Legal Opium Farming in India: Historical and Ethnographic Perspectives

Linas Tavaras (Institute of Asian and Transcultural Studies at Vilnius University)

Abstract. This chapter¹ explores legal opium farming in Madhya Pradesh, India, by focusing on legal opium farmers and the complexities of their profession. The chapter is divided into three parts. An historical overview of opium cultivation and consumption in India shows that, throughout centuries, the opium plant has been used in many different ways, including medicinal, recreational, and ritual purposes. The second part focuses on how the Indian government regulates opium cultivation and consumption. In 1985 a still valid bill was passed by the Indian government regulating contemporary opium cultivation, possession, sale, purchasing, transport, and storage. Regulation of this psychotropic substance is outdated and poorly functioning, while the number of illicit drug use or possession cases has only increased in recent years (Mehrotra 2021; Sharma et al. 2017). The third part of the chapter analyses ethnographic data (interviews, photographs and fieldwork observations) gathered in two villages in Madhya Pradesh in August 2021 and February 2022. Farmers not only explained the traditional processes of opium cultivation and the meaning they attribute to opium, but they also shared what problems they were facing in their work, most of which are related to unclear or burdensome Government policies on opium cultivation and the increasing attractiveness of the black market.

Keywords: opium, legal opium farmers, India, ethnographic research, drug related policies.

Introduction

Due to a long history of opium cultivation, deep traditions related to this plant have developed over the centuries in South Asia and other parts of the world. Since ancient times, opium has long been used for medical, ritualistic, or recreational purposes.

There are a number of articles and books discussing opium cultivation in various parts of the world; mostly the focus of these texts is on opium use for

¹ This chapter is based on the bachelor thesis in Area Studies titled "Legal Opium Farms in India: Historical and Ethnographic Perspectives", which was defended at the Institute of Asian and Transcultural Studies of Vilnius University in 2022.

Copyright © Linas Tavaras, 2024. Published by Vilnius University Press. This is an Open Access article distributed under the terms of the Creative Commons Attribution License (CC BY), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited. https://doi.org/10.1538/Anthro.2024_14

medical purposes and its presence on the black market. I will draw on the rich literature on the history of opium use in indigenous medical systems and its regulation. Even though India is the world's largest manufacturer of legal opium for the pharmaceutical industry, there is scarce academic material related to legal opium farmers and their work. Below, I will briefly review several of the most relevant ethnographic studies conducted by researchers with legal opium farmers.

Beverly A. Smith in her collective article *Cultivation and Use of Opium in Rural India: Bottom-Up Insights into Anti-Drug Efforts* (2007) interviewed 50 licensed opium farmers from 13 randomly selected villages in Madhya Pradesh. The researchers focused their attention on the Government-led policies and programs which they deemed to be ineffective. They also discussed the lack of education among opium farmer communities in rural areas. Opium addiction and crop diversion in India are a few other common problems observed by the researchers (Smith, et al. 2007, 30–32). However, the timespan between this scientific article and my research is 15 years, during which, the authorities passed laws which severely affected the farmers. I will analyze these new changes in the empirical part of this chapter.

For comparing opium poppy cultivation and traditions in other countries, I will use the ethnographic research of Kyle T. Evered *Traditional Ecologies of the Opium Poppy and Oral History in Rural Turkey* (2011). Evered conducted forty individual interviews with retired Turkish opium farmers. The paper offers insights on how the Turkish governmental policies of opium eradication may deliver cultural, ecological, and political impact on a people and a nation (Evered 2011). The information gathered by the author and the conclusions drawn about legal opium farmers in Turkish villages are consistent with my research, and they show that the culture and problems of opium farmers are quite similar internationally.

The existing research largely focuses on the history and legal aspects of opium cultivation in India, while sometimes comparing it with opium cultivation in different countries such as Turkey. Much less attention is dedicated to opium farming as a profession and farmers' attitudes towards opium cultivation. My research will focus on the following dimensions of opium cultivation in India: its history, regulation, agricultural practice, and farmers' views.

The first part of the chapter gives a historical overview of opium cultivation and an explanation why the interest in opium by a wide range of social groups has remained significant to the present day. In modern times this plant is still widely used in the making of important medicines, such as codeine, diamorphine, morphine, etc. (Pathan et al. 2012). Currently, the states of Rajasthan, Madhya Pradesh and Uttar Pradesh are the only states in India where the psychoactive opium plant is legally grown. The opium grown there is regulated by the State and transferred from farms to the pharmaceutical sector. Then, opium is used for medicinal purposes. However, due to being in high demand, some of the opium appears on the black market as an illegal drug. For the latter reason, the opium farming remains a controversial topic.

The second part of this chapter shows the processes related to the contemporary legislation on opium cultivation from the point of view of legal opium farmers and the point of view of policy makers.

The final part of the chapter focuses on the analysis of empirical data gathered in two villages in Madhya Pradesh in August 2021 and February 2022. The research was conducted in this particular state because, statistically, these farmers produce one of the largest yields of opium compared to the other states of India (Central Bureau of Narcotics 2021). For better understanding of the opium cultivation process, I have also used my own observations and photographic material from the opium farms. I have analyzed the qualitative semi-structured interviews with legal opium farmers which I conducted in the previously mentioned villages. During these two visits, I conducted 6 interviews with licensed male opium farmers who agreed to give recorded interviews with their informed consent. By depicting the interactions among opium farmers, through observations and interviews on opium cultivation, this chapter will explain the problems that legal opium farmers are facing in their occupation, such as the burdensome policies of the Government and the increasing attractiveness of the black market.

The history of opium plant in South Asia

The history of the opium flowering plant is long and complex. It has played an important role in numerous civilizations. Over the centuries, the opium plant has become related to medicine, recreational drugs, traditions, and war. In this section, I will examine the origins and prevalence of opium in the subcontinent of South Asia.

The origin of the word 'opium' etymologically lies in the Ancient Greek language word *ópion*, which is a diminutive of *opós* "milky juice of plants" (Askitopoulou et al. 2000). In 1753, Carl Linnaeus (Carl von Linné), a botanist from Sweden, used the Latin word *Papaver somniferum* meaning 'sleep-bringing' to name and categorize the opium plant (Fraire 2021). The word 'opium' has some connections with the Arabic language, where the plant was known as *Afyun*, in Chinese – *Yapien*, in Persian it is known as *Afium*, in Sanskrit, the ancient Indo-

Aryan language, it is known as *Aahi Phen* meaning 'snake venom' (Central Bureau of Narcotics 2021). Nowadays, the word 'poppy' is widely used as a synonym for opium. The etymology of the word 'opium' shows the main attributes of the plant that people in various regions found the most important.

