicide crimes and organized crime/street gangs.

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[142] *Supra* note 131, Section 1. Accessed in April 19, 2016.

[143] Washington State University. *Marijuan Breathalyzer Under Development to Nab Drivers Taking the "High" road*, 2015. Available on: https://news.cas.wsu.edu/2015/12/02/marijuana-breathalyzer-under-development-to-nab-drivers-taking-the-high-road/. Accessed in April 20, 2016.

[144] Washington Association of Sheriffs and Police Chiefs. Crime in Washington, 2014. Available on: http://www.waspc.org/assets/CJIS/ciw%202014%20small.pdf. Accessed in April 22, 2016.

2.4.6 Cannabis policy loopholes and issues

In the state of Washington the traffic fatalities in general have been declining in the time period 2003-2013. The traffic fatalities, involved driver under influence of cannabis in combination with other intoxicating substances has also decreased annually by approx. 4% from 27% in 2004 to 15% in 2013[145]. Moreover, the amount of individuals driving under cannabis influence and involved in traffic fatalities has dwindled form 7% in 2004 to 2% in 2013[146]. Nevertheless, more recent data prepared by the Washington Traffic Safety Commission revealed that in 2014 trend of driving under any kind of cannabis influence has increased and fatality occurrences have increased from 33 in 2013 to 76 in 2014. Drivers caught under only THC influence have been registered in 25 occasions (comparing 12 in 2012) [147] . The traffic fatality data requires further observations in order to be able to forecast the actual trend.

Due to the constrictions between state's and federal cannabis legislation the state has to fulfill federal obligations in many areas, such as Food and Drug Administration, which is normally carried out by the U.S. Department of Agriculture. Another crucial aspect regarding cannabis industry is its relationship with banking system. On the one hand, cannabis is federally illicit drug and banks are prohibited to finance it related products and transactions. On the other hand, in several states, including Washington, cannabis is legal and should have ordinary financial relations with banks. The situation is resulting in basically cash-based transactions that are poorly controlled and regulated. Nevertheless, the state of Washington has developed smaller system of credit unions, although, the transactions are limited to the production level and the retail sales have still remained cash-based.

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[145] Forecasting and Research Division, Washington State Office of Financial Management. *Monitoring Impacts of Recreational Marijuana Legalization, 2015*. Available on: http://www.ofm.wa.gov/reports/marijuana_impacts_2015.pdf. Accessed in April 19, 2016.

[146] *Ibid*.

[147] Washington Traffic Safety Commission. *Driver toxicology Testing and the Involvment of Marijuana in Fatal Crashes, 2010-2014,* p. 47. Available on: http://wtsc.wa.gov/wp-content/uploads/dlm_uploads/2015/10/Driver-Toxicology-Testing-and-the-Involvement-of-Marijuana-in-Fatal-Crashes_REVFeb2016-1.pdf. Accesed in April 19, 2016.

III ANALYSIS AND COMPARISON OF CANNABIS POLICIES IN THE NETHERLANDS, COLORADO AND WASHINGTON

The Netherlands cannabis related policy is very different from the policies that are functioning in the U.S. states of Colorado and Washington. The Dutch attitude towards the respective substance is in many ways ambidextrous and cannot be regarded as legal cannabis market. This policy has many loopholes and does not solve cannabis related issues such as, organized crime and trafficking, harm to public/youth health, drug tourism and others, therefore in the analysis part the author will focus on comparison of Colorado and Washington cannabis policies and only occasionally mention Dutch example.

Cannabis regulation started with development of comprehensive legal framework. The legislative outline was meant to cover all cannabis related issues and properly regulate it related transactions. First common feature of both legislations was to create market where *cannabis for medical and recreational purposes* would co-exist. Both states had already history with decriminalized and legalized medical cannabis regulations, which was complemented with different requirements for retail cannabis consumers. This dual policy in a large extent contributed to the expansion of the grey market. This market uses less regulated medical cannabis policy gaps to produce half-legal output. In Colorado case the flexible definition of "caregiver" and poorly regulated home growing create suitable environment for the grey market. Moreover, the "grey" share of the market creates even greater danger to the existing system because of its uncontrolled nature (high THC potency, unknown fertilizers and other added substances, etc.). In order to be able to obtain medical cannabis, the individual is obligated to own medical card, which has to be renewed annually. This leads patients to a dilemma - to buy recreational cannabis to avoid the annual renewal of the permit or to buy medical cannabis in order to receive lower price (due to the lower tax rate).

The state of Washington, on the other hand, has started to combine both markets. The goal is to develop more transparent regulatory structure and, for instance, force medical cannabis distribution centers to get licensed and under tougher control. Another important difference between both policies is that in Colorado home cultivation of cannabis is allowed but in Washington it remains illicit. In this way Washington strives to maintain the cannabis cultivation and production transparent to the local authorities. In comparison with the Colorado policy, Washington model would most probably create more homogeneous market with, therefore, more effective control mechanism. In addition, as the grey market would fade, the cannabis tax revenue would significantly increase.

Regarding cannabis distribution, sales and the types of products allowed, there are several differences between Colorado and Washington. The state of Colorado has allowed selling all types of cannabis products, including edibles in different variations starting from cookies to candies. For instance, in 2014 in total 4.81 million units of medical and recreational cannabis edibles were sold in Colorado. This fact causes doubts

about edible cannabis products actual harm, because, first, it is harder to estimate the dosage of such cookie or candy and second, its appearance is much more attractive to the youth. Colorado now is willing to set the maximum dosage per serving, however, home cooked edibles are still under no control. In Washington edibles are also allowed only with exception of products appealing to the children.

Another important aspect of cannabis policy is its *regulation of THC potency*. In the concentrates, which are legal in both, Colorado and Washington, the potency can reach THC of approx. 95% but cannabis plant itself can only reach THC level of about 30%. Research carried out by research lab in Denver "CHARAS Scientific" revealed that the average potency of retail cannabis in Colorado is 18.5%, some samples even reached 30% potency of THC. In comparison, the Dutch cannabis policy limits THC potency to maximum 15%, which is significantly lower than in Colorado and Washington.

Both states along with the Netherlands have strictly limited the *commercialization of cannabis industry*. This has been done taking into account the previous experience with the tobacco market and failures of its restriction. In the Netherlands all kinds of promotion, advertising and commercial activities are prohibited. To restrict the commercialization of cannabis market Colorado and Washington are applying different approaches to avoid vertical integration. Colorado policy allows multiple vendor, producer, grower "several links of the chain" system (see Amendment 64). However, Washington policy allows only vendor to hold simultaneously producer, processor and retail licenses (see Initiative 502). In other words Colorado is willing to diversify the cannabis market and does not want to allow developing of monopolies. The state of Washington, alternatively, is willing to keep cannabis market controllably small and does not want to allow the cannabis industry to become fragmented. Both approaches are different and at the moment it is very difficult to forecast which of those two methods will be more successful.

