

3.3. Cannabis

3.3.1. Morocco

Until recently, the information available on cannabis cultivation in Morocco pointed to the fact that it had been increasing since the 1980's. However, estimates of the actual size of the area under cannabis cultivation and of the production of hashish in Morocco have been a debated and, at times, controversial. In February 2003, however, the Moroccan government signed a cooperation agreement with UNODC to conduct a survey on illicit drug production (cannabis) and organized crime in Morocco. The first survey on cannabis production was launched in July 2003.

Results of the 2003 UNODC Morocco Cannabis Survey

(1) Cannabis Cultivation

The survey estimated cannabis cultivation at about 134,000 hectares over the total area covered by the survey (14,000km², five provinces of the Northern Region). This represents 10% of the area surveyed, 27% of the arable lands of the surveyed territory, and 1.5% of Morocco's total arable land (8.7 million ha).

(2) Cannabis and cannabis resin production

The total potential production of raw cannabis was estimated to be around 47,000 metric tons and the potential cannabis resin production was estimated at 3,080 metric tons.

(3) Cannabis producers

In the cannabis production area, 75% of the douars (villages) and 96,600 farms were found to produce cannabis in 2003, representing a total population of about 800,000 persons (the 1994 census gave a figure of 1.65 million for the rural population in the area), i.e. 2.5% of Morocco's total population, estimated at 29.6 million in 2002.

(4) Cannabis producers' revenues

The average income per family generated by cannabis was estimated at Dh 20,900 (US\$ 2,200) and represented on average half (51%) of the total annual income of a cannabis producing family in 2003 (Dh 41,335, US\$ 4,351). By comparison, the average annual income of the 1,496,000 farms in Morocco was Dh 42,874 (US\$ 4,513) i.e. more or less similar to the annual income of a cannabis producing family.

The total income per capita generated by cannabis was estimated at Dh 2,237 (US\$ 267) for a total annual income of Dh 4,970 (US\$ 523). In comparison, the GDP per capita was about Dh 12,000 (US\$ 1,260) in Morocco in 2002.

(6) Trafficking and overall turnover of the market of cannabis resin (hashish) of Moroccan origin

In 2001, cannabis resin seizures by the Moroccan authorities amounted to 61.35 metric tons and ranked third after Spain and Pakistan. It represented 7% of the total cannabis resin seizures in the world. The fact that Spain came first (57% of the world seizures and 75% of the European seizures in 2001) is evidence of the importance of the Spanish territory as a transit zone for Moroccan hashish sold on the European market.

In 2002, around 735 mt of cannabis resins were seized in western Europe and 66 mt in Morocco (801 mt in total). Assuming roughly the same amount of cannabis resin would have been seized in 2003, around 2,300 metric tons would be left from the 2003 Moroccan cannabis resin production for consumption. Based on an average retail price of US\$ 5.4 per gram in Western Europe in 2003, the total market turnover of Moroccan cannabis resin could be estimated at US\$ 12 billion (i.e. Dh 114 billion, or 10 billion). Most of this turn-over is generated by the trafficking networks operating in the European markets. Because of the large degree of assumption, these estimates should be treated with caution.

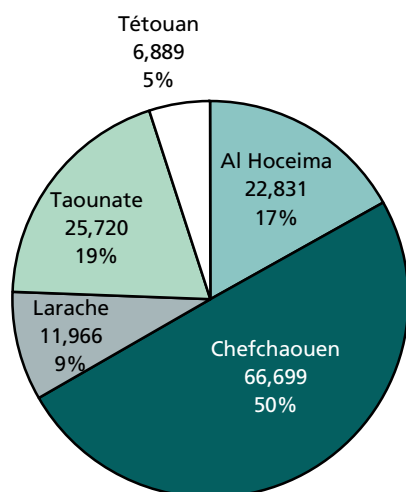
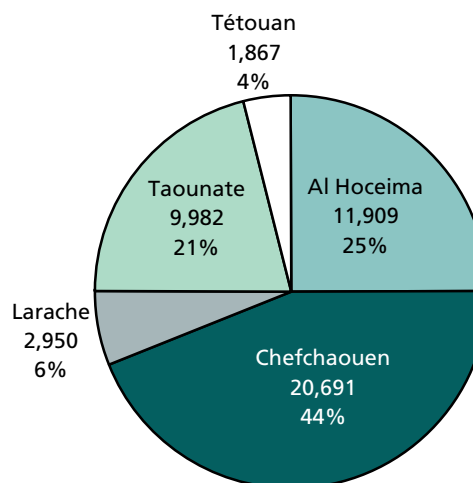
Fact Sheet : Morocco 2003