Due to its unique composition of various chemicals, the opium plant is one of the world's oldest medicinal plants. According to archaeological research, one can find evidence of fossil remains of a poppy seed cake and poppy pods which date back to the Neolithic age (5600 to 4000 B.C.) in Western Europe (Salavert et al. 2020). Around 4000 B.C., the ancient Sumerians already knew the psychological effects of opium plants. At least 1500 B.C., opium was cultivated and consumed by the ancient Egyptians (Hobbs 1998, 67). Soon, the knowledge of the Egyptian civilization about the use of poppy reached Classical Greece. Here, opium was related not only to medicine and nutritional properties, but it was also linked to the sacred world.²

Opium was introduced in India during the conquests of Alexander the Great around 330 B.C. (Central Bureau of Narcotics 2021). However, in the 8th century A.D., Arabs not only started cultivating poppies in Egypt for exporting to Europe and the Middle East, but they also made a huge impact on spreading opium in the South Asian subcontinent and even China. It is worth mentioning that Arabs left a significant contribution in exploring the use and effects of opium (Derks 2012, 187–188). With Arabs travelling and settling in India, around the 9th century A.D., they brought their Perso-Arabic traditional medicine called Unani Tibbi. Here, opium was mentioned as an ingredient for treating catarrh, conjunctivitis, dysentery, hemicrania, and as an aphrodisiac (Duke 1973, 393-394). After the 9th century A.D., opium cultivation in India and its use in classical Ayurveda began. Moreover, poppy or cannabis (or both) were also consumed by Sadhus and yogis belonging to Shaivite and Shaktiya cults for concentration and meditation (Dwarakanath 1965). This medicinal and ritualistic use of opium in the early Middle Ages was more or less prevalent for centuries. Yet, since the times of the Mughal Empire, much more data has been acquired on consumption, as well as on an increased production of opium. The main difference between opium use before and during the Mughal Empire period is the consumption of opium for recreational purposes, and this was even the beginning of its use on a regular basis for medicinal purposes. In 2010, Stephanie Honchell published a thesis discussing the complex relation between all six Mughal emperors and drugs, particularly opium (Honchell 2010).

² Carod-Artal (2013, 28-35) shows how deeply Greeks related to opium through historical literature, ceremonies, and medicine.

Babur, the emperor who conquered northern India's regions in the 16th century, brought his Turko-Mongol cultural background to the regions where it was later incorporated into the Mughal culture. Honchell describes Babur's and his courtiers' lifestyle as having been mostly peripatetic, and involving a tendency to use of intoxicants, such alcohol and opium (ibid., 12). The use of opium or *ma'jun*³ was mentioned in the *Baburnama* ("The Memoirs of Babur") over thirty times (ibid., 13). Usually, the emperor and his court consumed opium socially, for relaxation from emotional and physical stress while making stronger mutual connections between Babur and the men who surrounded him (ibid., 15).

The drastic change of the Mughal society's view towards opium took place with the rule of Aurangzeb. The drastic constraint on drug policy was implemented as a result of the development of radical, orthodox Islam. Aurangzeb sought to reform the Mughal Empire into an Islamic state governed by *Sharia* law. Moreover, during the Aurangzeb reign, opium was being used as a death penalty tool for his imprisoned opponents by giving them opium alone instead of water and food (Carter 2017). Yet, his efforts against psychoactive substances were not fruitful. In her thesis, Honchell notes two main reasons explaining why Aurangzeb's radical approach towards opium restrictions was not successful. Firstly, the Mughal society was very diverse religiously and culturally, and laws were not relevant to the belief structures of the majority. The second obstacle was associated with the fundamental ideas of the Empire instilled by Babur himself who strongly believed that the liberal adherence to religious beliefs is a matter of individual rather than universal concern (Honchell 2010, 77).

The Mughal Empire was already crumbling during Aurangzeb's rule, and later heirs did not distinguish themselves as highly influential rulers. There is almost no historical evidence on their relationship to opium. However, I would highlight four main opium related processes for all the rulers of the Empire: the prevalence of recreational drug use with the first manifestations of addiction, the beginning of systematic poppy cultivation, the use of opium as a death penalty tool, and, finally, the first drug bans (Honchell 2010, 71).

With the gradual weakening and loss of the influence of the Mughal Empire in India, explorers from various European countries, including a large number of traders, started coming to India. In the early 17th century, traders from Portugal, the Dutch Republic, England, France, and Denmark–Norway established their own trading posts on the coast of India. These western newcomers soon got involved in profitable opium trading. Derks's work on the role of opium in India

3 Ma'jun – a mixture of opium, ghee, and sugar.

between the 17th and the 20th centuries shows that, by that time, opium had already become an important product for international trade (Derks 2012, 40– 41). Eventually, it was the British who colonized the majority of the South Asian subcontinent. Having taken over the lands and the opium regulation from the Mughal Empire, the British greatly expanded their opium farming in India. From 1637 onwards, opium became the main product of the British trade with China. Finally, in 1793, the East India Company forbade all poppy growers in India to sell opium to competing trading companies (Derks 2012, 135; Central Bureau of Narcotics 2021). The opium monopoly in India was held by the British until the independence of India in 1947.

Since the second half of the 20th century, the importance of opium has not diminished either in India or elsewhere in the world. In 1953 The Opium Protocol was formulated for regulating farming, production and trading of the opium plant. India became one of the world's major opium exporter. Advances in medicine made it possible to expand the pharmaceutical potential of opium. According to medical researchers, until now, it still remains the only commercial source for narcotic analgesics, such as morphine, codeine, and semisynthetic derivatives, such as oxycodone and naltrexone. Opium also produces numerous other benzylisoquinoline alkaloids (BIAs) with potent pharmacological properties, including the vasodilator papaverine, the cough suppressant and potential anticancer drug noscapine, and the antimicrobial agent sanguinarine (Hao et al. 2015, 217).

However, recreational and abusive use of opium or its components has also increased. People have been prone to abuse of codeine and morphine, but heroin, invented as early as 1898, came to the fore and became particularly popular among drug users even though certain restrictions on its production, use and distribution were imposed by international treaties. Eventually, seeing that heroin was not suitable in medicine due to the very rapid development of addiction, an international ban on heroin production was implemented in 1912. In the 1960s and 1980s, the black market for various drugs, especially heroin, was increasing at the time when the United States declared war on drugs and tightened their narcotic policies (Hosztafi 2001; de Castella 2012). India started its own war on drugs campaign during the 1980s. By introducing the *Narcotic Drugs and Psychotropic Substances Act*, 1985, (commonly referred to as the *NDPS Act*), the Indian Government adopted a highly punitive approach towards drug-related crimes.

One more important aspect of opium in India is its traditional consumption. It includes traditions, rituals and special occasions when members of a certain caste, community, or tribe use opium. Such actions are still happening even though, according to the laws of the Indian Government, opium consumption or even possession (if it is not related to licensed farming) of any quantity is highly illegal. There is very little research done on this topic, but it is still possible to find some examples of data taken in different states of India from people consuming opium as part of a local tradition.⁴

I shall add that, during my interviews with opium farmers from Madhya Pradesh, I asked them if they had any knowledge about traditional opium consumption. The majority of them knew about the traditional use of opium in Rajasthan. Moreover, the information on the traditional opium use obtained from the interviewees coincided with the examples from the above cited articles.

Opium regulation in India and its cultivation in Madhya Pradesh

In this part, I will analyze legal policies controlling opium cultivation on the international and local levels. I will also examine the licensing process of legal opium farmers in India. This will help to understand how and why the current legal framework for the cultivation of this plant affects the conditions of opium farmers.

