UNODC
United Nations Office on Drugs and Crime

Islamic Republic of Afghanistan
Ministry of Counter Narcotics

Afghanistan
Opium Survey 2014
Cultivation and Production

NOVEMBER 2014

ABBREVIATIONS

AGE	Anti-Government elements
ANP	Afghan National Police
CNPA	Counter Narcotics Police of Afghanistan
GLE	Governor-led eradication
ICMP	Illicit Crop Monitoring Programme (UNODC)
ISAF	International Security Assistance Force
MCN	Ministry of Counter-Narcotics
UNODC	United Nations Office on Drugs and Crime

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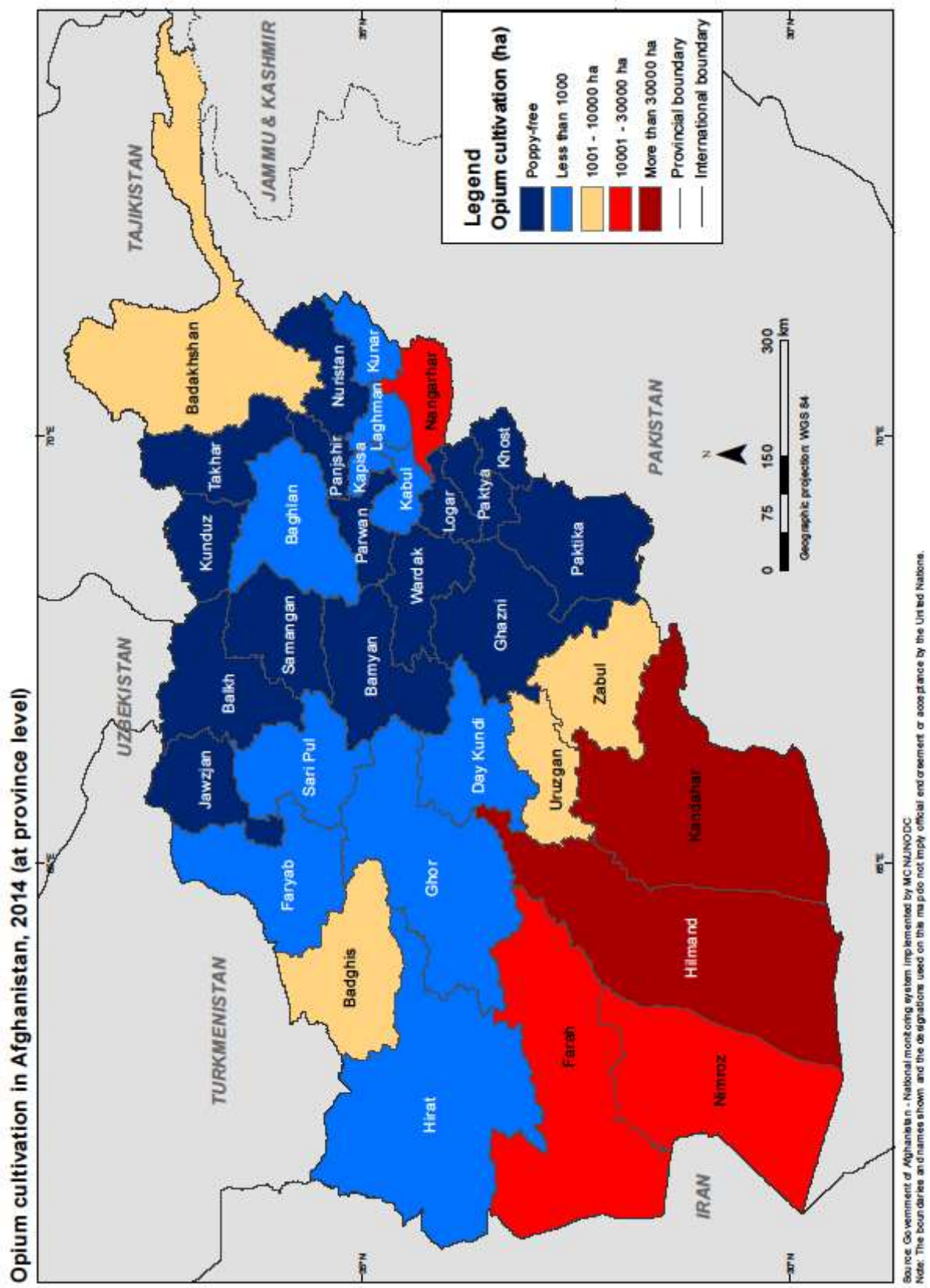
Key Findings

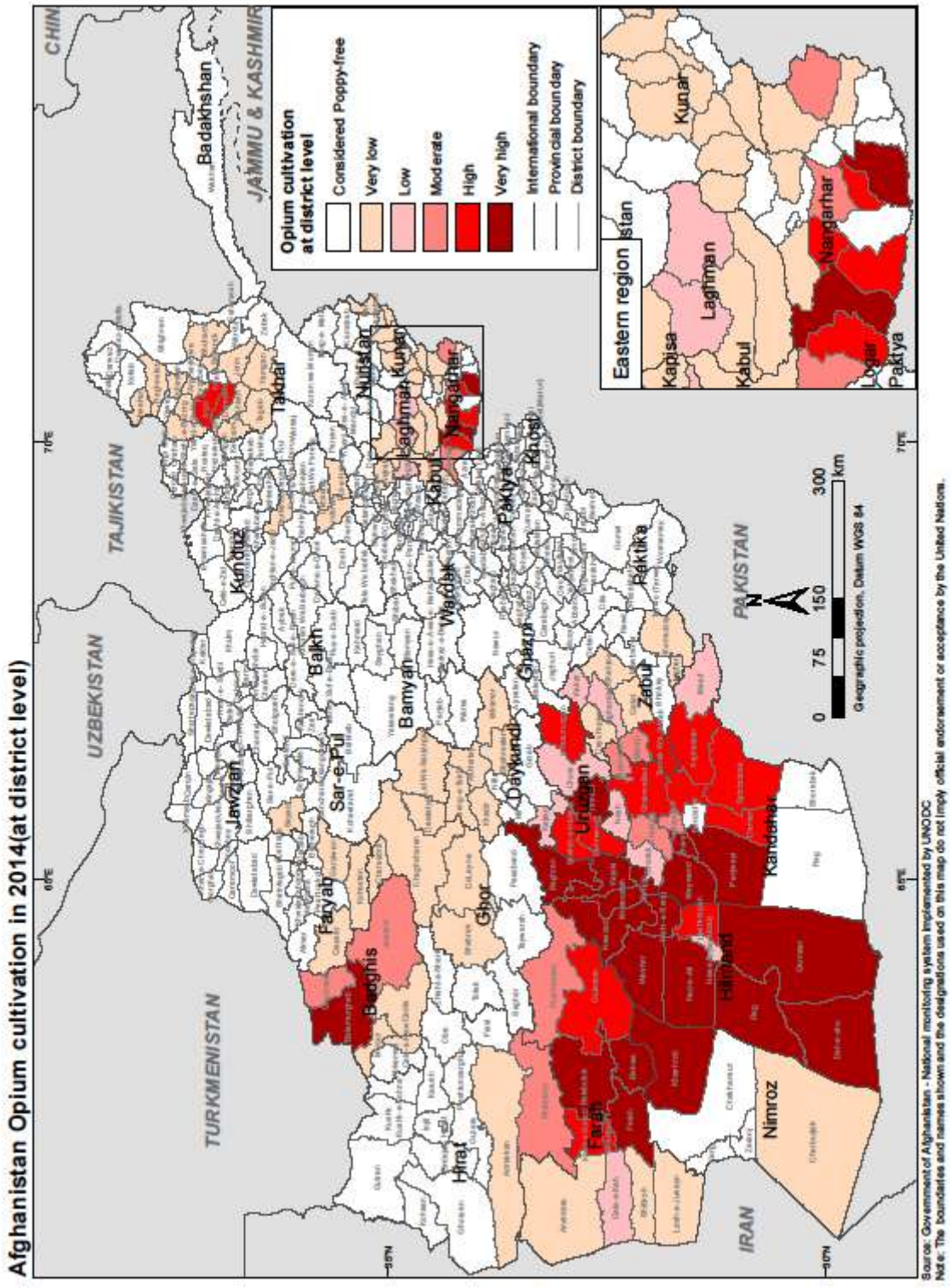
- The total area under opium poppy cultivation in Afghanistan was estimated at 224,000 hectares in 2014, a 7% increase from the previous year.
- The vast majority (89%) of opium cultivation took place in nine provinces in Afghanistan's Southern and Western regions, which include the country's most insecure provinces.
- Hilmand remained Afghanistan's major opium-cultivating province, followed by Kandahar, Farah, and Nangarhar.
- Opium cultivation increased in most of the main poppy-cultivating provinces, but stabilized in Hilmand itself (+3%).
- Interestingly, differing trends could be observed in Hilmand. Inside the former "Food Zone" (an alternative livelihood programme), opium cultivation increased by 13% in 2014 (to 41,089 hectares from 36,244 hectares in 2013). However, outside the former Food Zone, where the increases in poppy cultivation seen in previous years were mainly achieved through artificial irrigation, the area under poppy cultivation decreased slightly.
- Total eradication of opium poppy decreased by 63% in 2014, to 2,692 hectares.
- Average opium yield amounted to 28.7 kilograms per hectare in 2014, which was 9% more than in 2013 (26.3 kilograms per hectare).
- Opium yields in the Southern region, which drive overall production, increased by 27%, from 23.2 kilograms per hectare in 2013 to 29.5 kilograms per hectare in 2014. However, yields in the Southern region were still at relatively low levels in comparison to their levels prior to 2010.
- Potential opium production was estimated at 6,400 tons in 2014, an increase of 17% from its 2013 level (5,500 tons). This increase can be mainly attributed to a strong increase in production in the Southern region, where yields increased by 27% (from 23.2 kilograms per hectare in 2013 to 29.5 kilograms per hectare in 2014).
- Accounting for 69% of national production, the Southern region continued to produce the vast majority of opium in Afghanistan. With 16% of national production, the Western region was the country's second most important opium-producing region in 2014.
- At US$ 0.85 billion, or the equivalent of roughly 4% of Afghanistan's estimated GDP, the farm-gate value of opium production decreased by 13% in 2014.
- In 2014, opium prices decreased in all regions of Afghanistan. One probable reason for the decrease was an increase in supply due to an increase in production.
- Based on recent data on the morphine content of Afghan opium, the heroin conversion ratio, which describes the amount of opium needed to produce a kilogram of heroin, has been updated. For converting opium to pure heroin base, a ratio of 18.5:1 is estimated; for heroin of export quality (impure heroin of 52% purity), a ratio of 9.6:1 is estimated. These ratios replace the former ratio of 7:1 for converting opium to heroin of unknown purity.