In general, cannabis market is structured similarly as it is done by the alcohol market. For instance, cannabis and it related products are sold in separate places (vendor stores) and no other products are allowed to be sold there. Washington has also limited the statewide amount of cannabis stores to 334 - one store per 20.000 people)[148]. Washington has gone another step ahead and has developed special licensing mechanism and regulations on particular locations, including density and distance from the schools and other adolescent attended places[149]. For instance, the retail place is not allowed to be allocated within 1.000 feet (approx. 300 m) of schools, parks, libraries and other locations. In comparison, Colorado does not strictly regulate the density of the cannabis vendor stores.

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[148] *Supra* note 123.

[149] Canadian Centre of Substance Abuse. *Cannabis regulation: Lessons learned in Colorado and Washington State*, 2015. Available on: http://www.ccsa.ca/Resource%20Library/CCSA-Cannabis-Regulation-Lessons-Learned-Report-2015-en.pdf. Accessed in April 20, 2016.

The least transparent taxation system and revenue utilization was observed in the Netherlands. The country does not make cannabis related data available to public and also has no clear policy how to use the income from the cannabis industry. Colorado and Washington on the other hand, do supply public with the information about the cannabis tax revenues and the plan how to use them. Both states have implemented their tax system based on the sales price, which is not always the most accurate approach. All the taxes by their nature are listed in the Table 3 below.

	Colorado	**Washington**
Tax base	Price, in some occasions weight	Price
Tax type	Excise and sales tax	Sales tax
Excise tax rate	15%	-
Cannabis specific tax rate	10%	37%
General state sales tax rate	2.9%	6.5%
Optional tax rate	Determined by the local government	Determined by the local government
Other fees	(Renewed) licensing, cultivation, distributer, vendor fees	(Renewed) licensing, cultivation, distributer, vendor fees (Renewed) licensing

Table 3.

Additionally, as it is mentioned earlier in the text (part 2.3 and 2.4), both States have their own unique fee system. In comparison, the state of Washington has developed more concise system with less detailed structure. The state of Colorado, in contrast, has introduced complex and very detail-extensive mechanism of applicable fees.

Taking into consideration all the tax and fee requirements, we can observe that Washington in total has higher tax burden, however, Colorado has more massive fee system. Nevertheless, in the time period of July 1, 2014 to June 30, 2015 Colorado earned $87 million in tax income contrary to Washington, which in the same period earned $75 million. These data show that either the tax revenue system is less efficient in Washington or that there still exists a large proportion of the black market production. Truth to be told, the future earnings forecast are more optimistic for the state of Washington. If the cannabis demand is continuing to increase in similar pace as it is observed up to now (parts 2.3.3 and 2.4.3), Colorado could earn $125 million and Washington $163 million in the current fiscal year.

Generally, the cannabis industry relationship with banking sector is not very well developed and has many issues. Banks along with the largest credit card companies Visa and MasterCard are unwilling to participate in cannabis related transactions due to their

impenetrability and reputation of being in the grey zone of economy. However, some smaller banks have agreed to cooperate while also fulfilling the state requirements of due diligence and compliance reporting. If we compare the cannabis industry banking experience in all three locations, the least satisfactory situation is in the Netherlands. As cannabis and it related products are illicit under the official law, banking institutions are prohibited to have any transactions with coffee shops. In other words, the cannabis market is based only on cash related transactions, which are difficult to track and control, especially, regarding the origin of money. The consequences are that cannabis market is place where organized crime can carry out money laundering, illicit trafficking and other black and grey market related transactions.

In contrast, Colorado and Washington have chosen more transparent and accessible cannabis related banking model. At federal level the development of Bank Secrecy Act[150] was turning point in banking relations with the cannabis business. It allows banks to cooperate with cannabis businesses without breaking the federal law. However, in exchange the banks are required to ensure that the cannabis business complies with the federal law. At state level Colorado and Washington have introduced their own financial system. There are three domestic banks and one credit union that maintain the approx. 70% of the cannabis business in Colorado. The state of Washington has also encouraged several credit unions to cooperate with cannabis industry in order to ensure more transparent and controllable business environment.

3.1 Possible improvements of the existing legal control framework

First of all it is crucial that the international organizations and national governments admit that existing control framework is not working properly and the desirable outcome of "drug-free" world is still far from the real situation. However, the changes in the legal regulatory outlines have to be well considerate and made step by step.

3.1.1 Measures recommended before the actual change of legislation

At the beginning, the UN and national government should start public discussions with the aim to find out how well educated is the society and what is the overall attitude towards cannabis. It is important to understand the position of the society before proposing any suggestions.

Before the actual changes in legislation, preventative measures should be carried out both at national and international level. In other words, the informative campaigns and different policy mix should be effective enough to educate people and reduce the consumption of recreational substances. Special attention should be drawn to the

[150] FinCEN. Guiding Principles for Anti-Money Laundering Policies and Procedures in Correspondent Banking, 2014. Available on: http://www.fatf-gafi.org/media/fatf/documents/reports/Guidance-Correspondent-Banking-Services.pdf. Accessed in June 7, 2017.

younger generation - schools, where cannabis is used particularly often. A survey of 2014 carried out by the University of Michigan revealed that 11.7% of 8th graders and 35.1% of 12th graders have tried cannabis or hashish. These data shows that cannabis is the absolute leader in the area, completely overpowering such substances as hallucinogens, ecstasy and cocaine[151]. Also in the EU the typical cannabis user audience is school students. Surveys in 2011 showed that lifetime cannabis use among 15-16-year-old pupils spanned from 5% in Norway to 42% in Czech Republic[152].

The international society should invest more in the research of cannabis and its potential therapeutic value in order to use its full range of qualities. The scientific proof should be carried out possibly independent and should be announced publicly to inform society about the recently discovered features of cannabis and possibilities to use them for health improvement necessities. The science and research based approach is essential to build evidence based law system and regulatory mechanism. Another important aspect is to consider already legally existing alcohol and tobacco market regulations and learn from their experience and failures. The cannabis market should be kept limited in order to avoid its over-commercialization and excessive expansion.

The drug policies must also be developed in conformity with the international human rights standard. First of all, countries should distinguish people at the lower level of cultivation, distribution and possession from those who are managing large-scale production and distribution. The first-time, small-scale growers and users should be treated less punitive than, for instance, the organized crime groups and traffickers. In this way countries could transform their harsh penal systems into more civil and, in truth, much more needed systems for the society prosperity. The transition to this kind of system would also take the pressure off the prison system. The EMCDDA research on estimation of public expenditure on drug-law offenders in prisons revealed that in 2010 the Europe on average 18.5% of all sentenced prisoners were drug-law offenders[153]. As more than a half of the drug-law offences are linked to transactions with cannabis and the average spending on drug-law offenders in European prisons (in 2010) reached approx. 0.08% of total public expenditure[154], we can estimate that the total public expenditure on different cannabis related offences in the European countries reached 0.04%. If cannabis regulatory system were being changed, the overcrowded European prison system would be relieved and the related governmental investment could be used

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[151] National Institute on Drug Abuse: *High school and youth trends*. Available on: https://www.drugabuse.gov/sites/default/files/high_school_and_youth_trends_december_2014.pdf. Accessed in March 31, 2016.