During the early years after India gained independence, policies related to opium did not change much from the British times. The main view towards opium was that opium needed to be regulated, but it could not be completely curbed as the habit of using opium for medicinal purposes was widespread, and the majority of the Indian population was knowledgeable enough not to use the plant (UNODC 1957). The early Government of India did not wish to entirely suppress the use of opium, but rather implemented a set of policies restricting it to a certain level. For example, the main approach was the restriction of the consumption of opium by limiting the amount of opium which a person may possess at any given time (ibid.). According to the *UN Opium Conference of 1953* and the *Single Convention on Narcotic Drugs of 1961*, India, along with 6 other countries (Bulgaria, Greece, Iran, Turkey, USSR, and the former state of Yugoslavia), was authorized to produce opium for export and domestic needs (Deshpande 2010, 110).

⁴ Researchers described Hindu communities in Rajasthan and Gujarat that practice ritualistic opium consumption and their rituals (Bareth 2009; Mathrani 2019; Prévot 2018). Opium use is also prevalent among Buddhist communities in Arunachal Pradesh (Chaturvedi et al. 2013).

From 1985 to the present, India's main bill regulating contemporary opium cultivation, possession, sale, purchasing, transport, storage, as well as consumption of a psychotropic substance is called the *Narcotic Drugs and Psychotropic Substances Act*, 1985 (commonly referred to as the *NDPS Act*, 1985).⁵ According to some experts, many of the bans on psychoactive substances in the Act are outdated and poorly functioning because the number of illicit drug use or possession cases has only increased in recent years (Mehrotra 2021; Sharma et al. 2017).

A key aspect of the criticism of the NDPS Act, 1985, is the application of a similar scale of criminal liability for both drug users and drug traffickers. For this reason, law enforcement work is overloaded with the extra burden of 'hunting' single drug users, instead of using their funds to curb major drug suppliers (Agrawal 2021; Grover et al. 2021). Another important criticism of the Act is its non-compliance with the recommendations of international health organizations, which does not ensure the proper reintegration of drug users into society. Many rehabilitation and de-addiction centers have been criticized for mistreating drug users by treating them with outdated and ineffective methods, which not only fail to provide the necessary help, but also violate their rights (Tandon 2018). India also faces major issues with people addicted to opium or various opium by-products. The maximum growth was reported in the consumption of heroin. According to statistics, in 2008, India had the highest level of both heroin consumption and production in South Asia (Chawla 2010, 42).

Licenses to farmers to grow opium are granted according to the terms and conditions of the *General Conditions* relating to the issue of license regulated by the Central Government. Another important role is played by the village *Lambardar* (village headman), who leads and represents opium yielding cultivators in the village. *Lambardar* usually has the largest field of opium and is appointed by the District Opium Officer to oversee other opium cultivators (NDPS Act 1985, 64). The license is issued to the eligible farmers for one year, and the new license is issued again after a year. To qualify, a farmer must generally have proper records of previous opium cultivation. A new farmer in opium farming is usually a descendant of a current opium farmer or a trustee to whom the rights is the absence of any penalties under the *NDPS Act*, 1985 (ibid., 74). Every year, in late December, inspectors from the *Central Bureau of Narcotics* measure each

⁵ Since its beginning, the Act has been amended (with no major changes) four times - in 1988, 2001, 2014, and 2021.

field to check for excess cultivation. According to the regulations, the cultivated area cannot exceed 5% of the licensed area (Central Bureau of Narcotics 2021).

In January and, sometimes, February opium begins to bloom in white flowers. At that time, farmers must ensure regular watering and maintenance of plants. Quite often, during this period, nets are placed on the opium fields to help protect it from birds which eat the opium plant capsules (Figure 1).



Fig. 1. A net on an opium field to protect plants from birds (16 February 2022, Daru, Madhya Pradesh; photograph by the author).

The *NDPS Act*, 1985 only mentions one case where a farmer may fail to achieve the required harvest quantity and still retain the rights of an opium farmer. This case covers natural disasters, rains, hailstorms, plant diseases, etc. destroying or severely damaging opium fields. In this case, farmers must inform the local officials responsible for the opium fields who assess the damage when they arrive in the field and may allow the farmer not to reach the planned opium harvest without any consequences (ibid.).

The end of the opium season is considered to be the months of February and March. During this period, the opium capsule reaches its final stage and is ready for extraction of opium by cutting the opium capsule. The process of cutting is done with a traditional tool known as *nukka* (Figures 2–4) which makes 4-5 cuts simultaneously.



Fig. 2. *Nukka* – a traditional tool used for cutting opium shells. The cut is done with smaller needle-like blades (the upper side) (17 August 2021, Daru, Madhya Pradesh; photograph by the author).



Fig. 3. A legal opium farmer imitates the cutting action with a *nukka* on a dried and empty poppy shell (17 August 2021, Daru, Madhya Pradesh; photograph by the author).



Fig. 4. A ripe opium shell has been cut. The incision on the left side of the shell was made about 15 hours ago, and the opium latex has already run off and solidified. The cut on the right was made a few moments ago (4 March, 2022, Daru, Madhya Pradesh; photograph by the author).

After about 16–24 hours, the semi-liquid opium, also called latex, resembling the structure of tree resin, slowly flows out of the pits and is collected with a traditional tool called *charpala* (Figure 5).

The process of cutting the capsules of the opium plant and collecting latex, depending on the size of the opium field, usually takes about a week. Generally, both cutting and collecting, and even guarding the fields during this period, is carried out by local workers (Figure 6), while a licensed opium farmer is overseeing the entire process and guarding the vessel with the collected opium (Figure 7).

The farmer later weighs the opium extracted on a daily basis and records the weight of opium in a register called the *Preliminary Weighment Register* (PWR) which is maintained by the village *Lambardar*. An officer from the *Central Bureau of Narcotics* periodically checks the entries in PWR and observes if there are no discrepancies, i.e. whether the farmer is not cheating on the amount of opium recorded (ibid.).



Fig. 5. Charpala – a traditional tool used for collecting leaked opium latex from a cut poppy shell (17 February 2022, Daru, Madhya Pradesh; photograph by the author).



Fig. 6. Local village laborers are cutting opium shells and collecting opium latex (4 March 2022, Daru, Madhya Pradesh; picture by an anonymous legal opium farmer).



Fig. 7. A vessel with collected opium (4 March 2022, Daru, Madhya Pradesh; picture by an anonymous legal opium farmer).

After extracting opium latex, some of the opium capsule remains. The capsule is called a 'poppy husk' or a 'poppy straw'. The husk contains a minor quantity of opium, and, until 2016, it was also bought by the Government and used in the medicinal sector. Later, the following was declared by government officials: "poppy husk has no medicinal and scientific value and has to be destroyed" (Ghatwai 2018). This relatively new rule soon became quite controversial because statistics show that, after it had been implemented, the price of poppy husk in the black market started to grow massively. Illegally, poppy husk is still used by truck drivers to stay active during the shift and by traditional opium consumers during rituals (Mitra et al. 2017). Before the new policy, over 93 percent of medicinally useful alkaloids were made precisely from the poppy husk (International Narcotics Control Board 2015). Moreover, another major licit opium exporter is Australia which meets more than half of the world's demand for morphine produced from, particularly, poppy straws (McAlister et al. 2016). Poppy straws contain numerous chemicals which are later converted into pharmaceutical drugs. Moreover, the poppy straw is a safer product, since it cannot be turned into black market heroin, unlike raw opium (Siegel 2020). Unfortunately, I could not find any consistent explanation for why such a new amendment on the poppy straw was adopted, neither on the official Indian Government internet databases, nor in interviews with legal opium farmers, or from the responsible authorities.