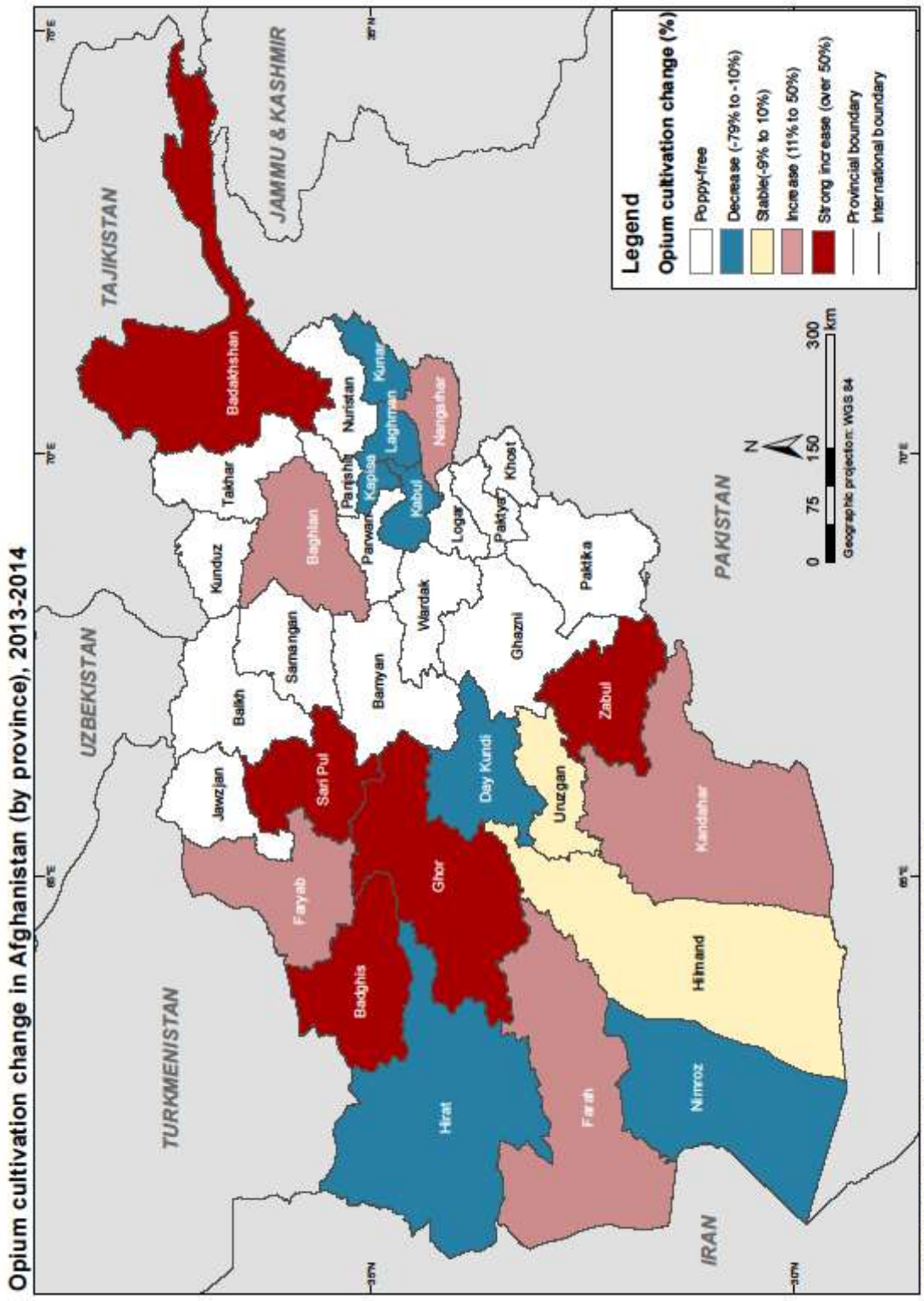
Fact Sheet Afghanistan Opium Survey 2014[1]

	2013	Change from 2013	2014
Net opium poppy cultivation (after eradication) in hectares	209,000 ha (173,000 - 238,000)	7%	224,000 ha (200,000 - 250,500)
Number of poppy-free provinces[2]	15	0	15
Number of provinces affected by poppy cultivation[3]	19	0	19
Eradication	7,348 ha	-63%	2,692 ha
Average opium yield (weighted by cultivation)	26.3 kg/ha	9%	28.7 kg/ha
Potential production of opium[4]	5,500 tons (4,500 - 6,500)	17%	6,400 tons (5,100 - 7,800)
Average farm-gate price (weighted by production) of fresh opium at harvest time	US$ 143/kg	-20%	US$ 114/kg
Average farm-gate price (weighted by production) of dry opium at harvest time	US$ 172/kg	-23%	US$ 133/kg
Total farm-gate value of opium production	US$ 0.95 billion	-10%	US$ 0.85 billion

[1] Numbers in brackets indicate the upper and lower bounds of the estimation range.
[2] Poppy-free provinces are those estimated to contain less than 100 hectares of opium cultivation.
[3] Provinces estimated to contain more than 100 hectares of opium cultivation.
[4] Refers to oven-dry opium.


Opium cultivation in Afghanistan, 2014 (at province level)
Legend
Opium cultivation (ha)
Poppy-free
Less than 1000
1001 - 10000 ha
10001 - 30000 ha
More than 30000 ha
Provincial boundary
International boundary
TAJIKISTAN
JAMMU & KASHMIR
PAKISTAN
UZBEKISTAN
TURKMENISTAN
IRAN
Badakhshan
Takhar
Kunduz
Baghlan
Nuristan
Kunar
Panjshir
Kapisa
Laghman
Nangarhar
Parwan
Kabul
Logar
Paktya
Khost
Wardak
Paktika
Samangan
Balkh
Bamyan
Ghazni
Jawzjan
Sari Pul
Day Kundi
Zabul
Uruzgan
Kandahar
Faryab
Ghor
Badghis
Helmand
Farah
Hirat
Nimroz
0
75
150
300
km
N
Geographic projection: WGS 84
Source: Government of Afghanistan - National monitoring system implemented by MCN/UNODC
Note: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.


Afghanistan Opium cultivation in 2014(at district level)
Opium cultivation at district level
Considered Poppy-free
Very low
Low
Moderate
High
Very high
International boundary
Provincial boundary
District boundary
Eastern region
Badakhshan
Takhar
Nuristan
Laghman
Kunar
Kabul
Nangarhar
Kapisa
Logar
Paktya
Khost
Kunduz
Baghlan
Jawzjan
Faryab
Sar-e-Pul
Bamyan
Wardak
Ghazni
Paktika
Zabul
Uruzgan
Daykundi
Ghor
Kandahar
Helmand
Farah
Nimroz
Herat
Badghis
TURKMENISTAN
UZBEKISTAN
TAJIKISTAN
JAMMU & KASHMIR
PAKISTAN
IRAN
0 75 150 300 km
Geographic projection, Datum WGS 84
Source: Government of Afghanistan - National monitoring system implemented by UNODC
Note: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.


Opium cultivation change in Afghanistan (by province), 2013-2014
Legend
Opium cultivation change (%)
Poppy-free
Decrease (-79% to -10%)
Stable(-9% to 10%)
Increase (11% to 50%)
Strong increase (over 50%)
Provincial boundary
International boundary
TAJIKISTAN
JAMMU & KASHMIR
UZBEKISTAN
PAKISTAN
TURKMENISTAN
IRAN
Badakhshan
Takhar
Kunduz
Baghlan
Nuristan
Kunar
Laghman
Nangarhar
Panjshir
Parwan
Kapisa
Kabul
Logar
Paktya
Khost
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75
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km
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Geographic projection: WGS 84
Source: Government of Afghanistan - National monitoring system implemented by UNODC
Note: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

1 Introduction

The *Afghanistan Opium Survey* is implemented annually by the Ministry of Counter Narcotics (MCN) of Afghanistan in collaboration with the United Nations Office on Drugs and Crime (UNODC). The survey team collects and analyses information on the location and extent of opium cultivation, potential opium production and the socio-economic situation in rural areas. Since 2005, MCN and UNODC have also been involved in the verification of opium eradication conducted by provincial governors and poppy-eradication forces. The results provide a detailed picture of the outcome of the current year's opium season and, together with data from previous years, enable the identification of medium- and long-term trends in the evolution of the illicit drug problem. This information is essential for planning, implementing and monitoring the impact of measures required for tackling a problem that has serious implications for Afghanistan and the international community.

The opium survey is implemented within the technical framework of the UNODC Illicit Crop Monitoring Programme (ICMP). The objective of ICMP is to assist the international community in monitoring the extent and evolution of illicit crops in the context of the Plan of Action adopted by the United Nations (the 53rd session of the Commission on Narcotic Drugs in March 2009). Under ICMP, monitoring activities currently supported by UNODC also exist in other countries affected by illicit crop cultivation: in Asia, Myanmar and the Lao People's Democratic Republic; in Latin America, the Plurinational State of Bolivia, Colombia, Ecuador, Mexico and Peru; in Africa, Nigeria.

The *Afghanistan Opium Survey 2014* was implemented under project AFG/F98, "Monitoring of Opium Production in Afghanistan", with financial contributions from the Governments of Germany, Norway, the United Kingdom of Great Britain and Northern Ireland, and the United States of America.

2 Opium Cultivation

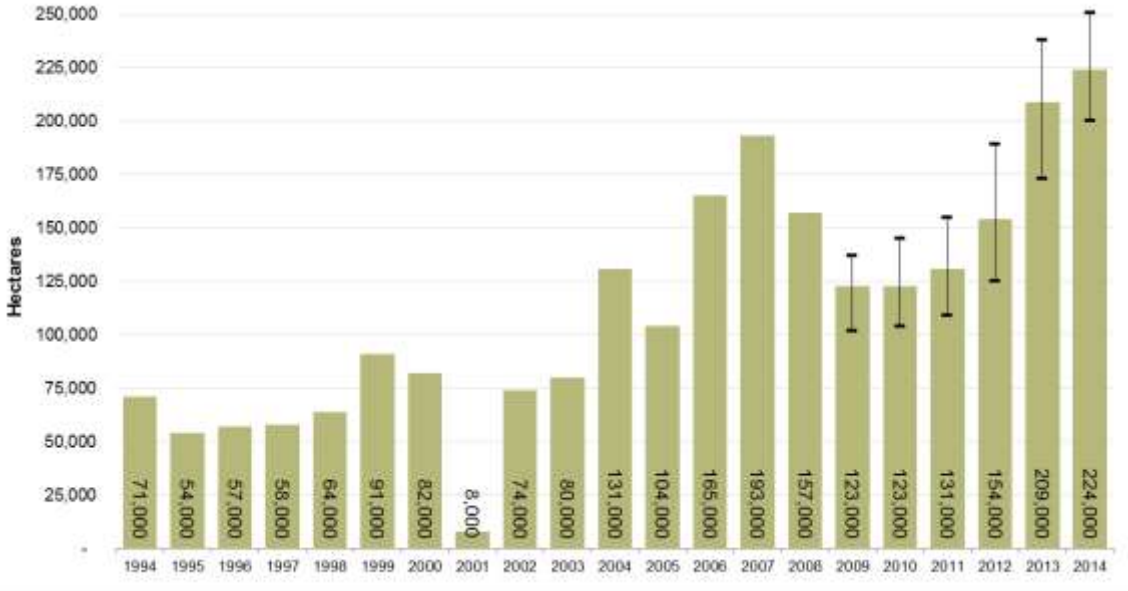
2.1 National and regional opium cultivation trends

The total area under opium poppy cultivation in Afghanistan was estimated to be 224,000 hectares (200,000-250,500) in 2014, which represents a 7% increase from 2013.

In 2014, 98% of total opium cultivation in Afghanistan took place in the Southern, Eastern and Western regions of the country: in the Southern region, 67% was concentrated in Day Kundi, Hilmand, Kandahar, Uruzgan and Zabul provinces; in the Western region, 22% was concentrated in Badghis, Farah, Hirat and Nimroz provinces; in the Eastern region, 9% was concentrated in Nangarhar, Kunar, Laghman and Kapisa provinces. These are the most insecure provinces, with a security risk classified as "high" or "extreme" by the United Nations Department of Safety and Security (UNDSS), and they are mostly inaccessible to the United Nations and NGOs. Day Kundi is the only province in the South where security is generally good, with the exception of Kejran district.

Hilmand remained the country's major opium-cultivating province (103,240 hectares), followed by Kandahar (33,713 hectares), Farah (27,513 hectares), Nangarhar (18,227 hectares), Nimroz (14,584 hectares), Uruzgan[5] (9,277 hectares), Badghis (5,721 hectares), Badakhshan (4,204 hectares), Zabul (2,894 hectares), Laghman (901 hectares), Kunar (754 hectares), Hirat (738 hectares) Day Kundi[6] (587 hectares), Ghor (493 hectares), Kapisa (472 hectares), Kabul (233 hectares) and Sari Pul (195 hectares).