[152] European Monitoring Centre for Drugs and Drug Addictions. *Cannabis drug profile/Prevalence*. Available on: http://www.emcdda.europa.eu/publications/drug-profiles/cannabis#prevalence. Accessed in March 31, 2016.

[153] European Monitoring Centre for Drugs and Drug Addictions. "*Estimating Public Expenditure on Drug-Law Offenders in Prison in Europe*", 2012. Available on: http://www.emcdda.europa.eu/system/files/publications/783/TDAU13007ENN_462778.pdf. Accessed in Mach 31, 2016.

[154] *Ibid*.

for preventative campaigns and improvement of rehabilitation treatments and facilities. Moreover, people with health and pain history that are caught using cannabis should be treated not as criminals but as patients. In addition, people with signs of cannabis addiction should be provided with access to the treatment and rehabilitation programs.

The UN as an influential international organization should early identify the forthcoming changes in the public and scientific thinking and take responsibility to transform the transnational regulatory system regarding cannabis. The main challenge is to bring countries with different opinions to one table and start discussion of the changes necessary to adopt the existing law regime to the alternating situation. The UN should first, start rebuilding a new legal framework based on scientific discoveries. Second, it should encourage countries to follow their lead and also observe the progressing situations in the countries and territories where cannabis has already been introduced in national legal system as a legal, strictly regulated recreational substance.

At national level the countries should develop an effective and well-considerate regulatory framework and administrative capacity to be able to control the system. There should be proactive investment in the health industry and in comprehensive informative campaigns targeting the risk audiences, especially adolescents. The enforcement has to be rigid and concrete, with no gaps and ambiguous interpretations. In order to be able to correct any loopholes and other falsehoods, the states should promote further research to establish proof of the genuine nature of cannabis. To analyze the effects of the cannabis legalization, the statistical data should be collected and evaluated on a regular basis.

3.1.2 Regulatory law changes at international level

In this part of the work the author will give more detailed explanation of possible legal step-by-step procedure how the new legal framework of changing cannabis status could be implemented both at international and national levels.

As it is stated previously, the Single Convention (1961) places cannabis and it related mixtures among the most dangerous substances with no therapeutic value. In order to allow countries to change cannabis status at national levels in compliance with the international law, the UN has to replace cannabis to lower schedule or delete it form the Single Convention. The Single Convention, Article 3, paragraph 6 states that a substance, which is already included in the Schedule I can only be transferred to Schedule II or completely deleted from the list of restricted substances[155]. The first option to replace cannabis to Schedule II makes no sense, since it still prohibits the cultivation, production and sale of the respective substance. In a case of deleting cannabis from the Single Convention, the WHO should make a recommendation to CND and the CND would then by voting decide whether to keep or delete cannabis from the Schedule (majority vote needed). In recent decade the WHO has published several

[155] *Supra* note 3, Art. 3, para. 6.

reports with recommendations to reschedule cannabis[156] to less stringent schedules, however, the CND has stayed reluctant and is not willing to replace the respective substance. Moreover, the WHO recommendation to reschedule dronabinol has been ignored by the CND in this way even more hindering the rescheduling of cannabis.

Another option to change cannabis status would be to create new formal amendment to the existing three Convention framework. First, cannabis as regulated substance should be removed from the existing international drug control framework. Second, the scope of the existing Conventions should also be changed. As it is defined in the Single Convention, Article 47, paragraph 1 "any Party may propose an amendment to this Convention"[157]. In addition, the voting should take place during the UN ECOSOC meeting, where, in order to pass the amendment, all the Member States should vote unanimously. However, as mentioned before, the Member States have very different opinions about the cannabis policy, so it is improbable that such amendment would eventually be adopted.

The last but not the least possible option is to create an exclusive convention for cannabis regulation. An example could be taken from the Framework Convention on Tobacco Control[158]. This convention offers Member States non-prohibitory approach to regulate both legal and illicit transactions related to tobacco. To avoid incompatibilities with the existing Conventions the cannabis treaty should include clause, which releases the contracting parties from any other prior obligations defined in the existing three Convention framework. The cannabis convention should set standards regarding cultivation, production, sale (trafficking) and consumption (possession) that each Member State could implement in this way creating globally harmonized cannabis regulatory law. The framework should be loose enough to comply with the national laws and stringent enough to ensure proper international control of cannabis. One of the key criterions for the development of cannabis Convention should be the scientific ground for all clauses. Outcomes of the legal regulation should be observed in annual reports and the results assessed by analyzing further development of cannabis policy - whether the legalization is working properly and, if not, what could be improved.

3.1.3 Regulatory changes at national level

In the existing international legal control mechanism of cannabis countries that are willing to change their policy towards the regulation of respective substance are facing several difficulties, for instance, they are bound to the international obligations. However, if they are willing to ease the control regime of cannabis at national level there are still several approaches available.

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[156] *Supra* note 30.
[157] *Supra* note 3, Art. 47, para. 1.
[158] WHO Framework Convention on Tobacco Control, 2003. Available on: http://apps.who.int/iris/bitstream/10665/42811/1/9241591013.pdf. Accessed in April 1, 2016.

First, there are so called "soft tools". The Conventions, for example, leave Member States some freedom how to restrict actions related to cannabis. One option is decriminalization of cannabis, which is not prohibited under the international framework. Another option is already used in the Netherlands (coffee shops) and Spain (cannabis social clubs). The legal status of these institutions is rather unclear but, as it is observed already for many years, this kind of system works sufficiently well. Second, more and more popular become so called "hard tools". This approach means that country openly breaches the UN three Convention framework by legalizing cannabis and opening regulated market of the respective substance to the public.

Another even more drastic option for countries could be denunciation of the Conventions fallowed later by re-accession with a national reservation on cannabis. The country willing to reform cannabis policy could withdraw from the Single Convention along with 1988 Convention. Fallowing the denunciation the country could then re-access to the Conventions with reservations regarding particular prohibition or restriction articles and clauses. In 2011 Bolivia decided to use this approach regarding coca leaf traditional use in the country. It first withdrew its membership of the 1961 Single Convention and its amendment of 1972 and then re-accessed to the respective Treaties with reservations regarding the use and cultivation of coca leaf. The INCB commented Bolivia's decision with regret and emphasized, "while that course of action is technically permitted under the Convention, it is contrary to the fundamental object and spirit of the Convention"[159]. In the Bolivia's case the main argument was that coca leaf is traditionally used for centuries in the country so it cannot be prohibited so easily. The term "traditional use" could also be linked to cannabis and its use in countries such as Morocco and Egypt, however, the term is legally not clear enough to apply this opting-out option also to cannabis.