Another part of the opium plant which needs to be described is the seeds. The opium seeds do not contain opiates and can be sold more easily. According to the farmers from whom I took the interviews, they collect the seeds from the plant and sell them to local buyers who might use them for cuisine, oil, or for further legal/illegal cultivation of opium. According to statistics, the seed selling rate in various parts of India has increased (Statista Research Department 2022).

After the final harvest, opium latex is transported to the Weighment Centers in special sealed containers. Tests on the composition and purity of opium are carried out here, after which, it is heated until all the moisture in the opium has evaporated. After examination and purity testing, opium is classified into different categories as per the consistency of opium, and the category is announced publicly. Each category indicates the purity or quality of opium. The amount of money a farmer receives also depends on the category of the opium. The main indicator in the opium quality is the amount of morphine in it. If there is too little morphine to be found in raw opium, the farmer may lose his opium cultivation license. In principle, a sufficient amount of morphine, as specified by the Government, is expected from each opium crop grown by the farmer. It is important to note that, until May 2017, the Government specified the minimum amount of raw opium that farmers had to reach. According to the farmers themselves, the new policy, in which the quality of opium is calculated from the morphine in it during laboratory testing, makes their work much more difficult as the amount of morphine in opium is in no way dependent on the farmers themselves. This means that, even in a high opium harvest, if a low morphine concentrate is detected, the farmer will get less profit, and may therefore lose his opium cultivation rights. This political decision has received negative reactions and even evoked protests from opium farmers, but, so far, the Government has not changed the requirements (Ganapatye 2018).

Lastly, opium latex in further laboratories is converted to alkaloids and is transferred to India's medicine manufacturers. Another big part of raw opium is exported from India to such countries as the USA, Japan, UK, France and Thailand, where it is used for medicinal purposes as well (Central Bureau of Narcotics 2021).

The complexity of the issue of opium for the Government and society has constantly raised controversy and the need to review the opium laws. Subsequent international legislation on opium and other drugs has provided the basis for many current legal frameworks, including the *NDPS Act*, 1985 adopted by India. Heavily backed by a penal policy based on the war on drugs mandate developed in the USA, the *Act* is being increasingly criticized for creating legal inflexibility and stigma. As a result, there is an excessive distribution of governmental money to curb the black market. As we shall see further, legal opium farmers reveal controversial details of the same drug regulatory system. This package of legislation leads to discrepancy between the Government and the opium cultivators. As a consequence of the recent legislation, the black market of drugs for some opium cultivators may start to look increasingly attractive because it is here that the prices of opium and its products begin to rise competitively compared to the price offered by the Government. In the final part of my chapter, I shall discuss in more detail the regulatory system from the point of view of the farmers themselves.

Fieldwork among opium farmers in Madhya Pradesh

This part of the chapter describes my ethnographic study conducted in the Neemuch district of Madhya Pradesh, India. Analysis of 6 qualitative in-depth interviews conducted with legal opium farmers living in two villages in the above-mentioned district will be presented here. Together, I will analyze both the work conditions of the farmers interviewed and my own observations while staying with these farmers, which will provide additional context and detail to the topic. Moreover, before the main part discussing the field work, I will shortly describe the prehistory of my research, and the events which took place after my departure from the two villages about which I got to know from my interlocutors remotely. Due to the possibility of relation of the interviewes to the black market, I will change the names of the two villages where I conducted the fieldwork, the names of the farmers from whom I took the interviews, and the name of my colleague who accompanied me in travelling, helped with getting the contacts, and translating the conversations with the farmers. The rest of the data presented below remains unchanged.

Daru and Tanig villages

On 21 July 2021 I came to India and settled in Punjab, Phagwara because I started studying and working at *Lovely Professional University* (LPU, Punjab, India).

While staying there, I decided to use an opportunity to conduct field work for my final bachelor thesis. My idea was to conduct an ethnographic study in one of the three Indian states (Rajasthan, Madhya Pradesh, or Uttar Pradesh) where opium cultivation is legal. Initially, Rajasthan was in my plans because I had read a lot about the ancient traditions of opium consumption that still exist there, and I hoped that, in addition to the main topic about opium farmers and their legal work, they would be able to tell me more about the illegal side of opium. A few weeks later, I happened to meet Zain, a student who was of my age. He lived near my home in Phagwara and, after hearing about the subject I was researching, told me that his parents were engaged in opium farming. After getting to know each other better, he invited me to go with him and visit his family who lived in Madhya Pradesh, Neemuch County where there were several opium farms. Fortunately, Zain was curious about my research work and offered to become my research assistant.

It was 16 August 2021 when I first came to the village of Daru and met Zain's father Zeeshan. For four days, I was staying in his house built in British colonial times, along with his other family members: his wife, and three children, two boys and a girl. As far as I heard from the people living there, foreigners rarely come to this village and its surroundings, so they were quite surprised to see me in the village. They were even more surprised by the news, which quickly spread, that I had come here to conduct research on the opium plant and its cultivators. However, I did not receive any negative reaction during my two visits to the village. The casual and hospitable villagers were even more inclined to accept me when they found out that I was a friend of Zeeshan's son.

The village, surrounded by hills, was not large. In a valley-type region, small villages are located at a similar distance of 2–3 km from each other. According to locals, Daru was home to about two hundred people, most of whom were farmers, workers and their families. Depending on the season of the year, a large proportion of farmers were engaged in rice, wheat, maize or groundnut cultivation which were grown in scattered fields around the village (Figure 8).

Meanwhile, Zeeshan was growing not only these plants but also opium along with 6 other local farmers under an opium cultivation license.

During my short visit, local groundwater got mixed with dirty rain water. As a result, I and other villagers who had drunk the water got water-poisoning. Because of my sudden illness, it became harder to do the fieldwork, yet I still managed to conduct 2 interviews with licit opium farmers and take some photos of the local environment and the traditional opium cultivation tools. One of them was Zeeshan in whose house I was living.



Fig. 8. Scattered opium fields around Tanig village (16 February 2022, Tanig, Madhya Pradesh; photograph by the author).

Another interlocutor was his neighbor Yuvaan with whom I met at a local temple for evening worship, one day before the interview. That evening, we came to know more about each other, and he himself invited me to come to his house the next day. Yuvaan was also the only farmer who told me he had opium stocks at his home since last year's harvest. Just before the interview at his home, he opened a closet and took out a pot-like container of about two liters. Yuvaan opened it and I saw it full of opium latex, dark brown in color. Its consistency was very thick, hard and similar to plasticine. The farmer did not allow me to take photos of the opium and explained that he would keep this opium stock in case the next harvest would be poor and he would fail to meet the harvest quantity requirements announced by the Government. In this case, Yuvaan would secretly add this opium to the harvest, because he did not want to lose his license to legally grow opium. Only my colleague Zain, who helped with translation during the interview, and I knew about these opium stocks. We agreed not to tell other villagers about it, although Zain mentioned that it was a public secret for many opium farmers. I left the village after four days because I had to buy proper medicine for my water-poisoning ailments and return to work at the university in Punjab.

I came to Neemuch district for the second time on 16 February 2022, and left the village on 19 February 2022. During this visit, the fields planted with opium were already blooming white, and, just a week after my departure, opium harvesting began. It is important to highlight that I met Zeeshan and his family once between my two visits to the villages when I was invited to the wedding of their family member. During the wedding celebration, we got even closer, and I gained more trust from Zeeshan's side.