Figure 1: Opium cultivation in Afghanistan, 1994-2014 (Hectares)



Sources: UNODC and UNODC/MCN opium surveys 1994-2014. The high-low lines represent the upper and lower bounds of the 95% confidence interval.

With the exception of the Central region, all regions experienced an increase in poppy-cultivation levels in 2014, with the largest relative increase being in the North-eastern region (79%; mainly driven by increases in Badakhshan), followed by the Eastern (9%), Western (8%) and North-eastern regions (4%). However, the vast majority (89%) of total opium cultivation took place in nine provinces in Afghanistan's Southern and Western regions.

[5] Including Gizab district, a district formally part of Day Kundi, but under the administration of the Governor of Uruzgan province.

[6] Without Gizab district.

Opium cultivation increased in most of the main opium poppy-growing provinces, including Badakhshan, Badghis, Nangarhar, Kandahar, Farah, Hilmand, whereas it decreased in Nimroz and Uruzgan provinces.

The number of **poppy-free provinces** in Afghanistan remained stable in 2014. In the Northern region, Balkh regained its poppy-free status, whereas Sari Pul lost its poppy-free status.

Table 1: Regional distribution of opium cultivation, 2013-2014 (Hectares)

Region	2013 (ha)	2014 (ha)	Change 2013-2014 (%)	2013 (ha) as % of total	2014 (ha) as % of total
Southern	141,779	149,711	+6%	68%	67%
Western	45,557	49,049	+8%	22%	22%
Eastern	18,665	20,353	+9%	9%	9%
North-eastern	2,374	4,253	+79%	1%	2%
Central	298	233	-22%	0.1%	0.1%
Northern	710	738	4%	0.3%	0.3%
Rounded total	**209,000**	**224,000**	**+7%**	**100%**	**100%**

In the **Eastern region**, cultivation decreased in Kunar, Laghman and Kapisa provinces by 33%, 27% and 19%, respectively, but increased in Nangarahar province by 16%. Cultivation in Nangahar again reached the level it had before becoming poppy-free in 2007. Only 34 hectares of opium poppy cultivation were eradicated in Nangarhar province in 2014.

In the **North-Eastern region**, Badakhshan saw a 77% increase in opium poppy cultivation, from 2,374 hectares in 2013 to 4,204 hectares in 2014. This happened despite the eradication of 1,411 hectares of opium poppy in 2014.

In the **Northern region**, Balkh province regained its poppy-free status. However, Sari Pul province lost its poppy-free status, though its level of cultivation remained very low. Opium cultivation in Baghlan province increased by 19%, to 168 hectares in 2014 from 141 hectares in 2013.

In the **Southern region**, with increases of 117%, 34%, 19% and 3% in Zabul, Kandahar and Hilmand provinces, respectively, opium cultivation increased in most provinces. Hilmand remained the country's principal opium-cultivating province in 2014, accounting for 46% of total opium cultivation. Poppy cultivation in Uruzgan and Day Kundi provinces in 2013 and 2014 cannot be compared with previous years because cultivation in Gizab district, which was previously part of Day Kundi province, was considered in the 2014 area estimation of Uruzgan.

In the **Western region**, the main poppy-cultivating provinces in 2014 were Farah and Nimroz. The area under opium cultivation in Farah province increased from 24,492 hectares in 2013 to 27,513 hectares in 2014 (an increase of 12%). With 14,584 hectares under cultivation, Nimroz province remained the second largest opium-cultivating province in the Western region in 2014, even though opium cultivation in Nimroz decreased by 10% from its 2013 level.

In 2014, no eradication took place in the Western region, except in Ghor province where a total of 8 hectares was eradicated.

Table 2: Number of provinces by opium cultivation trends, 2006-2014

Opium cultivation trend	Number of provinces								
	2006	2007	2008	2009	2010	2011	2012	2013	2014
Increase	14	8	1	6	7	13	14	14	11
Decrease	2	11	11	7	7	4	2	5	8
Stable	12	2	4	1	0	0	1	0	0
Poppy-free	6	13	18	20	20	17	17	15	15

Table 3: Main opium-cultivating provinces in Afghanistan, 2007-2014 (Hectares)

Province	2008	2009	2010	2011	2012	2013	2014	Change 2013-2014	2014 (ha) as % of total
Hilmand	103,590	69,833	65,045	63,307	75,176	100,693	103,240	+3%	46%
Kandahar	14,623	19,811	25,835	27,213	24,341	28,335	33,713	+19%	15%
Farah	15,010	12,405	14,552	17,499	27,733	24,492	27,513	+12%	12%
Uruzgan*	9,939	9,224	7,337	10,620	10,508	9,880	9,277	NA	4%
Nangarhar	Poppy-free	294	719	2,700	3,151	15,719	18,227	+16%	8%
Badakhshan	200	557	1,100	1,705	1,927	2,374	4,204	+77%	2%
Badghis	587	5,411	2,958	1,990	2,363	3,596	5,721	+59%	3%
Day Kundi*	2,273	3,002	1,547	1,003	1,058	1,536	587	NA	0%
Nimroz	6,203	428	2,039	2,493	3,808	16,252	14,584	-10%	7%
Rest of the country	4,828	2,131	1,383	2,535	4,417	6,585	7,271	+10%	3%
Rounded total	**157,000**	**123,000**	**123,000**	**131,000**	**154,000**	**209,000**	**224,000**	**7%**	**100%**

** In 2014, Gizab district of Day Kundi province was considered under Uruzgan province, as per presidential decree. The 2014 poppy-cultivation estimates of Day Kundi and Uruzgan are therefore not comparable with previous years.*

Table 4: Opium cultivation (2010-2014) and eradication (2013-2014) in Afghanistan
(Hectares)

PROVINCE	Cultivation 2012 (ha)	Cultivation 2013 (ha)	Cultivation 2014 (ha)	Change 2013-2014 (%)	Estimation method 2014	Eradication in 2013 (ha)	Eradication in 2014 (ha)
Kabul	120	298	233	-22%	T	0	0
Khost	Poppy-free	Poppy-free	Poppy-free	NA	V	0	0
Logar	Poppy-free	Poppy-free	Poppy-free	NA	V	0	0
Paktya	Poppy-free	Poppy-free	Poppy-free	NA	V	0	0
Panjshir	Poppy-free	Poppy-free	Poppy-free	NA	V	0	0
Parwan	Poppy-free	Poppy-free	Poppy-free	NA	V	0	0
Wardak	Poppy-free	Poppy-free	Poppy-free	NA	V	0	0
Ghazni	Poppy-free	Poppy-free	Poppy-free	NA	V	0	0
Paktika	Poppy-free	Poppy-free	Poppy-free	NA	V	0	0
Central Region	**120**	**298**	**233**	**-22%**		**0**	**0**
Kapisa	290	583	472	-19%	T	11	26
Kunar	1,279	1,127	754	-33%	S	108	75
Laghman	877	1,236	901	-27%	T	20	1
Nangarhar	3,151	15,719	18,227	+16%	S	157	34
Nuristan	Poppy-free	Poppy-free	Poppy-free	NA	V	0	0
Eastern Region	**5,596**	**18,665**	**20,353**	**9%**		**296**	**136**
Badakhshan	1,927	2,374	4,204	+77%	S	2,798	1,411
Takhar	Poppy-free	Poppy-free	Poppy-free	NA	T	60	1
Kunduz	Poppy-free	Poppy-free	Poppy-free	NA	V	0	9
North-eastern Region	**1,927**	**2,374**	**4,204**	**77%**		**2,858**	**1,421**
Baghlan	177	141	168	19%	T	34	3
Balkh	Poppy-free	410	Poppy-free	NA	T	80	35
Bamyan	Poppy-free	Poppy-free	Poppy-free	NA	V	0	0
Faryab	Poppy-free	158	211	33%	T	7	10
Jawzjan	Poppy-free	Poppy-free	Poppy-free	NA	T	0	0
Samangan	Poppy-free	Poppy-free	Poppy-free	NA	V	0	0
Sari Pul	Poppy-free	Poppy-free	195	NA	T	0	43
Northern Region	**177**	**710**	**574**	**-19%**		**121**	**91**
Hilmand	75,176	100,693	103,240	+3%	S	2,162	787
Kandahar	24,341	28,335	33,713	+19%	S	1,083	68
Uruzgan*	10,508	9,880	9,277	NA	S	352	163
Zabul	424	1,335	2,894	+117%	S	0	12
Day Kundi*	1,058	1,536	587	NA	S	9	6
Southern Region	**111,507**	**141,779**	**149,711**	**6%**		**3,606**	**1,036**
Badghis	2,363	3,596	5,721	+59%	S	3	0
Farah	27,733	24,492	27,513	+12%	S	262	0
Ghor	125	264	493	+87%	T	6	8
Hirat	1,080	952	738	-23%	T	77	0
Nimroz	3,808	16,252	14,584	-10%	S	120	0
Western Region	**35,109**	**45,557**	**49,049**	**8%**		**468**	**8**
Total (rounded)	**154,000**	**209,000**	**224,000**	**7%**		**7,348**	**2,692**

Area estimation method: S=remote sensing sample survey, T=remote sensing target survey, V=village sample survey and field observation. See Methodology section for detailed description of methods used. A province is defined as poppy-free when it is estimated to have less than 100 hectares of opium cultivation.

** In 2014, Gizab district of Day Kundi province was considered under Uruzgan province as per presedential decree. The 2014 poppy cultivation estimates of Day Kundi and Uruzgan are therefore not comparable with previous years.*

2.2 Regional Breakdown

2.2.1 Central region

(Ghazni, Kabul, Khost, Logar, Paktika, Paktya, Panjshir, Parwan, Wardak)

Opium cultivation in the Central region decreased by 22% in 2014, with the total area cultivated decreasing to 233 hectares from 298 hectares in 2013. Opium cultivation was limited to the Uzbeen valley of Surobi district in Kabul province, where security is extremely poor. There was no eradication in Kabul province in 2013 and 2014. With the exception of **Kabul**, all provinces in the Central region have been poppy-free since 2008 and remained so in 2014.

Table 5: Opium cultivation and eradication in the Central region, 2011-2014 (Hectares)

PROVINCE	Cultivation 2011 (ha)	Cultivation 2012 (ha)	Cultivation 2013 (ha)	Cultivation 2014 (ha)	Change 2011-2012 (%)	Eradication in 2013 (ha)	Eradication in 2014 (ha)
Kabul	220	120	298	233	-22%	0	0
Khost	Poppy-free	Poppy-free	Poppy-free	Poppy-free	NA	0	0
Logar	Poppy-free	Poppy-free	Poppy-free	Poppy-free	NA	0	0
Paktya	Poppy-free	Poppy-free	Poppy-free	Poppy-free	NA	0	0
Panjshir	Poppy-free	Poppy-free	Poppy-free	Poppy-free	NA	0	0
Parwan	Poppy-free	Poppy-free	Poppy-free	Poppy-free	NA	0	0
Wardak	Poppy-free	Poppy-free	Poppy-free	Poppy-free	NA	0	0
Ghazni	Poppy-free	Poppy-free	Poppy-free	Poppy-free	NA	0	0
Paktika	Poppy-free	Poppy-free	Poppy-free	Poppy-free	NA	0	0
Central region	**220**	**120**	**298**	**233**	**-22%**	**0**	**0**

2.2.2 Eastern region

(Kapisa, Kunar, Laghman, Nangarhar, Nuristan)

The Eastern region experienced a 9% increase in opium cultivation in 2014. A total of 20,353 hectares of opium was cultivated in the Eastern region, whereas only 136 hectares were eradicated.