Another "hard tool" option would be withdrawal of the Conventions. This approach, however, would be politically and diplomatically extremely difficult. It also would bring additional legal problems to the country because not only it withdraws its membership regarding cannabis restriction but also regarding any other drugs that are regulated in the Conventions. This option is unlikely to be used by any country because this approach creates more harm than benefit.

So as we have seen from the previously mentioned options, none of them actually offers a decent solution to regulate cannabis in a reasonable manner, therefore, the author will observe several step-by-step options for drug law reform if the international legal framework was changed to more flexible model and allowed countries to develop an alternative cannabis control regime.

First step - *depenalization* of cannabis. In other words, depenalization means that the government removes criminal penalties for simple, first-time, small-amount

[159] INCB Report, 2011, paragraph 279. Available on: https://www.incb.org/documents/Publications/AnnualReports/AR2011/AR_2011_English.pdf. Accessed in April 1, 2016.

transactions with cannabis. Depenalization system, for instance, could be divided into several steps. Similar experimental scheme was carried out in the UK in 2004 and was called "Lambeth Cannabis Warning Scheme" (LCWS). The main principle was to distinguish small amount, first-time cannabis possessions form the organized drug dealers and organizations. Those who got caught first time for simple possession did not get criminal record or jail time. If caught second time the person got relatively small money fine but, if caught third time, the individual was arrested and received either caution or got prosecuted[160]. This trial leads to significant results that show drop in cannabis use[161].

Second step - *de facto* decriminalization. *De facto* decriminalization is the middle way between depenalization and decriminalization. The *de facto* decriminalization still means that cannabis is illegal under the national law, however, it does allow the possession of small amounts of the respective substance. However, this change of law leaves cannabis in the grey zone and does not allow the government to fulfill its control duty.

Third step - *de jure* decriminalization. *De jure* decriminalization means that cannabis personal possession is no longer a criminal offence, yet it is still illegal. Decriminalization inheres remarkable advantage over *de facto* decriminalization because it is formalized in law and people caught for possession of small amounts of cannabis do not instantly get criminal record. For governments decriminalization still causes several challenges. The main of them is to create proper mechanism how to effectively distinguish personal use from possession for further external supply. One approach is to define the limit until which it is considered "for personal use". Larger amount then is considered with purpose to supply other individuals. Another approach takes into account many other factors that usually are evaluated by police or court. Around 30 countries have decriminalized cannabis worldwide (see Appendix 1).

However, the model of decriminalization lacks several important aspects, for instance, content, origin and the volume of THC, which basically leaves the users without any knowledge of the substance they are using. Secondly, people with addiction problems cannot be effectively treated because the law prohibition of cannabis abnegates the necessary preventative measures to be effectively enforced. Thirdly, the decriminalization does not struggle with organized criminal organizations and traffickers. The criminal elements still expose people not only to cannabis but to other, more dangerous substances.

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[160] European University Institute, Department of Economics. *Crime and the depenalization of Cannabis Possession: Evidence From a Policing Experiment, 2014*. Available on: http://cadmus.eui.eu/bitstream/handle/1814/31225/ECO2014_05.pdf?sequence=1. Assessed in April 4, 2016.

[161] Department of Health. *United Kingdom Drug Situation 2011*: p. 25. Available on: http://www.nta.nhs.uk/uploads/2011.pdf. Accessed in April 4, 2016.

Several countries have expressed an opinion that legalization of cannabis and its proper regulation would be another alternative in dealing with issues related to the respective substance. The Image 5 below graphically explains how the cannabis policy should be created in order to reach the best social results and reduce harm to the public health. Ultra prohibition and commercial promotion policy would have the same ill effect- in the first case the market would be fulfilled via unregulated criminal market and in the second case the demand would be satisfied by unregulated legal market, which would lead to market commercial lobbying and serious public health issues. The best approach, suggested by this paper, would be strict legal regulation. The concept of legal regulations could be perceived as straightforward but actually it is very complex mechanism with many variables and issues that have to be taken into consideration.

3.1.4 Specifics of cannabis regulation

Licensing. The model of licensing could be presented at different levels of the transactions related to cannabis. The licensing would include, first, the licensing of the cultivation and production of cannabis. The state should implement such mechanism that controls the potency of the cannabis plant and its resin. The THC level should be controlled through minimum and maximum content per gram of the substance. There also should be regulation for potentially soil contamination and fertilizers used in the cultivation. In order to ensure that several large companies do not control and lobby the market, the states should limit the production. Different types of cannabis should be easily distinguishable so they could be identified by dissimilar designations, for instance, the name, producer or category. In addition, countries should regularly control the licensed retailers to monitor the production system[162].

[162] Transform Drug Policy Foundation. *How to regulate Cannabis, a practical guide, 2014*. Available on: http://www.unodc.org/documents/ungass2016/Contributions/Civil/Transform-Drug-Policy-Foundation/How-to-Regulate-Cannabis-Guide.pdf. Accessed in June 7, 2017.