During my second visit in Daru village, I once again settled in Zeeshan family home. Although about half a year had passed since my first visit, I did not notice much change in the population or in the area. Because of my better health, this time I was able to hike around the villages and meet local people. I discovered that legal opium farmers could be found in almost every local village. During this visit, I was able to go to the opium fields, collect photo material, and conduct four more interviews with legal opium farmers. Also, I visited the neighboring village of Tanig. This village is located about 2 km south of Daru. At present, the village buildings and the layout look almost identical. The buildings in both villages are simple, built of clay and stone. Tanig and Daru villagers know each other well. Sometimes they work on the farms together and celebrate the same holidays. Two interviews were conducted with farmers Viraaj and Tejas who were from the same village of Daru. Viraaj was the Lambardar of Daru. The other two farmers, Sahil, who was the oldest farmer, and Purab were from the nearby village of Tanig. The interviews with the farmers of Tanig village did not differ significantly from the farmers from Daru.

Interviewing opium farmers

During my two visits to Daru and Tanig villages in Madhya Pradesh, I conducted 6 interviews with licensed male opium farmers who agreed to give recorded interviews with their free consent, in places acceptable to them. The places were either their house or the yard belonging to them. The age of the farmers ranged from 30 to 80 years old. Five interviews were conducted in Hindi and one in English. Every time, the interview was attended by a middle-man. He was either my colleague Zain who grew up in this village, or his father, a local legal opium farmer Zeeshan. The purpose of the mediator was to translate parts of the conversation that I or my interviewee did not understand.

On both visits, I asked the farmers the same questions that were focused on 5 research themes:

- 1) *The role of opium in farmers' lives.* As for the start of the interview, I asked questions about how the farmers began to legally grow opium and if it is a common profession in their families.
- 2) *Peculiarities of work*. In this section of questions, I tried to understand each farmer's personal views towards opium cultivation and asked about the

main aspects of opium crop, how legal opium farming has changed during the farmers' careers, and how it has affected their income.

- 3) *Opium paths (black market and medicine sector).* Since opium could be used for different reasons, and the farms in particular are the place of origin of opium, in the third section, I wanted to understand what farmers think or know about the further 'path' of opium, its trajectory to the black market and the pharmaceutical sector. I also asked if they had any knowledge about consuming opium or its products legally/illegally in their environment.
- 4) *Opium regulation*. Further, I inquired farmers about the role of Government institutions in legal opium farming and how they perceive the state authorities' measures to control opium cultivation.
- 5) *The image of a legal opium farmer and the traditional role of opium in India.* In this section, I asked about the attitude of the local people towards legal opium farmers and whether the farmers wanted their children to follow the same occupation. I ended my interviews with the final question about whether the farmer knew anything about the traditional opium use in India.

From the first section of questions, I learned that all the interviewed farmers had lived in these two villages for most of their lives and they all had inherited their opium cultivation occupation from their ancestors. Only one person in a family could hold an opium cultivation license at a time. In all cases, the farmers applied for and obtained a license after another licensed member of their family (father in all cases) retired from farming. *It comes from my ancestors, my father and grandfather, they all did this opium farming. Actually, I don't know when all this started in my family or when it started in this village or in this area (Zeeshan).* The takeover of opium farming from the older generation is perceived as a usual process, even if this action required stopping other activities in life: *I quit my studies to help my family and become an opium farmer as my own father was* (Yuvaan).

From the questions of the second section, it is evident that the farmers' view towards the opium crop split into two types of responses: pragmatic and sensitive. Zeeshan described his relationship with opium cultivation by mentioning the properties of the plant, the harvesting process, and, more notably, the religious aspect of opium cultivation: *For me, this (opium crop) is like caring for a child. I care for this (opium) crop much more than we care for other crops. There is a sentimental relation also. Usually, when opium farmers start planting opium seed and at the time of collecting the harvest, we would pray to god. We pray to Kali*

Mata, goddess. Because of the color of the opium, it is similar to Kali Mata. So, in a sense, opium farmers are intermingled/linked with this crop... And when we take milk (opium latex) from poppies every morning, it is like a festival for us... And when we're doing this crop, the female members of a family also take good care of us (Zeeshan).

Other farmers described their approach to opium cultivation in a shorter and simpler way: *I have good experience because I used to get income from three sides: from seeds, from opium latex, and poppy straw. It is more prosperous than other crops* (Sahil). Later, Sahil corrected himself and said that: *Already for 5 years, the Government does not buy poppy straw* (Sahil).

To the question how opium cultivation changed during the farmers' life, *Lambardar* Viraaj said that: *The cost expenditure of opium cultivation has gone up due to new techniques. Before, we didn't use nets for protecting opium from birds. Also, there are special ropes that separate rows of plants. Moreover, the prices for laborers' work have increased. So nowadays farming costs have gone up in all aspects* (Viraaj).

Sahil marked governmental policies which, according to him, made opium cultivation more expensive. I would like to emphasize that, in answer to this question, Sahil also mentioned the black opium market which, later in the interview, he noted more cautiously: *There have been many changes in the law, and now policies have become very problematic. The return, the rate of opium is very low now. If people don't do black market, it is not possible to cultivate this crop. Since it is illegal, it becomes a problem. The price of opium was increased only once when the finance minister was Jaswant Singh,⁶ 15 years back. That time only the price was changed a bit. It was 2800 rupees per kg (of opium), now it was around 1500 rupees (Sahil). The increase in the opium cultivation costs was also mentioned by Purab. The remaining farmers said that nothing had changed during their licensed farming period, apparently referring to opium being collected in the same traditional ways.*

From farmers' descriptions, it can be concluded that, although the old religious cultures of opium are still preserved by some, yet, the main distinguishing feature of opium from other plants is its profitability. However, profitability in legal ways could be questioned as the value of opium has fallen over the past decade, and the ban on poppy straw also means a lower income. Based on Sahil's brief mentioning of the black market, a presumption could be made that the black market may have become more attractive to some farmers during this period.

⁶ Jaswant Singh (1937–2020) – an officer of the Indian Army and an Indian Cabinet Minister. Former Minister of Finance (1996; 2002–2004).

The third section of questions is related to the black market of opium; answers varied. Purab and Sahil, who had previously mentioned the relevance of the black market, replied briefly that they knew nothing about it. Three other farmers–Zeeshan, Tejas and Viraaj–mentioned that there are some farmers who sell it to the Government, but very few of them are from Neemuch district. They added that it is highly illegal. Yuvaan mentioned the black market in more detail: *The rate of opium in* (legal) *farming is 1500 rupees per kg. In black market the rate of opium is 1 lakh* per kg. If the Government would increase the rate of opium in farming, no one would be selling it to the black market. The money is the main thing. If the Government would increase the price of opium to at least 100000 rupees per kg, even this much would make black market decrease* (Yuvaan). The profitability of the black market was also highlighted by Siegel (2020) who conducted an ethnographic study with illegal opium farmers in Madhya Pradesh. The researcher noted that the difference between legally and illegally sold opium prices was nearly 80 times.