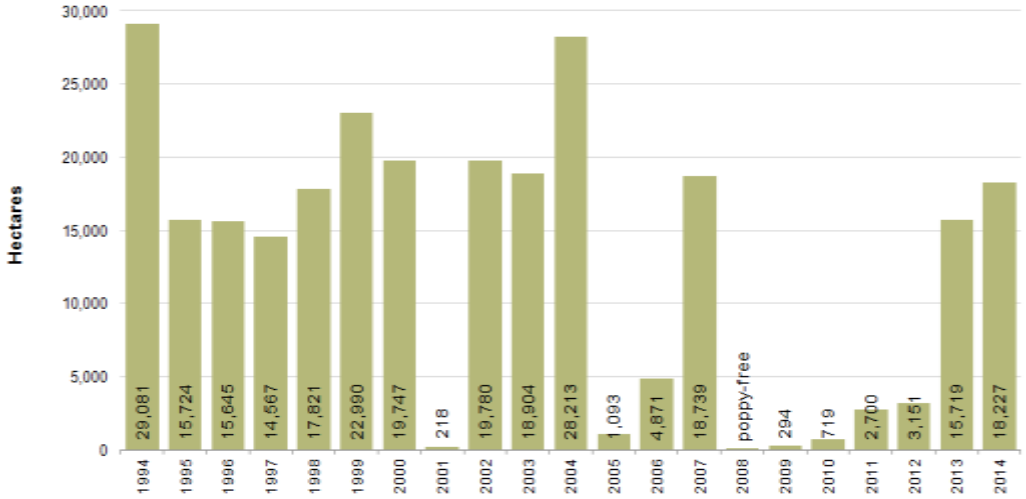
Table 6: Opium cultivation and eradication in the Eastern region, 2011-2014 (Hectares)

PROVINCE	Cultivation 2011 (ha)	Cultivation 2012 (ha)	Cultivation 2013 (ha)	Cultivation 2014 (ha)	Change 2011-2012 (%)	Eradication in 2013 (ha)	Eradication in 2014 (ha)
Kapisa	181	290	583	472	-19%	11	26
Kunar	578	1,279	1,127	754	-33%	108	75
Laghman	624	877	1,236	901	-27%	20	1
Nangarhar	2,700	3,151	15,719	18,227	+16%	157	34
Nuristan	Poppy-free	Poppy-free	Poppy-free	Poppy-free	NA	0	0
Eastern region	**4,082**	**5,596**	**18,665**	**20,353**	**+9%**	**296**	**136**

Traditionally an important poppy-growing province, **Nangarhar** experienced an increase in opium cultivation of 16% in 2014, to 18,227 hectares from 15,719 hectares in 2013, which was almost back to its 2007 level (18,739 hectares). Opium cultivation increased significantly in Sherzad, Achin, Pachir Wagam Chaparhar, Kot and Lalpoor districts, where security was very poor.

Due to strong resistance by Anti-Government elements (AGE), only 34 hectares of opium cultivation were eradicated by Governor-led eradication in the province in 2014.

Figure 2: Opium cultivation in Nangarhar province, 1994-2014 (Hectares)



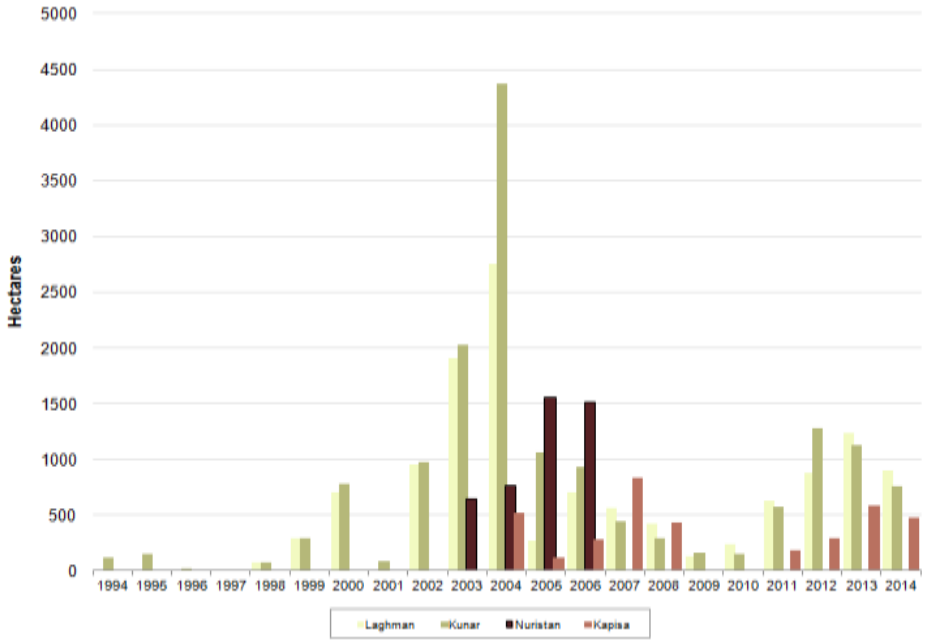
Note: a sampling approach was introduced in Nangarhar province in 2013, which increased the area under observation significantly in comparison to previous years when a target approach was employed.

In **Laghman** province, opium cultivation decreased by 27%, from 1,236 hectares in 2013 to 901 hectares in 2014. At the district level, significant decreases occurred in Dowlat Shah (-97%), Alisheng (-41%) and Alingar (-5%). However, cultivation increased to 137 hectares (15%) in Mehterlam district.

In **Kunar** province, opium cultivation decreased by 33% in 2014, with the main opium-cultivation districts being Asada bad, Dara-i-Pech and Shigal Wa Sheltan.

Opium cultivation in **Kapisa** province decreased by 19% in 2014, from 583 hectares to 472 hectares, with Tagab its main opium-cultivating district. **Nuristan** maintained the poppy-free status it achieved in 2007.

Figure 3: Opium cultivation in Laghman, Kunar, Nuristan and Kapisa provinces, 1994-2014 (Hectares)



2.2.3 North-eastern region

(Badakhshan, Kunduz and Takhar)

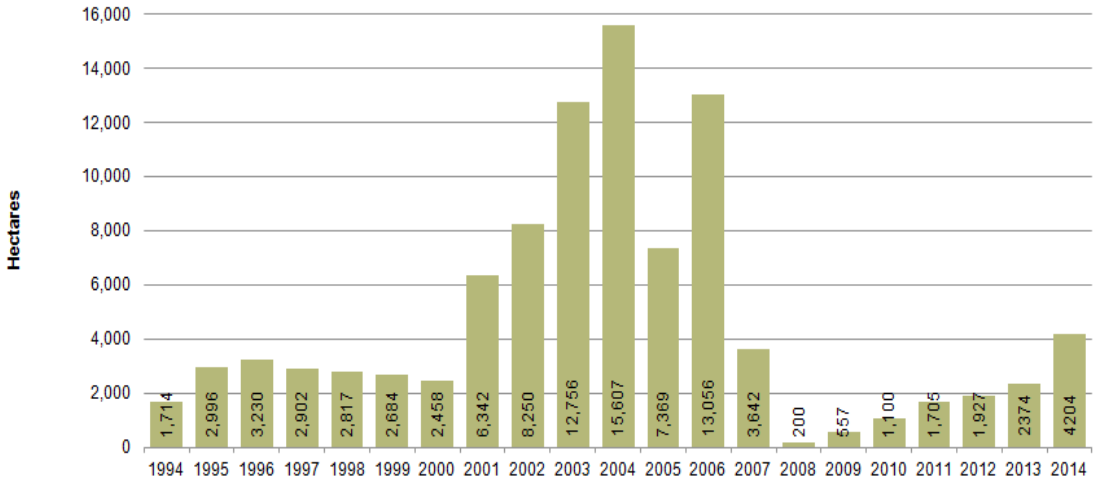
Opium cultivation in the North-eastern region reached 4,204 hectares in 2014, an increase of 77% from 2013. However, the increase only occurred in Badakhshan province as the two other provinces in the region, Kunduz and Takhar, have been poppy-free since 2007 and 2008, respectively.

Table 7: Opium cultivation and eradication in the North-eastern region, 2011-2014 (Hectares)

PROVINCE	Cultivation 2011 (ha)	Cultivation 2012 (ha)	Cultivation 2013 (ha)	Cultivation 2014 (ha)	Change 2013-2014 (%)	Eradication in 2013 (ha)	Eradication in 2014 (ha)
Badakhshan	1,705	1,927	2,374	4,204	+77%	2,798	1,411
Kunduz	Poppy-free	Poppy-free	Poppy-free	Poppy-free	NA	0	1
Takhar	Poppy-free	Poppy-free	Poppy-free	Poppy-free	NA	60	9
North-eastern region	**1,705**	**1,927**	**2,374**	**4,204**	**+77%**	**2,858**	**1,421**

Opium cultivation in **Badakhshan** increased by 77% in 2014, to 4,204 hectares from 2,374 hectares in 2013, and was mostly confined to rain-fed areas cultivated in spring, mainly in Argo and Darayim districts where opium cultivation increased by 262% (2,046 hectares) and 87% (1,282 hectares), respectively. A total of 1,411 hectares of opium cultivation was eradicated and verified by MCN/UNODC in Badakhshan province in 2014.

Figure 4: Opium cultivation in Badakhshan province, 1994-2014 (Hectares)



Kunduz province has been poppy-free since 2007 and is well known for growing a wide range of licit crops, from fruit and vegetables to cotton. An insignificant amount of cultivation has been observed in this province in recent years, and it remained under 100 hectares in 2014, the threshold for obtaining poppy-free status.

Also poppy-free since 2008, **Takhar** province maintained its poppy-free status in 2014. Only one hectare was eradicated there in 2014.

2.2.4 Northern region

(Baghlan, Balkh, Bamyan, Faryab, Jawzjan, Samangan, Sari Pul)

Opium cultivation increased by 19% in **Baghlan** province in 2014, though the level of opium cultivation was still low. The main opium-cultivating districts were Pul-i-Hisar and Deh Salah, where opium cultivation increased by 11% and 65%, respectively.

Poppy-free from 2007 to 2012, **Balkh** province lost its poppy-free status in 2013 due to the 410 hectares cultivated in Chimtal district. However, the province regained its poppy-free status in 2014.

Faryab province was poppy-free in 2009, 2010 and 2012, but lost its poppy-free status in 2013. In 2014, opium cultivation increased by a further 33%, to 211 hectares from 151 hectares in 2013. Opium cultivation mainly took place in Kohistan, Qaysar and Gurziwan.

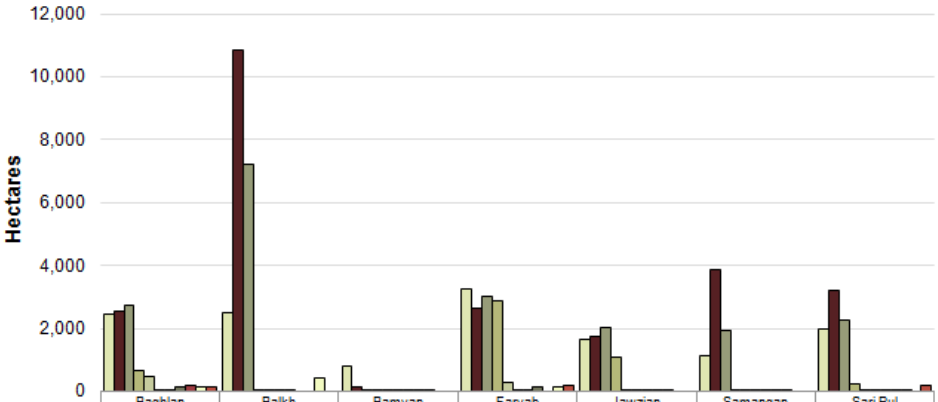
Samangan and **Bamyan** have been poppy-free since 2007 and remained so in 2014.

Due to its 195 hectares of opium cultivation in 2014, which mainly took place in Sayed district, **Sari Pul** lost the poppy-free status it obtained in 2008. **Jawzjan** province has been poppy-free since 2008 and maintained its poppy-free status in 2014.