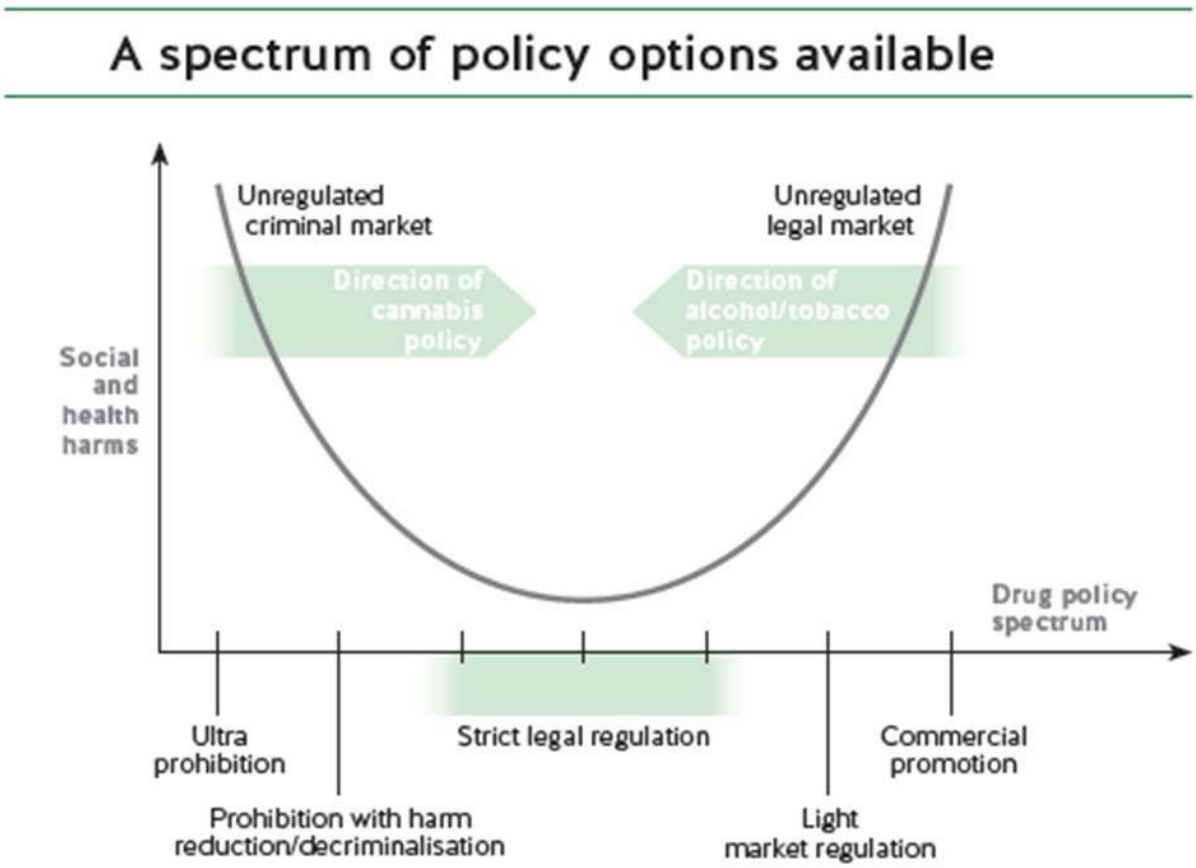

Image 5. Source: ALICE RAP Policy Brief 5. Cannabis- from prohibition to regulation.

3.1.4 Specifics of cannabis regulation

Price control. While developing cannabis price policy it is important to take into consideration several important aspects. In order to eliminate the criminal black market the legal price should be equal or lower than the price for identical product sold on the illicit markets. This means that also tax rate should be applied adequate and proportional. There can be several bases for the approximation of tax rate but the widely used in the potency based approach. The stronger is the substance, the higher tax rate is applicable. This method is already widely used in the alcohol market, which gives countries satisfactory results. However, there are other types of pricing that could be taken into consideration and used to establish the appropriate pricing mechanism:

- direct price fixing - government fixes the price at which cannabis must be sold;
- minimum/Maximum prices - policy that allows market certain level of flexibility; competition;
- fixed per unit tax - approach that was mentioned above. Can be applied to substance amount, to the THC amount or to production/retail level;
- percentage sales tax - percentage of a product's sales price;
- mixed approach - the State can mix the strategies and apply any other approach.

Moreover, taxation mechanism possible to apply to the cannabis price can be divided into several different groups. First, tax added to the sales value, which would then be easy administered by the governments. Second, the tax added to wholesale or to the producer (for instance, farm), which then would limit the risk of tax avoidance and would be easy to administer. Third, fixed tax rate per unit weight. This approach would also be easy to administer but would probably encourage sellers to offer stronger cannabis with higher level of THC, which consequently costs more. Fourth, tax added to the THC, which would be difficult to control but would deter producers from offering strong potency cannabis. The fifth approach would be to set progressive tax according to the level of THC or amount bought by the client. The last but not least approach would be license fees that would be issued to the licensed retailers and would be easy to control.

Packaging control. The appropriate packaging is another important aspect of cannabis policy and its restriction. The packaging of cannabis should have adequate labeling with all the warning signs, units, validity and other signs necessary to provide consumer with full information about the product. Also the age restriction to access cannabis should be defined in the national law and the licensed retailers would have responsibility to control its clients using ID system.

Advertising/promotion. The advertisement, similarly to tobacco and alcohol promotions, should be strictly limited. The cannabis products, in general, should be generic and without special brandings. The media advertisements should also be restricted and different promotions and event sponsoring, especially youth related, should be prohibited.

Location/density of outlets. Location of the outlets and licensed stores should be strictly confined and placed distant from schools, universities and other similar places where it could be available to the youth. For instance, in the Netherlands coffee shop system is strictly defined to sell only cannabis and other substances like alcohol are strictly forbidden to sell at the same place[163].

[163] Transform Drug Policy Foundation. *After the War on Drugs: Blue print for Regulation*. Available on: http://www.tdpf.org.uk/sites/default/files/Blueprint.pdf Accessed in April 6, 2016.

CONCLUSION

The main goal of this article was to prove the need for changes in the attitude towards cannabis, its legal regulation and possible economic benefit.

In the first part of the work the author concludes that the existing international UN Drug Conventions are failing to ensure the homogeneity of the transnational cannabis policy and are actually obstructing the international society from the in-depth research of the respective substance that could possibly lead to the changes in the cannabis related legislation. If there are researches carried out regarding the respective substance (especially if they are in favor of it) the UN institutions are most likely to ignore them, even if the reports and data are published by such widely respected organization as WHO. Moreover, the existing international legal regulation of cannabis is inconsistent with the human rights and does not fulfill its initial aim- to avoid the prevalence of cannabis use and its ill impact on public health. In addition, the author finds out that several researches have proven the actual harmful effect of the respective substance to be exaggerated and it is, in fact, less noxious than the influence, for instance, of tobacco.

In the second part the author reveals advantages and loopholes of the three more liberal cannabis policies in the Netherlands, Colorado and Washington. First, it revealed the lack of control over the coffee shops in the Netherlands. Since this business is mainly cash-based, the transactions are not transparent, the state does not earn the potential amount of tax income and the cannabis market becomes vulnerable to criminal organization and money laundering. Moreover, the discrepancy between cannabis supply and demand suggests that the black market still has a significant share of the Dutch cannabis market. In addition, the public health issues regarding cannabis are also not sufficiently controlled and there is lack of the data about the actual situations in all cannabis related areas.

In the next part the author reveals the advantages and loopholes of the cannabis policies in the U.S. states of Colorado and Washington. In Colorado the state has created very detailed and robust cannabis control regime. It has developed effective licensing and taxation system, from which the income is devoted mostly to the health and education fields. The domestic institutions also cooperate with the federal level institutions and have created comprehensive mechanism of preventative measures, especially regarding the adolescents.

The main loopholes of the Colorado cannabis policy are the failure to control the home growing, medical cannabis market and deficient management of banking system collaboration with the cannabis retailers. Moreover, the legislation is diffused and vague regarding the term "caregivers" and allows speculations with law and it requirements.

In the state of Washington the fee and tax system is less detailed that in Colorado and, up to now, this approach has given the state less income than in Colorado. However, there are also other affecting factors and the data have been collected only over three year span so the situation could change easily. Nevertheless,

Washington has more stringed requirements regarding other specifics of cannabis policy, such as the density of the vendor stores, the promotion and labeling of the cannabis related products. In addition, Washington invests much of their funds in cannabis research that could give positive outcome in the future.