To the question about the role of opium in the medicine sector, three farmers said that they did not know much about it. Tejas admitted that he knew only that opium was later used as allopathic medicine. Yuvaan told more about it: People can use opium either in a good way, as a medicine, or in a bad way as a drug. Here, some old people use opium to cure themselves, to cure diseases. This is the only reason why people use opium here. In this village, there is an old guy who cannot afford treatment. He cannot afford all the medicine, doctor fees and so on. So, what he is doing is consuming opium in small quantities, and it helps him (Yuvaan). He also elaborated when I asked more about the opium consumption of locals: Opium is very strong, and usually once a person starts to consume it, he can never leave it. There were a few old people in the village. One of them died last year. The villager used opium for a long time but eventually he started to exceed the limit. You should never go beyond your limit. Eventually, he almost stopped eating food and ate only opium at any amount he could get. His health started worsening and then he died... Another, a Rajput guy from Mewar, he consumed opium every once in a while, but not too often. He had used opium since childhood but always on a limited scale. He purchased opium from here (Daru village) also. He was very healthy all the time and reached 100 years of age (Yuvaan). The rest of interviewees said there was no or very little consumption in that district. This section showed that small-scale use is detectable for both medical and addictive purposes.

In the fourth part of the interviews, I asked the interviewees about the governmental institutions responsible for licit opium cultivation, and all interviewees gave detailed insights. All of the farmers mentioned that their relation with the Government officials they worked with was not positive. Without asking, each farmer marked at least one problem that is caused by Government officials. Yuvaan described the vast corruption among Government officials: In every place they will ask you for money. The Bureau of Narcotics takes a lot of money from farmers especially. For example, every year officers from the bureau come to farms and measure the size of a farm. Usually you have to pay them money if you want the measurement process to go smoothly, some farmers also can easily increase the size of their farm up to 1000 meters just by paying this officer. Another example is when opium is collected, the farmer has to go to a government place and stay there for at least a few days, until the opium quality is being checked. The waiting is never easy. The farmers have to sleep on the floor. By paying 10000 or 20000 rupees there, a farmer can skip the waiting process and he gets the results quickly. So, each farmer on average pays around 70 000 rupees just for bribes. Last year the Bureau of Narcotics got 36 crores rupees just from opium farmers in this and other districts (Yuvaan).

According to Zeeshan, because of the Government, for the past 4 years they cannot sell poppy straws. We also used to get good returns from poppy straw, but, in recent years, I don't know the reason, but the Government is not letting us sell it to them, so we have to burn it (Zeeshan).

Viraaj spoke of the sharp fall in opium prices over the years: *The farmers feel that the money that we get for opium is very little according to the cost of doing cultivation.* And the money hasn't been revised for a long time. I think that if the rate of opium per kg would be increased to 25,000–30,000 rupees per kg, farmers would not sell it to the black market (Viraaj).

The remaining interviewees complained about a new policy where the grading of opium is measured not by moisture in it, but rather by the quantity of morphine in it: It is difficult for farmers to understand because we don't have any control on what level of morphine will be found in opium... So, there is no logic. For example, I can produce apples, but if you want any particular material or extra color in that apple, I cannot make it happen unless it happens naturally. This new policy was introduced 2–3 years ago. Initially, they used to do grading of opium manually, and it was on the basis of moisture. The more moisture, the worse is grade, the lesser moisture or water, the better is grade (Sahil). A new law of morphine shouldn't be imposed. Even if the crop is good, it could be considered bad if the Government sees lack of morphine in it. So, the farmers are confused and don't know what to do when the good yield is being called as bad. It is not logical (Purab).

This section of questions became particularly important in the light of the detailed and comprehensive answers given by the farmers. Corruption, a ban on selling poppy straw, Government corruption, and the fall of opium prices have been identified as important problems hindering good relations between farmers and the Government officials. Half of the farmers have highlighted their concerns about a new system of opium grading by morphine in it, which seems to be a major concern about the Government's policies. Another ethnographic research, also conducted in Madhya Pradesh 15 years ago, showed similar opinions of farmers who criticized the Government's policies and programs towards opium cultivation being ineffective (Smith et al. 2007, 30–32).

Finally, the questions in the last section cover the folk image of legal opium farmers by other villagers. Also, there are questions on the problem of the generational transfer of this occupation within the family, and the knowledge of traditional opium use during rituals.

Tejas shared a thought that he did not feel any different from other plant farmers. Nevertheless, everyone else felt respect from those around them for their opium cultivation licenses: ...in matters of license, when you get it, you feel proud. You have a reputation if you have a license in this area (Zeeshan). Other people also benefit from us, for example, the laborers who help us collect opium get payment... Also, among our society those who have an opium license are respected (Viraaj).

Next, all interviewees replied that they did not want their children to take over the profession. These answers turned out to be particularly interesting, having in mind that all the interviewed farmers came from families that had been involved in the production of opium from generation to generation: The laws are very strict, and it is quite a risk. Only if the Government would treat farmers with good laws then I would let them (children) to continue (Purab). I don't want my children to do this farming because it is very costly and hard. It is a very responsible job as you also have to keep good protection of opium that no one would steal it (Viraaj). Tejas even said that he did not want to continue this type of farming himself: I don't want for my children to inherit. Even I will discontinue it in a few years. I'm afraid of Government policy followers, I mean officers, because when they are issuing licenses for the farmers, they don't have faith in farmers... It is kind of an insult. So due to no other employment I do opium but, after my daughter's marriage, I will stop. I will grow other crops: wheat, maize... (Tejas). The pessimistic future of the hitherto considered lucrative opium cultivation profession is also noted in the findings of an ethnographic study in Turkey. There, farmers who are also traditionally engaged in opium cultivation are now facing strict Government

requirements covering the seed quality, setting a specific cultivation period and price regulation unfavorable to farmers (Evered 2011, 179–180).

When asked about the traditions of opium use, the answers of all farmers matched. They all said they had heard of some rituals in Rajasthan through which opium is used ritually, mostly during weddings. Yuvaan and Zeeshan mentioned that this opium consumption is practiced in the desert region, mostly among *Banjara* and *Rabarri* communities: *Opium [is] used mostly in marriages.* The expenditure of marriage itself is not that much. The marriage facilities, the gold, everything is not that expensive as the opium used in the marriage (Yuvaan).

This indicated that the attitude towards farmers from their surrounding environment is rather positive. They feel respected, but they still do not tend to pass on the profession to their children because of its complexity and the high level of responsibility.

Contacting Government officials

In order to get different views of legal opium farmers and their problems, I also sought to interview the authorities responsible for the regulation of the cultivation of legal opium. Unfortunately, all my attempts were fruitless. First, I tried to contact the *Central Bureau of Narcotics* in Neemuch. I wrote them an email explaining who I am, what research I was doing, and that I would like to conduct an interview with them live or remotely. I never received a response from them.

When I arrived in the same village in February, Zeeshan gave me the address of the *Central Bureau of Narcotics* in Neemuch which is responsible for all legal opium cultivation in the region, and told me how to properly communicate to the officials. When I came to the *Central Bureau of Narcotics* with my colleague Zain and spoke briefly with the security guard, I was admitted to the headquarters (Figure 9) guarded by the officers and even briefly talked to the people in charge of the opium cultivation process.

Unfortunately, as soon as they heard that I was interested in the opium cultivation laws, they immediately said that neither they nor any other official working here would agree to give me an interview.

