



Research paper

Hashish revival in Morocco[☆]Pierre-Arnaud Chouvy^{a,*}, KENZA Afsahi^b^a CNRS – Prodig, 2, rue Valette, 75005 Paris, France^b Clersé, Université de Lille 1 – Bâtiment SH2, 59655 Villeneuve d'Ascq Cedex, France

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ABSTRACT

Background: In less than a decade, Morocco reportedly saw cannabis cultivation decrease by 65%, and hashish production is widely believed to have followed the same trend. Yet large anomalies exist between the alleged fall of hashish production in Morocco and international seizure data. While no explanation for such a discrepancy existed, the main hypothesis was that cannabis cultivation and hashish production had not declined to the extent suggested by the available information.

Methods: Based on existing data, on interviews with various actors, from European police sources to Moroccan cannabis cultivators, and on field research in Morocco, this article reviews contradictory available data and confronts it with observations made in the field.

Results: In the past decade cannabis cultivation underwent radical changes that could explain the discrepancy between official Moroccan cultivation and production data on the one hand, and international seizures on the other hand. The “traditional” *kif* cannabis variety is being rapidly replaced by hybrids with much larger resin yields and much higher potency. This unnoticed phenomenon, which slowly started in the early 2000s, explains how a two-third decline in cannabis cultivation was at least partially compensated for by three to five-fold yield increases.

Conclusion: The fact that the massive ongoing switch to hybrid cultivation is largely unknown or unaccounted for is actually a serious issue, for it directly questions the economic strategies that are being implemented in part to reduce and suppress cannabis cultivation in the Rif.

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In less than a decade, Morocco reportedly saw cannabis cultivation decrease by 65%, from an all-time high of 134,000 ha in 2003 (UNODC, 2003) to 47,500 ha in 2011 (UNODC, 2013).¹ Morocco, who was said to be the world's foremost hashish producer in 2003, is now reportedly second to Afghanistan: Moroccan hashish production allegedly declined by 75% between 2003 and 2011, from 3080 tonnes to 760 tonnes (UNODC, 2003, 2013). Yet, and regardless of how reliable the Afghan estimates are themselves,²

the recent Moroccan data on hashish production in Morocco has been openly questioned by the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) and, unofficially, by various European counter-narcotics police services, but not by the United Nations Office on Drugs and Crime (UNODC) (EMCDDA, 2012; UNODC, 2013).

While European and Moroccan seizures of Moroccan hashish have decreased in the past few years, apparently substantiating a decline in resin production in Morocco, the EMCDDA stressed “anomalies” between “the dramatic fall in estimated cannabis resin production in Morocco” and seizure data (EMCDDA, 2012: 58). Indeed, more Moroccan hashish was seized by Morocco, Spain and other European countries, and Algeria, than hashish estimated exported in 2009. In fact, the EMCDDA explained that “adding the quantities seized in Algeria to those intercepted in Spain and Morocco in 2009 would leave no or only very little cannabis resin of Moroccan origin to supply the consumer markets of the 22 European countries mentioning Morocco or Spain as a source of this drug” (EMCDDA, 2012: 58). While the EMCDDA did not offer any explanation for such a discrepancy it did hypothesize that hashish production had not declined to the extent suggested by the available information.

In this article we show that in the past decade cannabis cultivation underwent radical changes that can explain the discrepancy

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* Corresponding author. Tel.: +33 01 44 07 75 99.

E-mail address: pachouvy@geopium.org (P.-A. Chouvy).

¹ Cultivation estimates are given after eradication (8000 ha in 2011). The 2003 and 2005 estimates are based on joint surveys by Morocco and the UNODC while the 2012 estimate is based on data gathered unilaterally by the Moroccan authorities, then communicated to the UNODC. While the methodology used in the 2003 and 2005 surveys are detailed in the UNODC reports (use of both remote sensing and field sample-based field surveys), no information is available as how the 2012 data were produced.

² For example, prior to the 2012 survey, estimates of the Afghan cannabis survey used a visual estimate for the upper figure and a satellite estimate for the lower estimate in the range.

between official Moroccan cultivation and production data on the one hand, and international seizures on the other hand. We confirm the fact that cannabis cultivation has decreased since 2003 and also again since 2005, i.e. since the last UNODC survey, although we were unable to verify the extent of such a decline, as official Moroccan reports or explanations of survey methodology – if proper surveys actually took place – were not made available to us. Yet, we were able to visually confirm in 2013 that cannabis cultivation has disappeared from certain areas where it used to be widespread. What is most striking, though, is not the cultivation decrease, but the new cannabis varieties that are now predominantly cultivated in the region. It appears that the “traditional” *kif* cannabis variety is being rapidly replaced by hybrids with much larger resin yields and much higher potency. This phenomenon, which slowly started in the early 2000s, can easily explain how a two-third decline in cannabis cultivation was at least partially compensated for by what is a potential three to five-fold yield increase on the vast majority of current cultivated areas. Even if only such a rough guesstimate is possible at this stage, what is clear is that hashish production can no longer be estimated on the basis of former *kif*-based yields.