Table 8: Opium cultivation and eradication in the Northern region, 2011-2014 (Hectares)

PROVINCE	Cultivation 2011 (ha)	Cultivation 2012 (ha)	Cultivation 2013 (ha)	Cultivation 2014 (ha)	Change 2013-2014 (%)	Eradication in 2013 (ha)	Eradication in 2014 (ha)
Baghlan	161	177	141	168	19%	34	3
Balkh	Poppy-free	Poppy-free	410	Poppy-free	NA	80	35
Bamyan	Poppy-free	Poppy-free	Poppy-free	Poppy-free	NA	0	0
Faryab	145	Poppy-free	158	211	33%	7	10
Jawzjan	Poppy-free	Poppy-free	Poppy-free	Poppy-free	NA	0	0
Samangan	Poppy-free	Poppy-free	Poppy-free	Poppy-free	NA	0	0
Sari Pul	Poppy-free	Poppy-free	Poppy-free	195	NA	0	43
Northern region	**305**	**177**	**710**	**574**	**-19%**	**121**	**91**

Figure 5: Opium cultivation in the Northern region, 2004-2014 (Hectares)



	Baghlan	Balkh	Bamyan	Faryab	Jawzjan	Samangan	Sari Pul
2004	2,444	2,495	803	3,249	1,673	1,151	1,974
2005	2,563	10,837	126	2,665	1,748	3,874	3,227
2006	2,742	7,232	17	3,040	2,024	1,960	2,252
2007	671	poppy-free	poppy-free	2,866	1,085	poppy-free	260
2008	475	poppy-free	poppy-free	291	poppy-free	poppy-free	poppy-free
2009	poppy-free	poppy-free	poppy-free	poppy-free	poppy-free	poppy-free	poppy-free
2010	poppy-free	poppy-free	poppy-free	poppy-free	poppy-free	poppy-free	poppy-free
2011	161	poppy-free	poppy-free	145	poppy-free	poppy-free	poppy-free
2012	177	poppy-free	poppy-free	poppy-free	poppy-free	poppy-free	poppy-free
2013	141	410	poppy-free	158	poppy-free	poppy-free	poppy-free
2014	168	poppy-free	poppy-free	210.6	poppy-free	poppy-free	195

2.2.5 Southern region

(Day Kundi, Hilmand, Kandahar, Uruzgan, Zabul)

Accounting for 67% of total opium cultivation in Afghanistan, 149,711 hectares of opium poppy were cultivated in the Southern region in 2014, an increase of 6% from 2013.

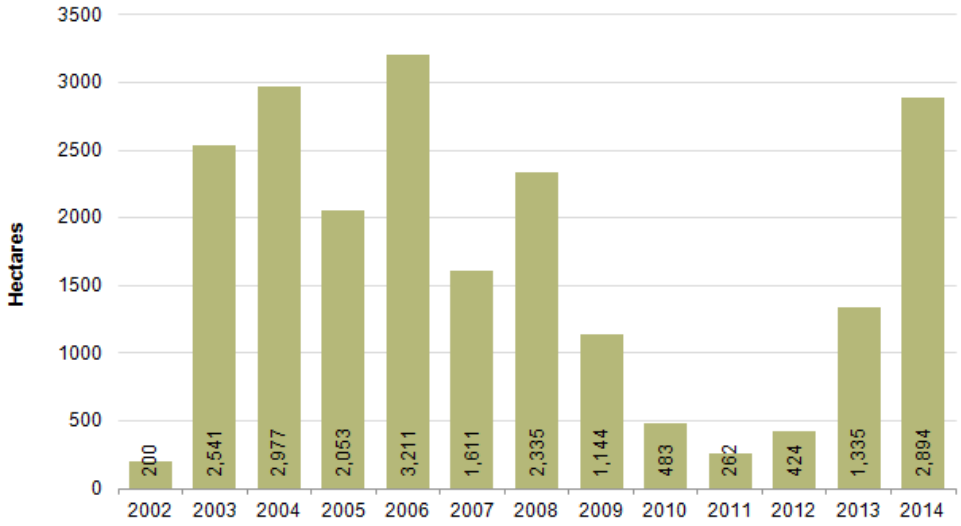
Gizab district, formerly part of **Day Kundi** province, was considered under Uruzgan province in 2014. The 2014 poppy cultivation estimates for Day Kundi and Uruzgan are therefore not comparable with previous years. However, opium cultivation in Day Kundi was 587 hectares in 2014, and the province's main opium-cultivating districts were Kajran, Sang-i-Takht and Shahristan.

Table 9: Opium cultivation and eradication in the Southern region, 2011-2014 (Hectares)

PROVINCE	Cultivation 2011 (ha)	Cultivation 2012 (ha)	Cultivation 2013 (ha)	Cultivation 2014 (ha)	Change 2013-2014 (%)	Eradication in 2013 (ha)	Eradication in 2014 (ha)
Day Kundi	1,003	1,058	1,536	587	NA	9	6
Hilmand	63,307	75,176	100,693	103,240	+3%	2,162	787
Kandahar	27,213	24,341	28,335	33,713	+19%	1,083	68
Uruzgan	10,620	10,508	9,880	9,277	NA	352	163
Zabul	262	424	1,335	2,894	+117%	0	12
Southern region	**102,405**	**111,507**	**141,779**	**149,711**	**+6%**	**3,606**	**1,036**

** In 2014, Gizab district of Day Kundi province was considered under Uruzgan province. The 2014 poppy cultivation estimates of Day Kundi and Uruzgan are therefore not comparable with previous years.*

Figure 6: **Opium cultivation in Zabul province, 2002-2014**



With 103,240 hectares (46% of total opium cultivation in Afghanistan), an increase of 3% from 2013 (100,693 hectares), **Hilmand** remained Afghanistan's single largest opium-cultivating province in 2014, though it had the smallest rate of increase of all the provinces in the Southern region.

The "Food Zone" alternative livelihood programme in Hilmand province came to an end in 2012, but significant differences could still be observed between the areas inside and outside the zone in 2014. Opium cultivation inside the former Food Zone increased by 13% in 2014 (from 36,244 hectares in 2013 to 41,089 hectares), representing roughly a fifth of the Food Zone's total agricultural area, but the extent of poppy cultivation was far greater outside the former Food Zone. More than a third of available land outside the Food Zone was under poppy cultivation in 2014, showing that, despite the increase following the end of the programme, opium cultivation was still relatively smaller inside the Food Zone than outside it. However, outside the Food Zone, where increases in poppy cultivation were mainly achieved by increasing the amount of agricultural land, the area under poppy cultivation slightly decreased.

Table 10: Poppy cultivation inside and outside the former Hilmand "Food Zone", 2012-2014

	Cultivation 2012 (ha)	Cultivation 2013 (ha)	Cultivation 2014 (ha)	Change 2013-2014 (%)	% of agricultural land with poppy
Inside the Food Zone	24,241	36,244	41,089	13%	22%
Outside the Food Zone	50,935	64,449	62,151	-4%	31%
Total province	**75,176**	**100,693**	**103,240**	**3%**	**27%**

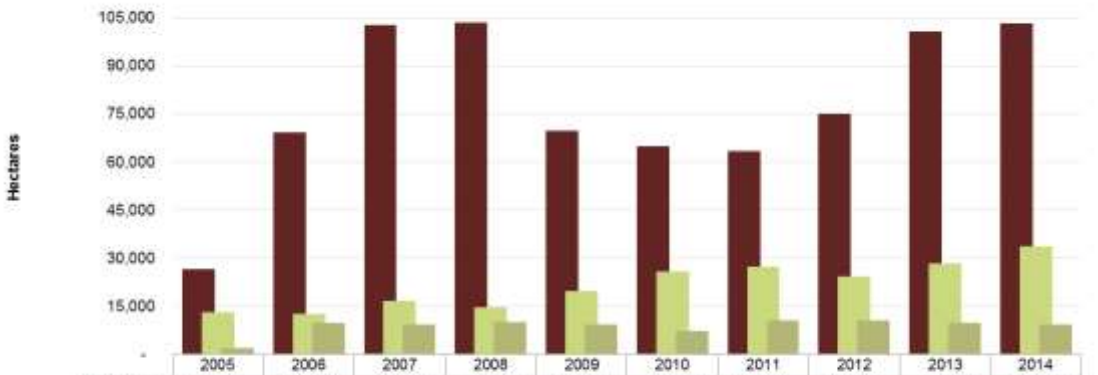
The Food Zone estimates refer to an area in ten districts of Hilmand (the "Food Zone" as of 2011, where farmers were provided with fertilizers, certified wheat seeds and high-value horticulture seeds in the poppy planting seasons for the 2009-2012 harvests. See Afghanistan Opium Survey 2009 and Methodology section.

At the district level, opium cultivation levels in 2014 were highest in Nad Ali, Naher-i-Saraj, Kajaki, Nawzad, Garmser, Musa Qala, Regi-i-Khan Nishin, Sangin Qala, Baghran, Washer and Dishu districts. Significant increases from 2013 (230%, 85%, 44% and 40%, respectively) occurred in opium cultivation in Nawa-i-Barukzai, Garmser, Sangin Qala and Lashkargah districts (see district overview in the Annex).

A total of 787 hectares of Governor-led opium poppy eradication was verified by MCN/UNODC in 2014, which corresponds to only 0.3% of estimated opium cultivation.

In **Kandahar** province, opium cultivation reached 33,713 hectares in 2014, an increase of 19% from its 2013 level (28,335 hectares). The main opium cultivation districts were Maiwand, Zhire and Panjway.

Figure 7: Opium cultivation in Hilmand, Kandahar and Uruzgan provinces, 2004-2014
(Hectares)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Hilmand	26,500	69,323	102,770	103,590	69,833	65,045	63,307	75,176	100,693	103,240
Kandahar	12,989	12,619	16,615	14,623	19,811	25,835	27,213	24,341	28,335	33,713
Uruzgan	2,024	9,703	9,204	9,939	9,224	7,337	10,620	10,508	9,880	9,277

Opium cultivation in **Uruzgan** province was 9,277 hectares in 2014, with the province accounting for 4% of total Afghan opium cultivation. The 2013 and 2014 estimates cannot be compared, as Gizab district was considered under Uruzgan province in 2014 and not under Day Kundi province as in previous years.

Dihrawud, Shahidi Hassas and Tirin Kot (provincial centre) were the main opium poppy-cultivating districts in Uruzgan province. However, opium cultivation decreased in Dehrawud, Shahidi Hasas and Chorah districts by 33%, 41% and 18%, respectively.

Opium cultivation in **Zabul** province saw a significant increase of 117% in 2014, to reach 2,894 hectares, whereas it stood at 1,335 hectares in 2013 and 424 hectares in 2012. The main opium-cultivating districts in Zabul were Kakar and Mizan, where security was poor and opium cultivation was 1,168 hectares and 544 hectares, respectively.

2.2.6 Western region

(Badghis, Farah, Ghor, Hirat, Nimroz)

In the Western region, opium cultivation increased by 8% in 2014, to reach 49,049 hectares, whereas it was 45,557 hectares in 2013. This increase took place in three provinces, namely Badghis, Ghor and Farah, with Ghor and Badghis seeing the strongest increases (87% and 59%, respectively). Eradication was not carried out in the Western region, except in Ghor province where only 8 hectares of opium poppy were eradicated in 2014.

The Western region consistently shows very high levels of opium cultivation. Insecurity continues to be a major problem as it compromises the rule of law and limits counter-narcotics interventions.