Similarly to Colorado, Washington lacks effective banking sector and cannabis industry cooperation. This issue, however, is attempted to be solved at federal level and is believed to be successful in the future. Another disadvantage of the cannabis policy is its involvement in the driving fatalities, which have increased after the legalization of the respective substance.

In the last concluding part of the analysis the author first, discusses how the existing legal framework could be improved and what steps should be taken before any regulatory changes regarding cannabis have been started. For the UN and national governments it is recommended to start public discussion about the respective topic and, in order to develop the most adequate control mechanism, it is also advised that the regulatory changes should be carried out based on the scientific proof and research. Moreover, the cannabis control mechanism should be changed in a way that it would be in conformity with the international human rights. The author also shows that the only possible way to limit and truly control cannabis market is to legalize it and expose the respective substance to robust and strict control mechanism.

Regarding the changes in national cannabis legislations, the author distinguishes three main steps. The first is depenalization of the respective substance, which would ease punishment for small-scale drug transactions. Second step is *de facto* decriminalization, meaning that cannabis would stay illegal but small transactions with it would be allowed. This approach, in fact, is not the best solution for cannabis related problems because it creates many grey zones in the industry. Third step is *de jure* decriminalization when the transactions with cannabis are no longer criminally punished, yet the respective substance still remains illegal. This approach also has its disadvantages, such as incomplete control mechanism regarding, for instance, the origin and the level of THC in the cannabis production. Taking into consideration all the previously discussed aspects, the author suggests that the best approach would be the legalization and strict regulation of cannabis market. In the regime of cannabis legalization the domestic jurisdictions should implement several criteria to control the demand and supply of the respective substance. Such criteria should include requirements related to price control, licensing, packaging, advertisement and promotion, location and density limitations.

Overall, the author concludes that the UN international drug conventions are not effective enough and should be improved based on the latest scientific data. The countries should observe the jurisdictions with more liberal cannabis policy, the progress and shortages of their performance and decide whether to make corrections in their domestic legislation or not. In the end, the UN and it Member States should come to one table and discuss the future prospective of the cannabis policy.

Appendix 1: Legal status of cannabis in world countries

Country	Production	Sale	Trafficking	Possession	Notes
Albania	Illegal	Illegal	Illegal	Illegal	Often "soft" interpretation of
Algeria	Illegal	Illegal	Illegal	Illegal	
Argentina	Illegal	Illegal	Illegal	Decriminalized for small amounts, personal use	Tolerant society attitude
Australia	Illegal	Illegal	Illegal	Illegal	But decriminalized in Australian capital territory, South Australia & Northern territory
Austria	Illegal	Illegal	Illegal	Decriminalized (≤5g)	
Bangladesh	Illegal	Illegal	Illegal	Illegal	No sufficient laws
Belgium	Decriminalized 1 plant	Illegal	Illegal	Decriminalized (≤3g)	
Belize	Illegal	Illegal	Illegal	Illegal	Tolerant society attitude
Bolivia	Illegal	Illegal	Illegal	Decriminalized	
Botswana	Illegal	Illegal	Illegal	Illegal	No sufficient laws
Brazil	Illegal	Illegal	Illegal	Illegal	
Bosnia& Herzegovina	Illegal	Illegal	Illegal	Illegal	
Belarus	Illegal	Illegal	Illegal	Illegal	
Bulgaria	Illegal	Illegal	Illegal	Illegal	
Cambodia	Decriminalized	Decriminalized	Decriminalized	Decriminalized	Tolerant society attitude
Canada	Legal (medical)	Legal (medical)	Illegal	Legal (medical)	Changes in 2015
Chile	Legal (small amounts	Decriminalized (medical)	Illegal	Decriminalized	
China	Illegal	Illegal	Illegal	Illegal	
Columbia	Legal (≤20 plants)	Legal (medical)	Legal (medical)	Legal(≤22g)	

Costa Rica	Decriminalized	Illegal	Illegal	Decriminalized	Tolerant society attitude
Croatia	Illegal	Decriminalized (medical)	Illegal	Decriminalized	
Cyprus	Decriminalized (for restricted amount of farms)	Illegal	Illegal	Illegal	
Czech Rep.	Decriminalized (≤5 plants)	Decriminalized (medical, ≤15g)	Decriminalized (medical, ≤15g)	Decriminalized (≤15g)	Decriminalized for personal use
Denmark	Illegal	Illegal	Illegal	Illegal	Exception- Freetown Christiania
Dominica	Illegal	Illegal	Illegal	Illegal	
Ecuador	Illegal	Illegal	Illegal	Decriminalized (≤10g)	
Egypt	Illegal	Illegal	Illegal	Illegal	Often used though
Estonia	Illegal	Illegal	Illegal	Decriminalized (≤7.5g)	
Ethiopia	Illegal	Illegal	Illegal	Illegal	
Finland	Illegal	Illegal	Illegal	Illegal	
France	Illegal	Illegal	Illegal	Illegal	
Germany	Legal under permission, for medical use	Legal under permission, for medical use	Legal under permission, for medical use	Legal under permission, for medical use	Possession illegal, use legal. Most tolerant - Berlin
Greece	Illegal	Illegal	Illegal	Decriminalized (≤2 joints)	
Honduras	Illegal	Illegal	Illegal	Illegal	
Hong Kong	Illegal	Illegal	Illegal	Illegal	
Hungary	Illegal	Illegal	Illegal	Illegal	
Iceland	Illegal	Illegal	Illegal	Illegal	
Indonesia	Illegal	Illegal	Illegal	Illegal	
India	Illegal	Illegal	Illegal	Illegal	Tolerant society attitude
Ireland	Illegal	Illegal	Illegal	Illegal	Government policy to decriminalize in future

Israel	Illegal	Illegal	Illegal	Illegal	For medical purposes legal possession, sale, trafficking
Italy	Illegal	Illegal	Illegal	Decriminalized (medical)	
Jamaica	Legal (for personal use, ≤5 plants)	Illegal	Illegal	Decriminalized (≤2oz)	
Japan	Illegal	Illegal	Illegal	Illegal	
Jordan	Decriminalized	Illegal	Illegal	Decriminalized	First Arab state to decriminalized
Laos	Illegal	Illegal	Illegal	Illegal	
Latvia	Illegal	Illegal	Illegal	Illegal	
Lebanon	Illegal	Illegal	Illegal	Illegal	
Lithuania	Illegal	Illegal	Illegal	Illegal	
Luxembourg	Illegal	Illegal	Illegal	Illegal	
Macedonia	Illegal	Illegal	Illegal	Illegal	
Malaysia	Illegal	Illegal	Illegal	Illegal	
Malta	Illegal	Illegal	Illegal	Decriminalized (≤3.5g)	
Mexico	Decriminalized	Illegal	Illegal	Decriminalized (for personal use, ≤5g)	
Montenegro	Illegal	Illegal	Illegal	Illegal	
Nepal	Illegal	Illegal	Illegal	Illegal	
Netherlands	Decriminalized (≤5 plants)	Legal for coffee shops	Illegal (unenforced for coffee shops	Legal (≤5g)	Coffee shop system
New Zealand	Illegal	Illegal	Illegal	Illegal	
North Korea	Illegal	Illegal	Illegal	Illegal	
Norway	Illegal	Illegal	Illegal	Illegal	
Pakistan	Illegal	Illegal	Illegal	Illegal	
Panama	Illegal	Illegal	Illegal	Illegal	
Paraguay	Illegal	Illegal	Illegal	Decriminalized (≤10g)	
Peru	Illegal	Illegal	Illegal	Decriminalized (≤8g)	
Philippines	Illegal	Illegal	Illegal	Illegal	
Poland	Illegal	Illegal	Illegal	Illegal	