Source: UNODC survey report, available at www.unodc.org/unodc/en/crop_monitoring

Cannabis cultivation:	134,000 ha (of which 12% on irrigated land)
Gross cannabis production:	47,400 metric tons
Potential resin production:	3,080 metric tons
Number of households cultivating cannabis:	96,600 households (66 % of the 146,000 rural households in the study area and 6.5 % of the 1,496,000 agricultural households in Morocco)
Total population involved in cannabis cultivation:	800,000 people (2.7 % of the country's population of 29.6 million in 2002)
Cannabis cultivation in % of the total arable land in the study area:	27 % (and 1.5 % of the 8.7 million of ha of arable land in Morocco)
Total farmers' income from cannabis:	Dh 2 billion / US\$ 214 million
Average annual household income from cannabis:	Dh 20,900 / US\$ 2,200 (out of a total annual household income of 41,335 Dh /US\$ 4 352, or 51%)
Average cannabis income per capita:	Dh 2,536 / US\$ 267 (out of a total annual income per capita of 4,970 Dh / US\$ 523). (2002 GDP per capita: Dh 13,445 / US\$ 1,260)
In % of 2002 Moroccan GDP :	0,57 % (with a GDP of US\$ 37,3 billion)
2002 seizure of cannabis resin:	735 mt in Western Europe (¾ in Spain) 66 mt in Morocco
Annual turn-over of international trade in cannabis resin:	10 billion (equivalent to Dh 114 billion or about US\$ 12 billion)

*Graphs, tables, maps: Morocco 2003***Morocco, provincial cannabis cultivation**

Province	Total area (ha)	Area surveyed (ha)	Cannabis cultivation (ha)	Cannabis cultivation in % of surveyed area %
Al Hoceima	375,008	346,022	22,831	7%
Chefchaouen	529,503	529,503	66,699	13%
Larache	278,968	195,888	11,966	6%
Taounate	527,568	211,252	25,720	12%
Tétouan	245,771	94,157	6,889	7%
Total	1,956,818	1,376,822	134,105	10%

Morocco, provincial cannabis cultivation (ha) 2003**Morocco, provincial raw cannabis production (mt) 2003****Morocco, provincial raw cannabis production 2003**

Province	Cannabis Yield (kg/ha)	
	Rainfed	Irrigated
Al Hoceima	428	945
Chefchaouen	292	504
Larache	239	295
Taounate	361	589
Tetouan	256	370
Average	330	638

Morocco, potential farmers income from cannabis 2003

Production	Raw cannabis (metric tons)	Equivalent in powder cannabis (metric tons)	Price (Dh / kg)	Estimated value (Dh)	Estimated value (US\$)
66% raw cannabis	31,279	2,033	35	1,094,778,300	115,239,821
34% cannabis powder (sandouk)	16,113	1,046	900	941,705,065	99,126,849
Total (rounded)	47,400	3,080		2,036,000,000	214,000,000

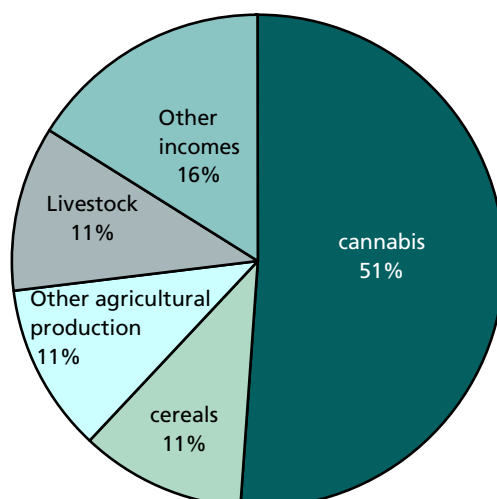
Morocco, number of farms and farmers cultivating cannabis 2003

Province	Total number of farmers surveyed	Number of farmers cultivating cannabis	% of farmers cultivating cannabis	Total number of farmers in the surveyed area	Estimated number of farmers cultivating cannabis	Average household size	Total population benefiting from cannabis cultivation
Al Hoceima	490	272	56	30,500	16,931	9.32	157,793
Chefchaouen	724	680	94	52,317	49,138	8.32	408,824
Larache	253	96	38	21,524	8,167	7.39	60,356
Taounate	463	229	49	33,965	16,799	8.11	136,241
Tetouan	177	113	64	8,735	5,577	7.3	40,709
Total	2,107	1,390	66	147,041	96,612	8.03	803,923