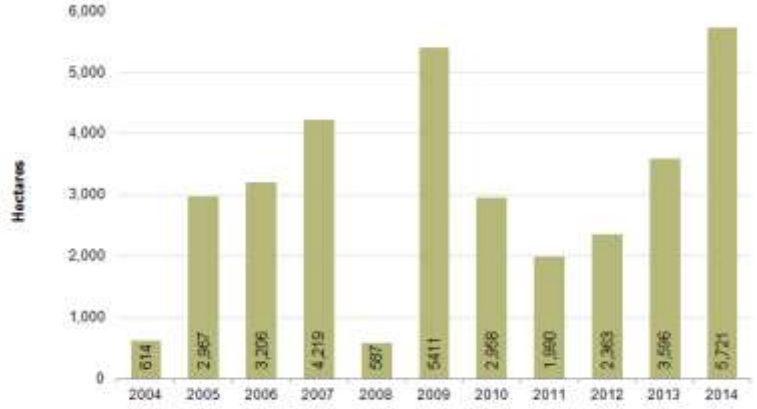
Table 11: Opium cultivation and eradication in the Western region, 2011-2014 (Hectares)

PROVINCE	Cultivation 2011 (ha)	Cultivation 2012 (ha)	Cultivation 2013 (ha)	Cultivation 2014 (ha)	Change 2013-2014 (%)	Eradication in 2013 (ha)	Eradication in 2014 (ha)
Badghis	1,990	2,363	3,596	5,721	+59%	3	0
Farah	17,499	27,733	24,492	27,513	+12%	262	0
Ghor	Poppy-free	125	264	493	+87%	6	8
Hirat	366	1,080	952	738	-+23%	77	0
Nimroz	2,493	3,808	16,252	14,584	-+10%	120	0
Western region	**22,348**	**35,109**	**45,557**	**49,049**	**+8%**	**468**	**8**

Note: Since 2013, the Dilaram area, previously a district of Farah province, was reintegrated into Nimroz province. This reversed a boundary change that happened in 2009 when the Dilaram area, which had previously been part of Nimroz, was moved into Farah province.

Opium poppy cultivation in **Badghis** jumped to 5,721 hectares in 2014 from 3,596 hectares in 2013, an increase of 59%. Its main opium-growing districts were Ghormach, Balamurghab and Jawand.

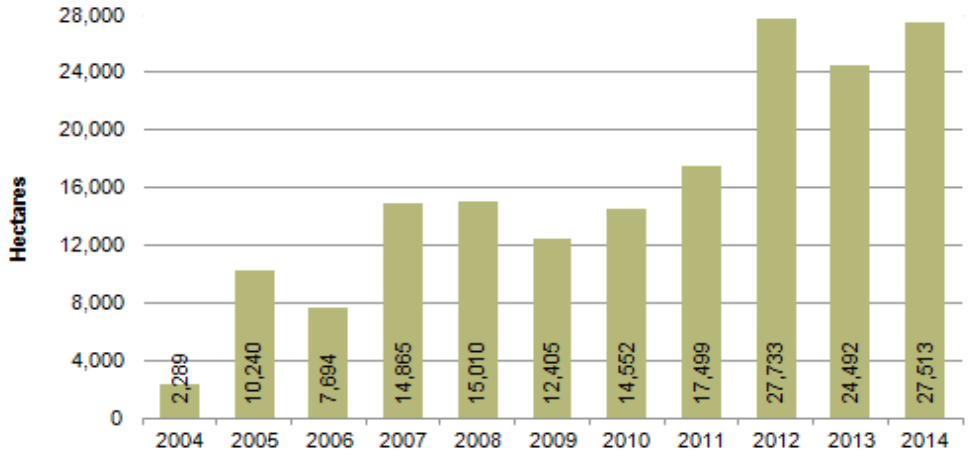
Figure 8: Opium cultivation in Badghis province, 2004-2014 (Hectares)



In 2014, opium cultivation in **Farah** province was 27,513 hectares. However, due to administrative boundary changes, the 2013 and 2014 estimates are not comparable to those of 2012.

The main opium-cultivating districts in Farah, where security is very poor, were Bakwah, Bala Buluk, Gulistan, Khak-i-Safed Farah (provincial centre), Pusht-Rod and Shib Koh in 2014. Increases in opium cultivation occurred in Bakwah (43%), Purchaman (304%) and Bala Buluk (40%). Decreases of 85%, 67%, 47% and 61% were also observed in Lash-i-Juwayn, Anar Darah, Gulistan and Qala-i-Kah districts, respectively.

Figure 9: Opium cultivation in Farah province, 1994-2014 (Hectares)



Poppy cultivation in **Ghor** increased by 87% in 2014, from 264 hectares to 493 hectares (Ghor was poppy-free in 2011). Only 8 hectares of eradication took place in Ghor province in 2014, which was not enough for the province to regain poppy-free status.

In **Hirat** province, the level of opium poppy cultivation decreased by 22%, to 738 hectares in 2014 from 952 hectares in 2013. The only district in Hirat province where opium cultivation took place was Shindand, where security is very poor.

In 2014, the level of opium poppy cultivation in **Nimroz** province decreased by 10% to 14,584 hectares. The main poppy cultivating district was Khash-Rod.

3 Eradication

3.1 Poppy eradication decreased by 63% in 2014

A total of 2,692 hectares of verified poppy eradication was carried out by the provincial Governors in 2014, representing a decrease of 63% from 2013 when 7,348 hectares of Governor-led eradication (GLE) was verified by MCN/UNODC.

In 2014, MCN/UNODC field surveyors verified the eradication of 10,221 fields in 480 villages in 17 provinces, whereas in 2013 MCN/UNODC verifiers visited 814 villages (20,374 poppy fields) in 18 provinces where eradication had been carried out by Governor-led eradication teams.

Quality control of eradication verification was carried out using satellite data in Badakhshan, Balkh, Hilmand, Kandahar, Kapisa, Nangarhar, Sari Pul and Uruzgan provinces. Final figures for eradication in these provinces are confirmed after checking with high-resolution satellite imageries supported by GPS tracking file, ground and Heli-pictures. For the provinces of Day Kundi, Kunar, Baghlan, Faryab, Ghor, Kunduz, Takhar, Laghman and Zabul provinces, the quality checks for eradication verification were made by scrutinizing the survey forms, checking the area measurement calculations and with the help of field photographs.

Major observations on eradication campaigns in 2013 and 2014 are given below (see tables also):

- Governor-led poppy eradication campaigns were less active in all regions of Afghanistan in 2014 than in 2013.
- A total of 2,692 hectares of Governor-led poppy eradication was carried out in 2014, which corresponds to a decrease of 63% from 2013, when 7,348 hectares were eradicated in the the same 17 provinces. These provinces were: Badakhshan, Baghlan, Balkh, Day Kundi, Faryab, Ghor, Hilmand, Kandahar, Kapisa, Kunduz, Kunar, Laghman, Nangarhar, Sari Pul, Takhar, Uruzgan and Zabul.
- The Governor-led poppy eradication campaign commenced on 3 March 2014 in Hilmand province and on 16 April 2014 in Kandahar province, while the 2013 eradication activities began on 23 February 2013 in Hilmand and on 5 March 2013 in Kandahar province.
- The largest amount of poppy eradication was verified in Badakhshan province (1,411 hectares), a decrease of 50% from the eradication carried out in 2013 in the same province (2,798 hectares). Furthermore, the quality of eradication was very poor in Badakhshan province.
- In 2014, no eradication took place in Badghis, Farah, Hirat, Kabul and Nimroz provinces.
- The security situation continued to be unfavorable for Governor-led eradication campaigns in 2014 in all provinces where eradication was carried out. Resistance against poppy eradication operations was manifested in different ways, such as direct attacks on eradication teams and mine explosions.
- In 2014, 13 lives were lost (8 police, 3 members of the Afghan National Army and 2 farmers) and 26 persons were injured (13 Police, 2 Afghan Local Police, 8 members of the Afghan National Army, one farmer, one tractor driver and one verifier).
- Among other eradication methods, GLE teams mainly used tractors and manual eradication (sticks, blades, hands and uprooting) in 2014, with 49% of GLE being carried out by tractor/ATV and 51% by manual methods.

Table 12: Governor-led eradication, by province, 2014

Province	Eradication verification (ha)	Reported no. of eradicated fields	No. of villages where eradication reported
Day Kundi	6	65	4
Badakhshan*	1,411	6,741	238
Baghlan	3	24	4
Balkh*	35	176	5
Faryab	10	123	12
Ghor	8	63	11
Hilmand*	787	1,451	109
Kandahar *	68	58	8
Kapisa*	26	311	13
Kunar	75	209	17
Kunduz	9	47	4
Laghman	1	25	1
Nangarhar*	34	191	17
Sar-e-Pul*	43	135	6
Takhar	1	5	1
Uruzgan*	163	577	24
Zabul	12	20	6
Grand total	**2,692**	**10,221**	**480**

** Provinces checked with satellite imagery.*

Table 13: Governor-led eradication, 2013-2014 (Hectares and percentage change)

Province	Eradication verification (ha) 2013	Eradication verification (ha) 2014	% Change
Badghis	3	0	-100%
Day Kundi	9	6	-37%
Farah	262	0	-100%
Hilmand	2,162	787	-64%
Hirat	77	0	-100%
Kabul	0	0	0%
Kandahar	1,083	68	-94%
Kapisa	11	26	136%
Kunar	108	75	-31%
Laghman	20	1	-93%
Nangarhar	157	34	-78%
Nimroz	120	0	-100%
Uruzgan	352	163	-54%
Zabul	0	12	100%
Badakhshan	2,798	1,411	-50%
Baghlan	34	3	-91%
Balkh	80	35	-56%
Faryab	7	10	43%
Ghor	6	8	33%
Kunduz	0	9	100%
Sari Pul	0	43	100%
Takhar	60	1	-99%
Grand total	**7,348**	**2,692**	**-63%**

Figure 10: Percentage of total opium poppy eradication, by province, 2013-2014

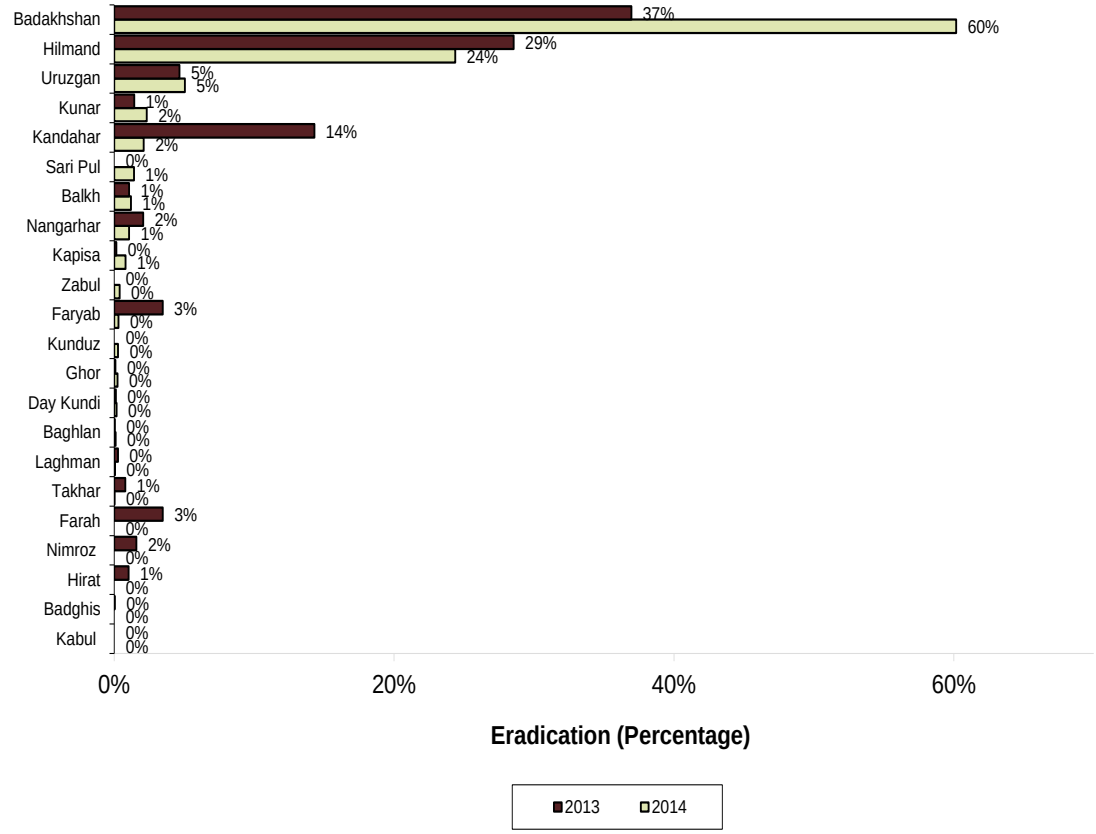


Table 14: Poppy eradication and cultivation in Afghanistan, 2007-2014 (Hectares)