Portugal	Decriminalized	Illegal	Decriminalized	Decriminalized	in 2001 first country that decriminalized use of all drugs
Puerto Rico	Illegal	Illegal	Illegal	Illegal	Legal for medical use
Romania	Illegal	Illegal	Illegal	Illegal	
Russia	Decriminalized (≤20 plants)	Illegal	Decriminalized (≤6g)	Decriminalized (≤6g)	
Saudi Arabia	Illegal	Illegal	Illegal	Illegal	
Serbia	Illegal	Illegal	Illegal	Illegal	For medical use possession and sale legal
Singapore	Illegal	Illegal	Illegal	Illegal	
Slovakia	Illegal	Illegal	Illegal	Illegal	
Slovenia	Legal if (THC≤0.2% on ≤0.1 ha surface)	Illegal	Illegal	Decriminalized	
South Africa	Illegal	Illegal	Illegal	Illegal	
South Korea	Illegal	Illegal	Illegal	Illegal	
Spain	Legal, for personal consumption	Illegal	Decriminalized	Legal for personal consumption, private areas	Legal possession and production if not in public
Sri Lanka	Illegal	Illegal	Illegal	Illegal	Widely used though
Sweden	Illegal	Illegal	Illegal	Illegal	
Switzerland	Legal in private property	Illegal	Illegal	Decriminalized	
Syria	Illegal	Illegal	Illegal	Illegal	
Taiwan	Illegal	Illegal	Illegal	Illegal	
Thailand	Illegal	Illegal	Illegal	Illegal	
Tunisia	Illegal	Illegal	Illegal	Illegal	
Turkey	Illegal	Illegal	Illegal	Illegal	
Ukraine	Decriminalized (≤10 plants)	Illegal	Decriminalized (≤5g)	Decriminalized (≤5g)	
UAE	Illegal	Illegal	Illegal	Illegal	
UK	Illegal	Illegal	Illegal	Illegal	

USA	Illegal	Illegal	Illegal	Illegal	Legal in Colorado, Washington, Oregon, Alaska, cities of Portland, South Portland Maine, Washington D.C. Decriminalized in 18 states, medically legal in 25 states
Uruguay	Legal	Legal	Legal	Legal	
Uzbekistan	Illegal	Illegal	Illegal	Illegal	
Venezuela	Illegal	Illegal	Illegal	Illegal	
Vietnam	Illegal	Illegal	Illegal	Illegal	
Zimbabwe	Illegal	Illegal	Illegal	Illegal	

Appendix 2: Drug related harm scheme

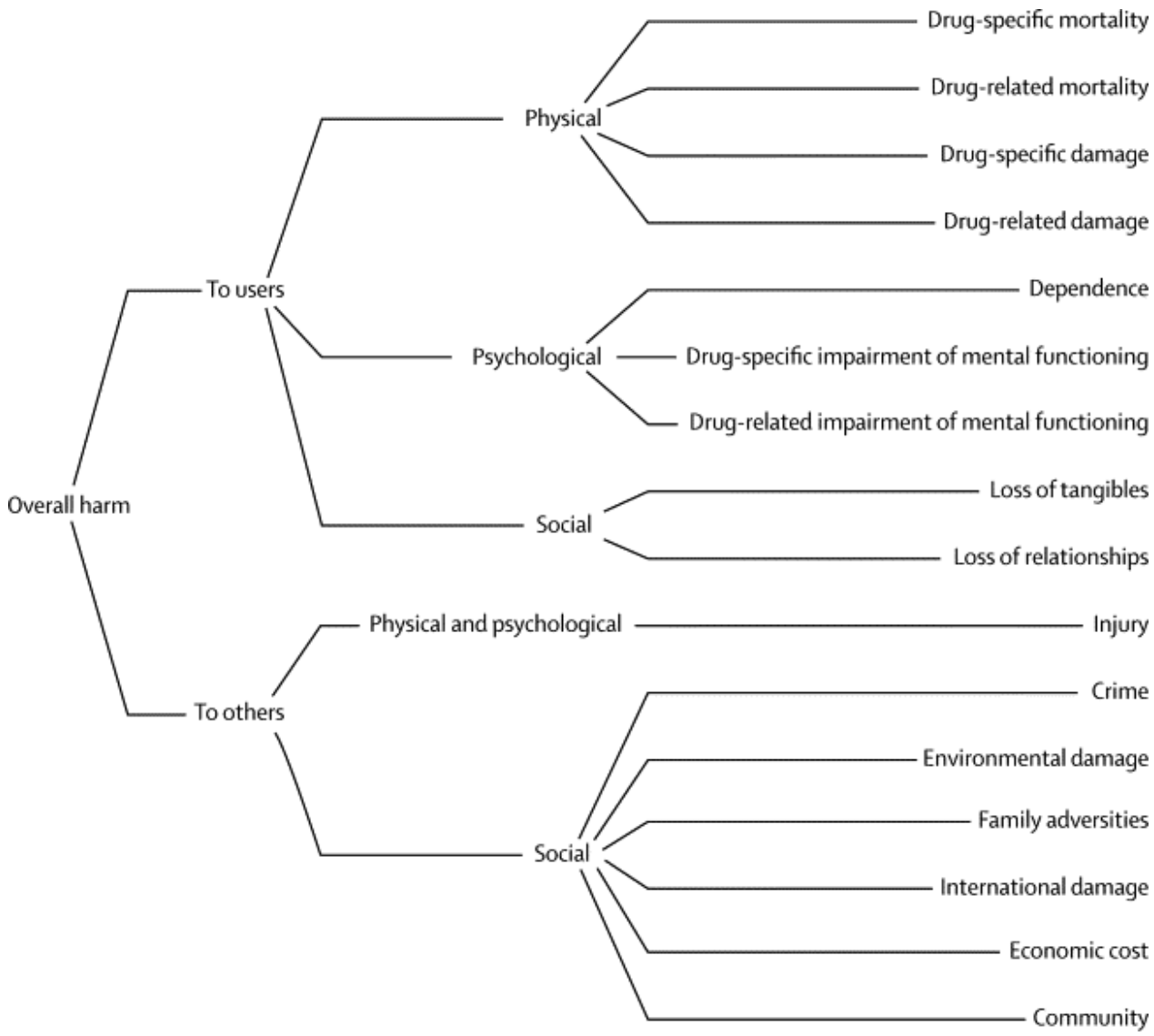

Image 3. *Source: D. Nutt, "Drug harms in the UK", Lancet, 2010*[164].