Morocco, share of cannabis in the household cannabis farmer's income (in %) 2003

Provinces	Cannabis	Cereales	Other agricultural productions	Livestock	Other incomes
Al Hoceima	62	11	7	8	11
Chefchaouen	62	11	6	8	12
Larache	15	12	26	30	17
Taounate	33	10	18	6	32
Tetouan	39	13	14	16	18
Average	51	11	11	11	16

Morocco, share of cannabis in the cannabis farmer's household income 2003



Morocco, average cannabis parcel size (ha) 2003

Province	Ha
Al Hoceima	0,19
Chefchaouen	0,37
Larache	0,77
Taounate	0,32
Tetouan	0,40
Five provinces	0,30

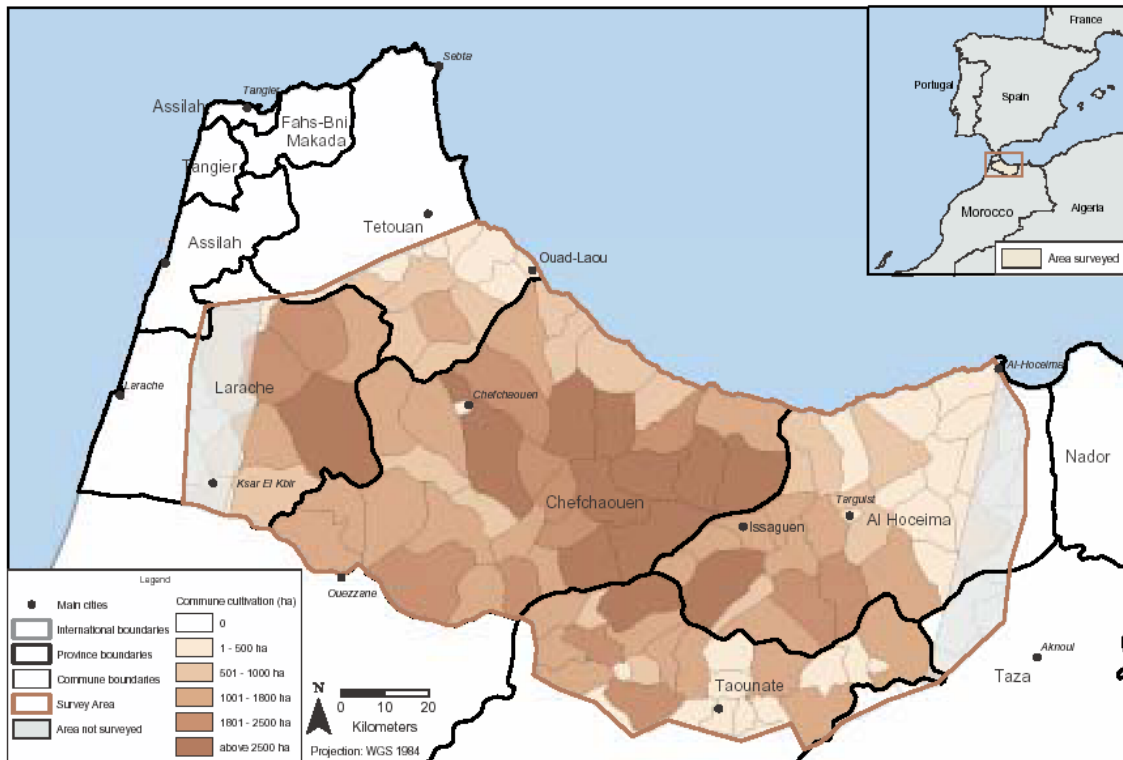
Morocco, average cannabis area per farmer 2003

Province	Average cannabis area per farmer	
	Rainfed (ha)	Irrigated (ha)
Al Hoceima	1,9	0,5
Chefchaouen	1,4	0,2
Larache	1,4	0,2
Taounate	0,8	0,1
Tetouan	0,8	0,2
Moyenne	1,3	0,3

Morocco, comparing incomes from rainfed cannabis and rainfed barley per hectare 2003