At the beginning of April 2022, while staying in Delhi and already planning to go back to Lithuania, I met an entrepreneur who was interested in growing fibrous hemp in Madhya Pradesh and found many common interests in legal opium farms. The entrepreneur knew one of the Deputy Directors from the *Directorate of Horticulture*, Madhya Pradesh. The entrepreneur suggested that his contact could be used to reach out to officials who could comment more widely on the regulation of legal opium cultivation in India. Enthusiastically supporting the topic of my research, the entrepreneur promised to personally pass on my inquiry to officials with a description of my research and a request for an interview. I had included in the inquiry that the officials responsible for the legal cultivation of opium would answer my questions online or in writing of their choice. Unfortunately, about a month later, I received a reply from the businessman that the deputy director just kept giving excuses, and did not give either positive, or negative answer to my inquiry.



Fig. 9. The author near the headquarters of the Central Bureau of Narcotics (20 February 2022, Neemuch, Madhya Pradesh; photograph by an unidentified guard).

These unsuccessful attempts to contact the authorities are not enough to make a statement that the opium issue is neglected by the public authorities in Madhya Pradesh. However, my experience reinforces the argument that opium regulations remain unclear. There is also no communication about them, and the gap between the officials responsible for opium cultivation regulation and the people who seek information about them remains significant.

Conclusion

As well as in other regions, in South Asia, the opium plant has become an important medical and recreational tool. Over the years, it has also become

a symbol of addictions and wars. There is no doubt that this plant, with its powerful positive and negative potential, has always been exploited in its own way by different empires and their rulers. In modern times, opium, as a part of the economic trade, is a cause of drug addiction in India. Yet, its importance remains significant.

To ensure that opium would be strictly used by pharmaceutical companies only for the development of modern medicines, the Indian Government inherited many of the international laws regulating opiates from the USA, which, most of the time, used the controversial war on drugs strategy. Yet, according to statistics, the black market for the substance and opium-related addiction diseases in recent decades has not only continued unabated, but has also increased. The latest recommendations from experts and international organizations suggest that India's legal framework contains strategies that are outdated, dysfunctional, and in need of revision.

The latter argument was confirmed and further expanded during my field research. I was able to obtain a great amount of information defining not only the traditional processes of opium cultivation, but also the problems which the legal opium farmers have to face. All the above-mentioned problems were related to unclear or burdensome Government policies on opium cultivation. The main ones were: the falling price of opium; the new and questionable procedure for determining the quality of opium; the ban on selling the poppy straw, the part of the opium plant left over after harvesting; and Government corruption. My numerous attempts to contact the authorities responsible for opium cultivation have been fruitless. The Government's work on opium regulation is, at the very least, questionable, lacking in credibility and, in some cases, fueling the black market.

In addition, all interviewees mentioned that they have taken over the legal opium farm from their older generations, however, due to the high risk and declining profitability, now all farmers doubt that they will pass this profession on to their children. Such a scenario could potentially lead to the disappearance of the occupation of legal opium farmers. Moreover, from personal experience and from the interviews with legal opium farmers, I have learned that the use of opium for recreational, medicinal and ritual purposes is still widespread in some parts of India. A decline in legal opium cultivation in the face of a high demand for opium on the black market would likely lead to an increase in the illegal cultivation of opium.

Bibliography

- Agrawal, Parag. 2021. Drug Addiction: Need of Reforms for the Victims. *Jus Dicere* [interactive]. Access online: https://www.jusdicere.in/drug-addiction-need-of-reforms-for-the-victims/#_ftn1 [accessed 21 May 2022].
- Askitopoulou, Helen, et al. 2000. Analgesia and Anesthesia: Etymology and Literary History of Related Greek Words. *Anesthesia & Analgesia* [interactive], 91(2): 486–91. Access online: https://www.researchgate.net/publication/12408678_Analgesia_and_Anesthesia_ Etymology_and_Literary_History_of_Related_Greek_Words [accessed 15 May 2022].
- Bareth, Narayan. 2009. Rājasthān men afafīm banā huā hai muddā [Opium remains an issue in Rajasthan], *BBC Hindi* [interactive], April, 20. Access online: https://www.bbc.com/hindi/ indiaelection/story/2009/04/090420_afeem_rajasthan_skj [accessed 22 May 2022].
- Carod-Artal, Francisco Javier. 2013. Psychoactive plants in ancient Greece. *Neurosciences and History* [interactive], 1(1): 28–38. Access online: https://nah.sen.es/vmfiles/abstract/NAHV1N1201328_38EN.pdf [accessed 17 May 2022].
- Carter, Maxwell. 2017. Last of the Great Mughal Emperors. *The Wall Street Journal* [interactive], July, 28. Access online: https://www.wsj.com/articles/last-of-the-great-mughal-emperors-1501269181 [accessed 19 May 2022].
- Central Bureau of Narcotics. 2021. Opium Poppy An Overview [interactive]. *Central Bureau of Narcotics*. Access online: http://cbn.nic.in/en/opium/overview/ [accessed 11 July 2024].
- Chaturvedi, Himanshu K., et al. 2013. Correlates of Opium Use: Retrospective Analysis of a Survey of Tribal Communities in Arunachal Pradesh, India. *BMC Public Health* [interactive] *13*, 325. Access online: https://bmcpublichealth.biomedcentral.com/articles/10.1186/1471-2458-13-325 [accessed 13 May 2022].
- Chawla, Sandeep. 2010. World Drug Report 2010. *The United Nations Office on Drugs and Crime* [interactive]. Access online: https://www.unodc.org/documents/wdr/WDR_2010/1.2_ The_global_heroin_market.pdf [accessed 22 May 2022].
- de Castella, Tom. 2012. 100 years of the war on drugs. *BBC News* [interactive], January, 24. Access online: https://www.bbc.com/news/magazine-16681673 [accessed 21 May 2022].
- Derks, Hans. 2012. History of the Opium Problem the Assault on the East, ca. 1600–1950. *Brill* [interactive], *Sinica Leidensia*, 105. Access online: https://brill.com/view/title/20966 [accessed 17 May 2022 05].
- Deshpande, Anirudh. 2010. An Historical Overview of Opium Cultivation and Changing State Attitudes towards the Crop in India, 1878–2000 A.D. *Studies in History* [interactive], *25*(1): 109–143. Access online: http://indiaenvironmentportal.org.in/files/An%20Historical%20 Overview%200f%20Opium%20Cultivation.pdf [accessed 22 May 2022].
- Dwarakanath, Shri C. 1965. Use of opium and cannabis in the traditional systems of medicine in India. *United Nations* [interactive]. Access online: https://www.unodc.org/unodc/en/ data-and-analysis/bulletin/bulletin_1965-01-01_1_page004.html#s110) [accessed 22 May 2022].
- Evered, Kyle T. 2011. Traditional ecologies of the opium poppy and oral history in rural Turkey. *Geographical Review* [interactive], *101*(2): 164–182. Access online: https://www.tandfonline. com/doi/pdf/10.1111/j.1931-0846.2011.00085.x [accessed 17 May 2022].