This article will first briefly look back at the history and context of *kif* cultivation and hashish production in Morocco, and especially at how cultivation spread in and beyond the Rif region and how hashish production developed. It will then focus on the last decade or so (2005–2013): puzzling years during which a cultivation decrease was not matched by a decline in hashish production. A decade that also saw important changes in hashish packaging, quality and potency, as shown by police seizures in Europe: smaller hashish pieces of higher quality and higher potency. The last section will detail the new era of hybrid cannabis and highly potent hashish by looking at the various cannabis strains now being cultivated in the Rif and by offering an explanation of when and how the move from the “traditional” *kif* variety to the new high yield and highly potent hybrids took place. In the end the article will consider the likely future of cannabis cultivation in the Rif, taking into consideration the heavy toll that the new hybrids take on a fragile ecological environment that has already suffered from widespread commercial *kif* cultivation.

About the methodology

To conduct this research, a mixed-methods approach to data collection was employed. First, a review of the (limited) existing literature on cannabis cultivation and hashish production in Morocco was conducted: academic papers, PhD theses, official reports and statistical data published in French, Spanish and English during the last decades were used to explain how and to what extent cannabis cultivation and hashish production developed and evolved in Morocco. Then, to overcome the limitation of the most recent quantitative data available in the existing literature, and in order to answer the many questions that were left unanswered by this first approach, a qualitative research was carried out through interviews and/or unstructured discussions with staff members from international development agencies, European police services, researchers, journalists, activists specialized on cannabis and/or Morocco, and two hashish dealers in France (questions were asked about recent production and trafficking trends, cultivated varieties, cultivation techniques, yields, cultivated surfaces, hashish packaging and qualities, THC contents, seized quantities, production estimates based on seizures, forced eradication, history and current issues of development projects, etc.). The qualitative part of the research was also and most significantly conducted through informal and partially structured interviews with Moroccan cannabis cultivators in the Rif region of Morocco

(and with one Moroccan cultivator in Spain) (see below), through the observation and inventory of cultivated cannabis varieties, through the observation of agricultural practices and techniques; and through visual observations of cannabis fields throughout the Rif. It must be stressed here that village names are not divulged in this article and that human sources are anonymized for obvious reasons.

The research process began in 2012 to better understand what had taken place in Morocco since the last UNODC survey (2005), but also to explain why official Moroccan hashish production figures were thought to be underestimated by many observers (notably European police services and the EMCDDA). Crop displacement was quickly set aside as a possible explanation because input by third-party observers and visual observations by the authors dismissed it altogether. Early interviews and a review of the existing literature quickly suggested that cannabis hybrids were being increasingly cultivated in the Rif. To verify this hypothesis a qualitative field study took place in July 2013 in the Rif region where a dozen informal and partially structured interviews were conducted in Arabic with male cultivators in four villages: three located in different areas of the historic cannabis zone, and one outside of the historic zone. Contacts with villagers were initiated as early as 2002 and were increased by chain-referral sampling. Various topics were addressed during these interviews; most notably: new cultivation trends, introduction dates of hybrids, origin of seeds, cultivated varieties, yields, cultivation techniques, hybrid and *kif* local names, prices (seeds, hashish, well drilling, etc.). Visiting the four villages was done as part of a preplanned driving itinerary meant to allow for as many visual observations as possible (such observations are easily made from the roads as cannabis fields cover entire valleys and hillsides of the Central Rif). Therefore visual observations of cultivated varieties (notably using geotagged photographs) were made possible in a large part of the Rif. Information was therefore acquired from primary sources by direct observation and generated empirical evidence. Despite intrinsic limitations (limited surveyed area, limited interviews, no interviews of traffickers, etc.), the mixed methodology allowed the collection and analysis of quantitative and qualitative data and brought convincing answers to the initial research question.

From kif to hashish: a brief history

Morocco is a producer of both *kif* and hashish, although very little *kif* is produced nowadays and only hashish is exported (Afsahi, 2010; Chouvy, 2008; Labrousse and Romero, 2001; Moreno, 1997; UNODC, 2003). *Kif* and hashish are derivatives of cannabis (*Cannabis sativa* or *Cannabis indica*) (Evans Schultes et al., 1975) whose female plants are the best producers of cannabinoids, the psychoactive compounds that are present in the plant and give cannabis and hashish their potency. *Kif*, from the Arabic *kayf* for pleasure (gave *kif* in French and *kef* in English, with basically the same meaning as in Arabic), designates a mixture of chopped cannabis and tobacco that was traditionally smoked in Morocco in a small pipe called a *sebsi* (Afsahi, 2009). But *kif* is also the Moroccan name for the cannabis plant, a local variety that is adapted to the dryness of the Rif region. *Kif* is said by many to be a landrace, that is, an old cultivar that was geographically isolated from others and has developed largely by natural processes, by adaptation to the natural and cultural environment in which it grows.

Hashish (from the Arabic for grass) is a psychoactive drug made by compressing the resin glands, or trichomes, of the female cannabis plant. It can be obtained through two different processes, depending on techniques employed in various production areas. In Morocco, the resin glands of the cannabis inflorescence, where

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