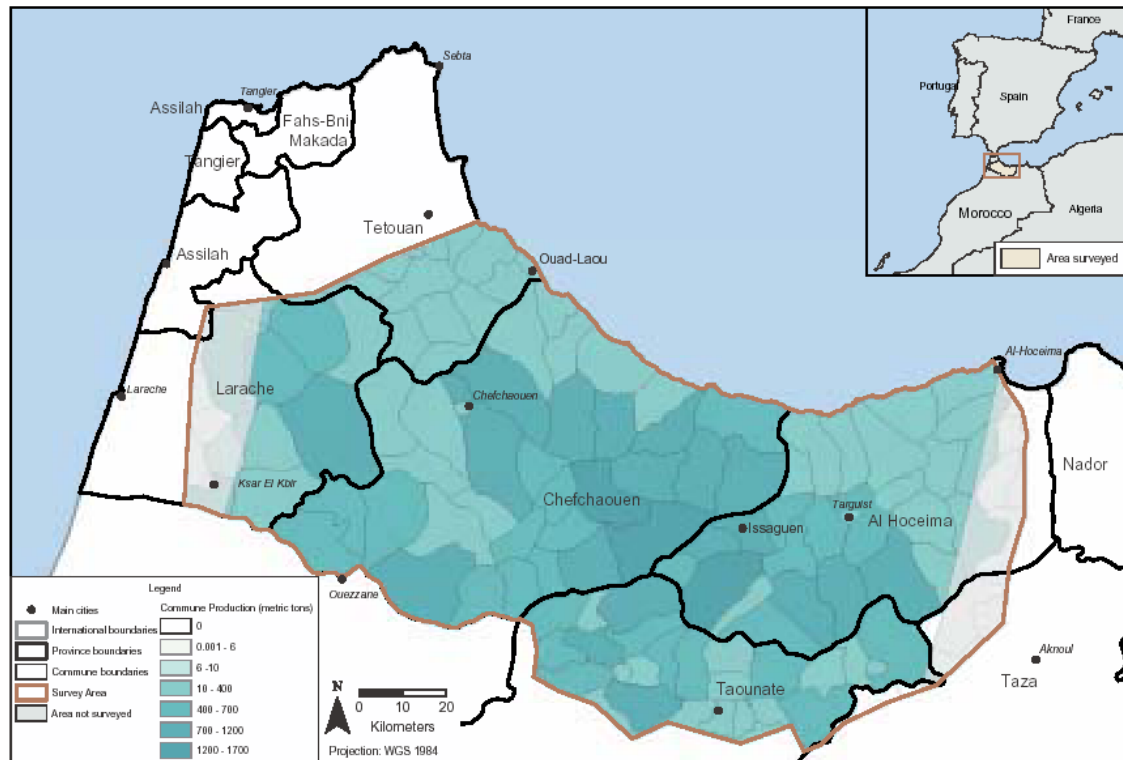
Province	Cannabis price (Dh /kg)	Yield rainfed cannabis (kg /ha)	Income rainfed cannabis (Dh/ha)	Barley price (Dh/kg)	Yield rainfed barley (kg/ha)	Income rainfed barley (Dh/ha)
Al Hoceima	38.11	428	16,311	2	870	1,740
Chefchaouen	31.34	292	9,151	2	690	1,380
Larache	30.00	239	7,170	2	550	1,100
Taounate	41.76	361	15,075	2	700	1,400
Tetouan	42.66	256	10,920	2	690	1,380
Average	35.26	330	11,635	2	730	1,460

Morocco, Northern Provinces: Cannabis cultivation in 2003 (per commune)



APDN - CRTS (Morocco) - UNODC/ICMP Cannabis Survey 2003

Morocco, Northern Provinces: Cannabis production in 2003 (per commune)



APDN - CRTS (Morocco) - UNODC/ICMP Cannabis Survey 2003

3.3.2. Seizure of Illicit laboratories

**MANUFACTURE
SEIZURES OF ILLICIT LABORATORIES
REPORTED FOR 2001 - 2002**

Remark: For convenience, an attempt was made to group the reported estimates by drug categories. however, due to inconsistencies and gaps in the reporting, no overall analysis of the data set was performed. Numbers are presented as reported to UNODC and should be interpreted with caution.

Source: Annual Report Questionnaire if not otherwise indicated

Country or Territory	Year	Name of drug seized	Number of laboratories (and quantity of drug)	Source
CANNABIS GROUP				
Americas				
<u>North America</u>				
Canada	2002		1 Lab.	
Subtotal North America			1 Lab.	
Total Americas			1 Lab.	
Europe				
<u>Eastern Europe</u>				
Bulgaria	2001	Cannabis liquid	1 Lab.	
Poland	2002	Cannabis	32 Lab.	
Russian Federation	2001	Cannabis herb	137 Lab.(920.549 kg)	
	2002	Cannabis herb	121 Lab.	
Subtotal Eastern Europe			291 Lab.(920.549 kg)	
<u>Western Europe</u>				
Denmark	2001	Cannabis resin	1 Lab.	
Subtotal Western Europe			1 Lab.	
Total Europe			292 Lab.(920.549 kg)	
Cannabis group			293 Lab.(920.549 kg)	