Year	2007	2008	2009	2010	2011	2012	2013	2014
Number of provinces where eradication was carried out	26	17	12	11	18	18	18	17
Governor-led eradication (GLE), (ha)	15,898	4,306	2,687	2,316	3,810	9,672	7,348	2,692
Poppy Eradication Force (PEF), (ha) *	3,149	1,174	2,663	0	0	0	0	0
Total eradication (ha)	**19,047**	**5,480**	**5,351**	**2,316**	**3,810**	**9,672**	**7,348**	**2,692**
Cultivation (ha) **	193,000	157,000	123,000	123,000	131,000	154,000	209,000	224,000
% Poppy in insecure provinces of South and West	80%	98%	99%	95%	95%	95%	89%	89%
Poppy-free provinces	13	18	20	20	17	17	15	15

** The "Poppy Eradication Force" (PEF), a centrally-directed eradication force, ceased operations in 2009.*

*** Net opium cultivation after eradication.*

Figure 11: Area of opium poppy eradication, by different methods, 2013-2014 (Percentage of total)

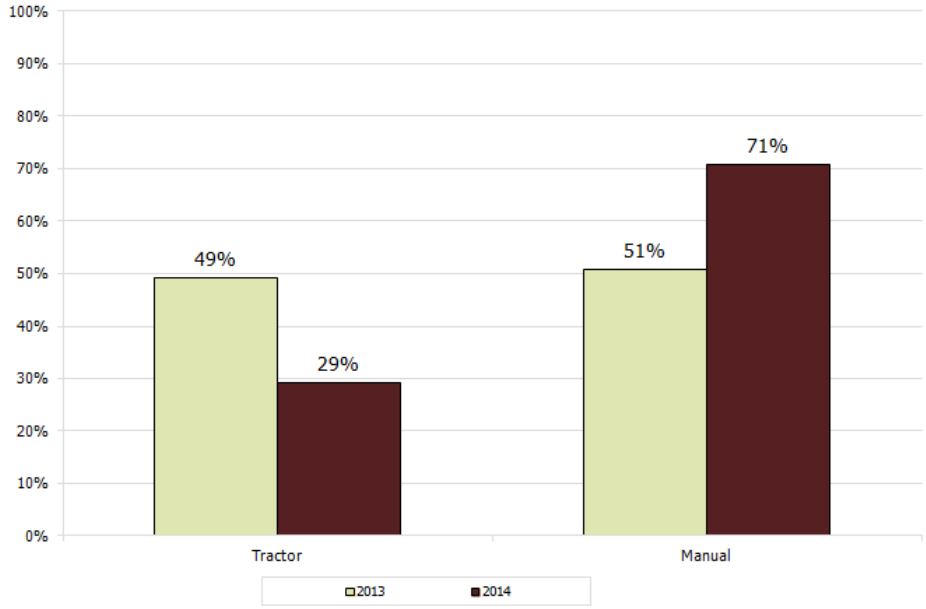


Figure 12: Area of opium poppy eradication, per month, 2013-2014 (Percentage of total)

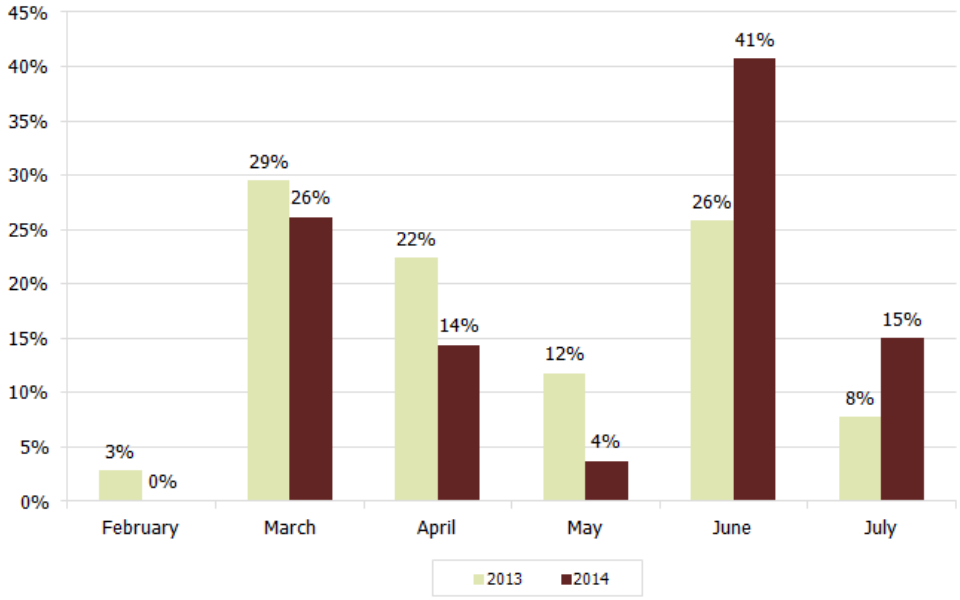


Table 15: Start and end dates of Governor-led eradication (GLE), 2014

Region	Province	Eradication start date	Eradication end date	Eradication (ha)
Central	Kapisa	05-May-14	10-May-14	26
Eastern	Kunar	29-Apr-14	19-May-14	75
	Laghman	29-Apr-14	03-May-14	1
	Nangarhar	23-Apr-14	15-May-14	34
Southern	Day Kundi	30-Apr-14	04-May-14	6
	Hilmand	03-Mar-14	21-Apr-14	787
	Kandahar	16-Apr-14	24-Apr-14	68
	Uruzgan	20-Apr-14	04-May-14	163
	Zabul*	17-Apr-14	21-Apr-14	12
Western	Ghor	6-Jul-2014	9-Jul-2014	8
Northern	Baghlan	1-Jun-2014	24-Jun-2014	3
	Faryab	11-May-2014	19-May-2014	10
	Sari Pul	26-May-2014	1-Jun-2014	43
	Balkh	11-May-2014	17-May-2014	35
North-eastern	Badakhshan	24-May-2014	19-Jul-2014	1411
	Takhar	18-Jun-2014	19-Jun-2014	1
	Kunduz	26-Apr-2014	28-Apr-2014	9

3.2 Quality control of reported eradication with satellite images

As in previous years, in 2014, MCN/UNODC procured high-resolution satellite images based on the field coordinates recorded by verifiers in eradicated poppy fields to validate the authenticity of reports and generate more accurate area figures by on-screen digitization of the eradicated fields.

The Governor-led eradication of opium poppy in Badakhshan, Balkh, Hilmand, Kandahar, Kapisa, Nangarhar, Sari Pul and Uruzgan provinces was checked with satellite images. Satellite images were supported with heli-pictures collected during over-flights.

Since 2013, surveyors have generated a GPS track around eradicated fields that provides both the location and shape of the fields. These tracks have helped verification of eradicated fields with satellite imagery.

In 2014, satellite images of eradicated fields were interpreted and compared with the figures available on the ground and, in general, a good match was observed between them.

Badakhshan province was an exception, as 554 hectares of eradication was over-reported and the province's final eradication figure was corrected to 1,411 hectares. The quality of eradication was very poor in Badakhshan province: less than 80% of the area of most fields was eradicated.

In **Kandahar** province, over-reporting to the extent of 26 hectares was observed, which led to a corrected eradication figure of 68 hectares.

Eradication reported by verifiers in **Hilmand** province was checked with satellite imagery and over-reporting to the extent of 114 hectares was confirmed. The final eradication figure in Hilmand province was thus corrected to 787 hectares. The quality of eradication seen on both satellite images and heli-pictures was generally very good and effective in most places in Hilmand province.

In **Nangarhar** province, eradication reported by verifiers was checked with satellite images and over-reporting to the extent of 8.8 hectares was confirmed. The final eradication figure in Nangarhar province was corrected to 34 hectares.

Eradication reported by verifiers in **Uruzgan** province was checked with satellite images and over-reporting to the extent of 58 hectares was confirmed. The final eradication figure in Uruzgan province was corrected to 163 hectares. Eradication was mainly carried out with sticks and, based on field measurement with satellite imagery and the quality of eradication reported by verifiers, the final eradication area was calculated. Most of the fields were only partially eradicated.

In **Kapisa** province, eradication reported by verifiers was checked with satellite images and 2 hectares of under-reporting was confirmed. The final eradication figure in Kapisa province was corrected to 26 hectares.

4 Potential opium yield and production

4.1 Potential opium yield and production increased in 2014[7]

In 2014, estimated potential opium production in Afghanistan amounted to 6,400 tons (5,100-7,800 tons), an increase of 17% from its 2013 level (5,500 tons). Average opium yield amounted to 28.7 kilograms per hectare in 2014, which was 9% more than in 2013 (26.3 kilograms per hectare).

The increase in production was mainly the result of an increase in opium cultivation and yield. The 27% increase in yield in the Southern region, in particular, caused an increase in overall production. However, as in the previous year, adverse weather conditions in parts of the Western and Southern regions affected poppy plants, thereby reducing the yield in comparison to the relatively unaffected 2011 yield (44.5 kilograms per hectare). In the Southern region, for example, the yield survey showed a reduction of more than 39% from its 2011 level.

In 2014, a total of 135 poppy fields was surveyed for the purpose of estimating opium yield. As in 2012, the yield survey was limited to low-risk areas where the security situation allowed access and enough time to carry out all measurements. Together with close supervision of field work, this ensured a very high degree of compliance with the yield survey protocol.[8] All yield data obtained in 2014, except for the data relating to one field collected in Badakhshan, met the strict quality criteria introduced in 2011.

Table 16: Opium yield, by region, 2013-2014[9] (Kilograms per hectare)

REGION	2013 average yield (kg/ha)	2014 average yield (kg/ha)	% Change
Central	48.5	48.5	0%
Eastern	45.1	39.6	-12%
North-eastern	42.8	38.2	-11%
Northern	34.7	34.5	-1%
Southern	23.2	29.5	27%
Western	26.9	20.4	-24%
Weighted national average	**26.3**	**28.7**	**9%**

The Southern region continued to produce the vast majority of opium in Afghanistan in 2014, representing 69% of national production. The Western region was the country's second most important opium-producing region (16%). The rest of the country contributed 15% of total opium production.

[7] "Potential production" is a hypothetical concept and not an estimate of actual opium or morphine/heroin production. For more information, see UNODC *World Drug Report 2011*, p. 265.
[8] Published in UNODC *Guidelines for yield assessment of opium gum and coca leaf from brief field visits*, UN New York, 2001, ST/NAR/33.
[9] Yield estimates in this report are based on the concept of potential yield, i.e., the amount opium farmers can potentially extract from poppy capsules. Depending on local conditions and practices, this may differ from the amount actually harvested.