[164] *Supra* note 53.

Appendix 3: U.S. states that have legalized (medical) cannabis

State	Year adopted	Possession Limit
1. Alaska	1998	28.35 g usable, 6 plants
2. Arizona	2010	71 g usable, 12 plants
3. California	1996	226 g usable, 6 mature or 12 immature plants
4. Colorado	2000	57 g, 6 plants
5. Connecticut	2012	71 g usable
6. Delaware	2011	170 g usable
7. Hawaii	2000	113 g usable, 7 plants
8. Illinois	2013	71 g usable within 2 weeks
9. Maine	1999	71 g usable, 6 plants
10. Maryland	2014	30 day supply, amount not determined
11. Massachusetts	2012	60 day supply, max 283 g
12. Michigan	2008	71 g usable, 12 plants
13. Minnesota	2014	30 day supply, except smokable cannabis
14. Montana	2004	28.35 g usable, 4 plants, 12 seedlings
15. Nevada	2000	71 g, 12 plants
16. New Hampshire	2013	57 g usable within 10 days
17. New Jersey	2010	57 g usable
18. New Mexico	2007	170 g usable, 16 plants
19. New York	2014	30 day supply, except smokable cannabis
20. Oregon	1998	680 g usable, 24 plants
21. Rhode Island	2006	71 g usable, 12 plants
22. Vermont	2004	57 g usable, 9 plants
23. Washington	1998	680 g usable, 15 plants
24. District of Columbia	2010	57 g dried

Table 4. Sources see below:

1. Alaska - Ballot Measure 8, approved in 1998.

http://medicalmarijuana.procon.org/sourcefiles/alaska-ballot-measure-8.pdf

2. Arizona - Ballot Proposition 203, approved in 2010.

http://medicalmarijuana.procon.org/sourcefiles/arizona-proposition-203-medical-marijuana.pdf.

3. California - Ballot Proposition 2015, approved in 1996.

http://medicalmarijuana.procon.org/sourcefiles/california-proposition-215.pdf

4. Colorado - Ballot Amendment 20, approved in 2000.

http://medicalmarijuana.procon.org/view.background-resource.php?resourceID=873

5. Connecticut - HB 5389, approved in 2012.
http://medicalmarijuana.procon.org/sourcefiles/Connecticut-hb-5389.pdf
6. Delaware - Senate Bill 17, signed in 2011.
http://medicalmarijuana.procon.org/sourcefiles/delaware-senate-bill-17-passed.pdf
7. Hawaii - Senate Bill 862, signed in 2000.
http://medicalmarijuana.procon.org/sourcefiles/hawaii-senate-bill-862.pdf
8. Illinois - House Bill 1, signed in 2013.
http://medicalmarijuana.procon.org/sourcefiles/Illinois-house-bill-1-enrolled.pdf
9. Maine - Ballot Question 2, approved in 1999.
http://medicalmarijuana.procon.org/view.background-resource.php?resourceID=875
10. Maryland - House Bill 881, signed in 2014.
http://medicalmarijuana.procon.org/sourcefiles/maryland-hb881-enrolled.pdf
11. Massachusetts - Ballot Question 3, approved in 2012.
http://medicalmarijuana.procon.org/sourcefiles/MA-ballot-initiative-2012.pdf
12. Michigan - Proposal 1, approved in 2008.
http://medicalmarijuana.procon.org/sourcefiles/MichiganProp1.pdf
13. Minnesota - SF 2470, signed in 2014.
http://medicalmarijuana.procon.org/sourcefiles/minnesota-sf2470-3rdengrossment.pdf
14. Montana - Initiative 148, approved in 2004.
http://medicalmarijuana.procon.org/sourcefiles/I148.pdf
15. Nevada - Ballot Question 9, approved in 2000.
http://medicalmarijuana.procon.org/view.background-resource.php?resourceID=877
16. New Hampshire - House Bill 573, signed in 2013.
http://medicalmarijuana.procon.org/sourcefiles/new-hampshire-HB573.pdf
17. New Jersey - Senate Bill 119, approved in 2010.
http://medicalmarijuana.procon.org/sourcefiles/NJS119.PDF
18. New Mexico - Senate Bill 523, signed in 2007.
http://medicalmarijuana.procon.org/sourcefiles/NewMexicoSB523.pdf
19. New York - Assembly Bill 6357, signed in 2014.
http://medicalmarijuana.procon.org/sourcefiles/new-york-ab-6357-2013.pdf
20. Oregon - Ballot Measure 67, approved in 1998.
http://medicalmarijuana.procon.org/sourcefiles/oregon-ballot-measure-67.pdf
21. Rhode Island - Senate Bill 0710, approved in 2006.
http://medicalmarijuana.procon.org/view.background-resource.php?resourceID=880
22. Vermont - Senate Bill 76, approved in 2007.
http://medicalmarijuana.procon.org/sourcefiles/S76Vermont.pdf
23. Washington - Ballot Initiative I-692, approved in 1998.
http://medicalmarijuana.procon.org/sourcefiles/Chapter69.51ARCW.pdf
24. District of Columbia - Amendment Act B18-622, signed in 2010.
http://medicalmarijuana.procon.org/sourcefiles/DCMJLawMay2010.pdf

Appendix 4:
Cannabis use in states of Colorado and Washington, youth

Cannabis use, by age and State, %, annual averages									
		Use in past year		Use in past month		Perception of great risk from smoking cannabis once a month		First use of Cannabis	
		2002-2003	*2013-2014*	*2002-2003*	*2013-2014*	*002-2003*	*2013-2014*	*2002-2003*	*2013-2014*
12-17 year-olds	*Colorado*	9.55	0.81	9.82	2.56	8.97	7.04	7.59	9.13
	Washington	7.64	7.53	9.11	0.06	6.99	6.22	7.14	6.7
	Total U.S.	5.38	3. 28	8.03	.22	3.66	3.54	6.57	5.6
18-25 year-olds	*Colorado*	6.57	3.95	1.67	1.24	7.51	8.39	8.1	10.19
	Washington	6.16	6.5	1.22	4.47	6.3	8.92	7.11	8.75
	Total U.S.	9.13	1.78	7.17	9.32	4.19	4.22	6.82	7.68

Source:

http://www.samhsa.gov/data/sites/default/files/NSDUHsaeLongTermCHG2014/NSDUHsaeLongTermCHG2014.htm.