- Fraire, Izzy. 2021. The World's Deadliest Plants Opium Poppy. Medium [interactive]. Access https://medium.com/@izzy_22356/the-worlds-deadliest-plants-opium-poppyonline: 18cbf2e5ff16 [accessed 22 May 2022].
- Ganapatye, Mayuresh. 2018. Rajasthan Farmers Protest Against New Govt Policy on Opium. India Today [interactive], December, 3. Access online: https://www.indiatoday.in/india/ story/opium-producing-farmers-in-chittorgarh-protest-against-new-government-policies-1401179-2018-12-03 [accessed 15 May 2022 05].
- Ghatwai, Milind. 2018. Behind Madhya Pradesh Move to Buy Banned Poppy Husk, the Farmer Constituency of 2018. Indian Express Limited [interactive], March, 19. Access online: https://indianexpress.com/article/india/opium-husk-sale-behind-madhya-pradeshmove-to-buy-banned-poppy-husk-the-farmer-constituency-of-2018-5102620/ [accessed 20 May 2022].
- Grover, Astha Madan, et al. 2021. India's War on Drugs and the Challenges to Rehabilitative Justice. The Vidhi Centre for Legal Policy [interactive] February, 12. Access online: https:// vidhilegalpolicy.in/blog/indias-war-on-drugs-and-the-challenges-to-rehabilitativejustice/ [accessed 21 May 2022].
- Hao, Da Cheng, et al. 2015. Phytochemical and biological research of Papaver pharmaceutical resources. Woodhead Publishing [interactive], 6: 217-251. Access online: https://reader. elsevier.com/reader/sd/pii/B9780081000854000062?token=E8E382BA91F2AF8DC7C37 75DFB8334CE8AAB806D848AE95846F116C289770CC63A1E2BCCAD632D7F03349750 oC19638F&originRegion=eu-west-1&originCreation=20220523184257 [accessed 22 May 2022].
- Hobbs, Joseph J. 1998. Troubling Fields: The Opium Poppy in Egypt. Geographical Review [interactive], 88(1): 64-85. Access online: https://www.jstor.org/stable/215872?seq=1 [accessed 2022 05 17].
- Honchell, Stephanie. 2010. Pursuing pleasure, attaining oblivion: the roles and uses of intoxicants at the Mughal court. University of Louisville: Electronic Theses and Dissertations [interactive]. Access online: https://ir.library.louisville.edu/etd/628/ [accessed 21 May 2022].
- Hosztafi, S. 2001. A heroin története" [The history of heroin]. Acta Pharmaceutica Hungarica [interactive], 71(2): 233-242. Access online: https://pubmed.ncbi.nlm.nih.gov/11862675/ [accessed 22 May 2022].
- Duke, James A. 1973. Utilization of Papaver. Economic Botany [interactive], 27(4) (1973): 390-400. Access online: https://www.jstor.org/stable/pdf/4253448.pdf?casa_token=AYfkZNIIJ80AAAAA:DobII4zEINhtZR450zrhKXFaZ84yDMptZf4BWubcz6Zati9xDd-QeaqVIuE5Ax-J3oPPsH9zj3nZvzOvBF_c7MjCNYS_L8MWh6eUoLl8esssRzF88NlHTw [accessed 22 May 2022].
- International Narcotics Control Board. 2015. Comments on the Reported Statistics on Narcotic Drugs, INCB [interactive]. Access online: https://www.incb.org/documents/Narcotic-Drugs/Technical-Publications/2016/NAR_Part_II_Comments_EN.pdf [accessed 22 May 2022].
- Mathrani, Mukesh. 2019. Rajasthan polls: Parties Offer Opium to Soothe Frayed Tempers. Hindustan Times [interactive], November, 20. Access online: https://www.hindustantimes. com/india/rajasthan-polls-parties-offer-opium-to-soothe-frayed-tempers/storywbjoqOEhftqasGbxhl3eoK.html [accessed 20 May 2022].

- McAlister, Scott, et al. 2016. The Environmental footprint of morphine: a life cycle assessment from opium poppy farming to the packaged drug. *BMJ* [interactive]. Access online: https://bmjopen.bmj.com/content/6/10/e013302 [accessed 19 May 2022].
- Mehrotra, Aditya. 2021. Critique of Narcotic Drugs and Psychotropic Substances Act, 1985: Plugging the Loopholes. *Legal Service India* [interactive]. Access online: https://www. legalserviceindia.com/legal/article-7966-critique-of-narcotic-drugs-and-psychotropicsubstances-act-1985- plugging-the-loopholes.html [accessed 22 May 2022].
- Mitra, Punya Priya, et al. 2017. Rampant smuggling of poppy husk goes on in MP as Centre, state bicker. *Hindustan Times* [interactive], July 21. Access: https://www.hindustantimes. com/india-news/rampant-smuggling-of-poppy-husk-goes-on-in-mp-as-centre-state-bicker/story-UXOLxdn1OTYaSNuoAIYIRK.html [accessed 20 May 2022].
- Pathan, Hasan, et al. 2012. Basic Opioid Pharmacology: An Update. British Journal of Pain [interactive] 6(1) (2012): 11–6. Access online: https://www.ncbi.nlm.nih.gov/pmc/articles/ PMC4590096/ [accessed 20 May 2022].
- Prévot, Sandrine. 2018. Boire l'opium Un rituel d'hospitalité en Inde du Nord [Opium Drinking: A Ritual of Hospitality in North India]. *L'Homme* [interactive], 227–228: 209–236. Access online: https://www.cairn.info/revue-l-homme-2018-3-page-209.htm [accessed 20 May 2022].
- Salavert, Aurélie, et al. 2020. Direct dating Reveals the Early History of Opium Poppy in Western Europe. Scientific Reports [interactive]. Access online: https://www.nature.com/ articles/s41598-020-76924-3.pdf [accessed 21 May 2022].
- Sharma, Shweta, et al. 2017. An Overview on Narcotic Drugs and Psychotropic Substances Act, 1985. *Journal of Forensic Science and Criminal Investigation* [interactive]. Access online: https://www.researchgate.net/profile/Shweta-Sharma-54/publication/322248330_ An_Overview_on_Narcotic_Drugs_and_Psychotropic_Substances_Act_1985/ links/5f3e3e5792851cd302082433/An-Overview-on-Narcotic-Drugs-and-Psychotropic-Substances-Act-1985.pdf [accessed 21 May 2022].
- Siegel, Benjamin. 2020. Tracking the Path of the Opioid Crisis. *The Brink* [interactive], February, 18. Access online: https://www.bu.edu/articles/2020/india-poppy-farms/ [accessed 14 May 2022].
- Smith, Beverly A., et al. 2007. Cultivation and Use of Opium in Rural India: Bottom-Up Insights into Anti-Drug Efforts. Asian Journal of Criminology [interactive] 2: 19–33. Access: https:// link.springer.com/article/10.1007/s11417-007-9024-1#citeas [accessed 21 May 2022].
- Statista Research Department 2022. Average price of poppy seed in Chennai, India from Financial Year 2015 to 2021. Statista Research Department [interactive], March, 17. Access online: https://www.statista.com/statistics/1069815/average-price-of-poppy-seed-india/ [accessed 19 May 2022].
- Tandon, Tripti. 2018. 'Addict to Convict: Working of the NDPS Act in Punjab' A Critique. The Leaflet [interactive], September, 6. Access: https://theleaflet.in/addict-to-convict-workingof-the-ndps-act-in-punjab-a-critique-vidhi-centre-lawyers-collective/ [accessed 21 May 2022].
- UNODC 1957. The abolition of opium smoking in India. *The United Nations Office on Drugs and Crime* [interactive]. Access online: https://www.unodc.org/unodc/en/data-andanalysis/bulletin/bulletin_1957-01-01_3_page002.html [accessed 22 May 2022].