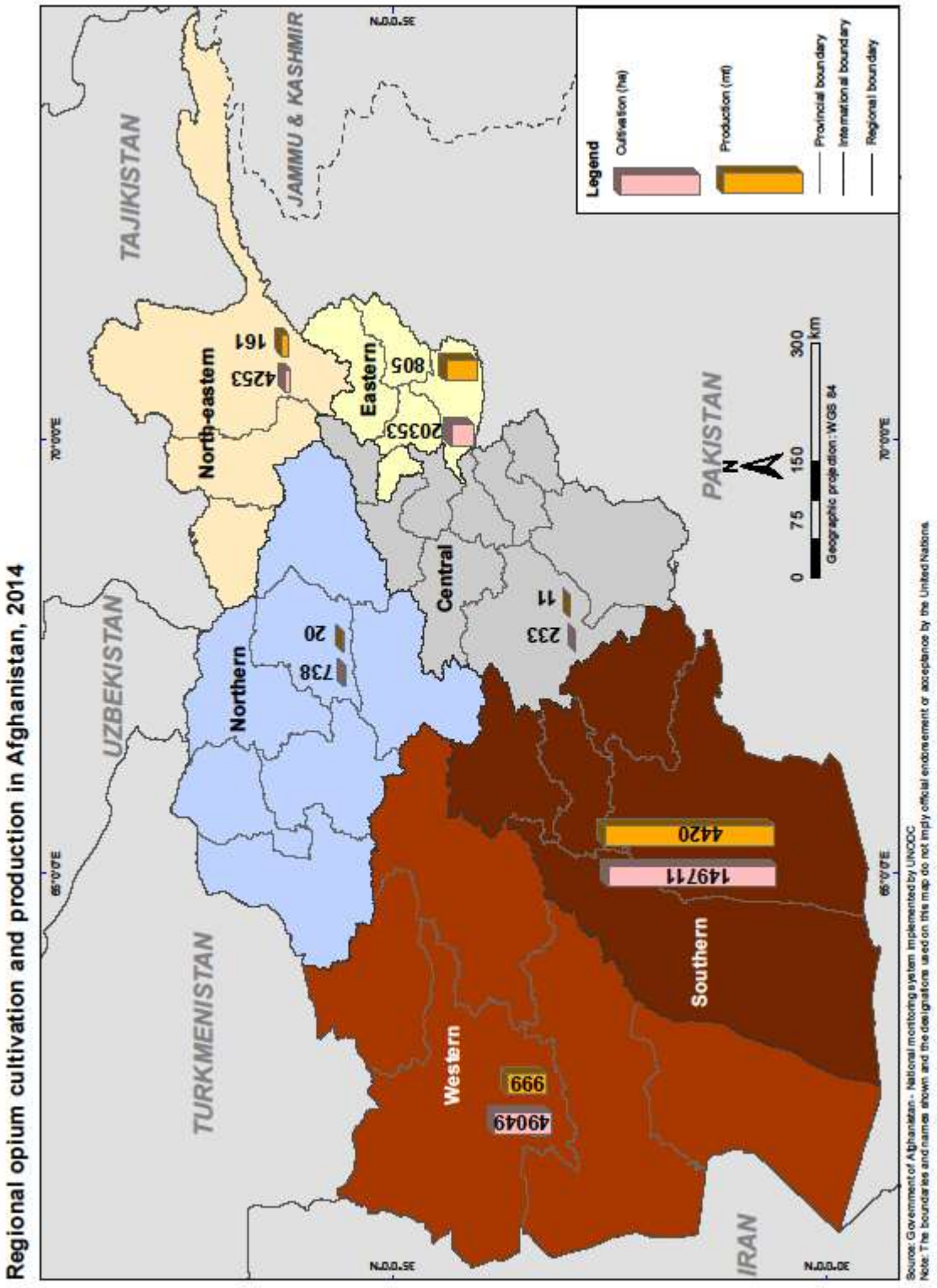

Regional opium cultivation and production in Afghanistan, 2014
Legend
Cultivation (ha)
Production (mt)
Provincial boundary
International boundary
Regional boundary
TAJIKISTAN
JAMMU & KASHMIR
PAKISTAN
UZBEKISTAN
TURKMENISTAN
IRAN
North-eastern
161
4253
Eastern
805
20353
Central
11
233
Northern
20
738
Southern
4420
149711
Western
999
49049
0
75
150
300
km
Geographic projection : WGS 84
Source: Government of Afghanistan - National monitoring system implemented by UNODC
Note: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

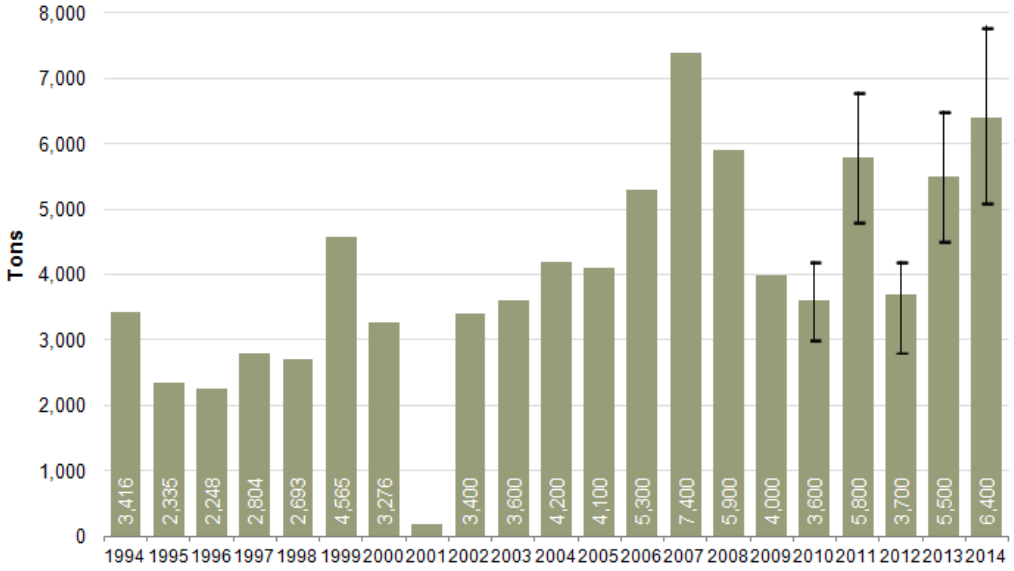
Table 17: Opium production in Afghanistan 2009-2014, by province (Tons)

Province	Production 2009 (mt)	Production 2010 (mt)	Production 2011 (mt)	Production 2012 (mt)	Production 2013 (mt)	Production 2014 (mt)	Change 2013-2014 (mt)	Change 2013-2014 (%)	REGION
Kabul	7	8	9	4	14	11	-3	-22%	Central
Khost	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	NA	NA	Central
Logar	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	NA	NA	Central
Paktya	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	NA	NA	Central
Panjshir	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	NA	NA	Central
Parwan	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	NA	NA	Central
Wardak	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	NA	NA	Central
Ghazni	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	NA	NA	Central
Paktika	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	NA	NA	Central
Central Region	**7**	**8**	**9**	**4**	**14**	**11**	**-3**	**-22%**	
Kapisa	Poppy-free	Poppy-free	7	11	26	19	-8	-29%	East
Kunar	6	8	23	49	51	30	-21	-41%	East
Laghman	5	12	25	34	56	36	-20	-36%	East
Nangarhar	11	37	110	122	709	721	+12	+2%	East
Nuristan	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	NA	NA	East
Eastern Region	**21**	**56**	**166**	**216**	**842**	**805**	**-37**	**-4%**	
Badakhshan	19	56	39	86	102	161	+59	+58%	North-East
Takhar	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	49	NA	North-East
Kunduz	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	NA	NA	North-East
North-eastern Region	**19**	**56**	**39**	**86**	**102**	**161**	**+59**	**+58%**	
Baghlan	Poppy-free	Poppy-free	7	7	5	6	1	18%	North
Balkh	Poppy-free	Poppy-free	Poppy-free	Poppy-free	14	Poppy-free	-14	NA	North
Bamyan	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	NA	0%	North
Faryab	Poppy-free	Poppy-free	6	Poppy-free	6	7	2	32%	North
Jawzjan	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	80	NA	North
Samangan	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	NA	0%	North
Sari Pul	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	7	195	NA	North
Northern Region	**Poppy-free**	**Poppy-free**	**12**	**7**	**25**	**20**	**-5**	**-20%**	
Hilmand	4,085	1,933	3,044	1,699	2,339	3,048	+709	30%	South
Kandahar	1,159	768	1,308	550	658	995	+337	51%	South
Uruzgan*	540	218	511	237	229	274	+44	19%	South
Zabul	67	14	13	10	31	85	+54	176%	South
Day Kundi*	176	46	48	24	36	17	-+18	-51%	South
Southern Region	**6,026**	**2,979**	**4,924**	**2,520**	**3,293**	**4,420**	**+1127**	**34%**	
Badghis	238	71	61	55	97	117	+20	21%	West
Farah	545	349	536	651	658	561	-97	-15%	West
Ghor	Poppy-free	Poppy-free	Poppy-free	3	7	10	+3	42%	West
Hirat	24	9	11	25	26	15	-11	-41%	West
Nimroz	19	49	76	89	437	297	-139	-32%	West
Western Region	**825**	**478**	**685**	**824**	**1,224**	**999**	**-224**	**-18%**	

Provinces are defined as poppy-free when they are estimated to contain less than 100 hectares of opium cultivation.

** In 2014, Gizab district of Day Kundi province has been considered under Uruzgan province. The 2014 poppy cultivation estimates of Day Kundi and Uruzgan are therefore not comparable with previous years.*

Figure 13: Potential opium production in Afghanistan, 1997-2014 (Tons)



Sources: UNODC and UNODC/MCN opium surveys, 1994-2014. The high-low lines represent the upper and lower bounds of the confidence interval of the estimates. Figures refer to oven-dry opium. Production figures for 2006 to 2009 have been revised; see UNODC/MCN Afghanistan opium survey 2012.

Table 18: Potential opium production, by region, 2013-2014 (Tons)

Region	Production 2013	Production 2014	Change 2013-2014 (%)
Central	14	11	-19%
Eastern	842	805	-4%
North-eastern	102	161	58%
Northern	25	20	-21%
Southern	3,293	4,420	34%
Western	1,224	999	-18%
Total (rounded)	**5,500**	**6,400**	**17%**

Table 19: Potential opium production, by region, with ranges, 2014 (Tons)

REGION	Best estimate	Lower bound	Upper bound
Central	34	31	38
Eastern	786	352	1,192
North-eastern	163	27	378
Northern	25	20	31
Southern	4,420	3,594	5,096
Western	999	647	1,174
National	**6,428**	**5,128**	**7,756**
National (rounded)	**6,400**	**5,100**	**7,800**

4.2 Potential heroin production in Afghanistan

All the opium produced in Afghanistan each year is either exported as raw opium or heroin/morphine, consumed domestically in various forms, seized, stored for later use or lost (for example, due to mould, disposal to avoid seizures, etc.).

Hence, the critical components needed for estimating the potential heroin of certain purity yielded from one year's opium production are:

- the share of raw opium produced that is converted to heroin (for the domestic market or for export)
- the amount of heroin/morphine yielded from the amount of raw opium converted
- the purity of the heroin considered
- the shares of opium in the form of raw opium or heroin that are seized or lost, and the remainder (if any), which does not enter the market in the year of interest.

There is a clear understanding of the approximate amount of opium produced. However, the shares converted to morphine and heroin and the purities of these substances are much less clear as only secondary data can be used as a proxy. In the case of seizures, for example, the purity of the heroin seized is often not known. Likewise, the purity of heroin consumed domestically may differ substantially from the purity of heroin destined for export. Furthermore, little is known about when and where the conversion of morphine to heroin takes place.

One component, the amount of raw opium needed to produce a kilogram of heroin/morphine, has been under investigation by UNODC/MCN, and recent results on the morphine content of Afghan opium led to an update of the quantity of opium needed to do so.

In the following sections, all the factors related to the conversion ratio of opium to pure heroin base are discussed. The concept of heroin of export quality (impure heroin), which is the more adequate measure for describing the opiate economy of Afghanistan, is then introduced. Based on these results, the potential heroin production yielded from the 2014 opium production is subsequently estimated.

4.2.1 Average morphine content of Afghan opium has declined: updating the conversion ratio from opium to heroin base

Prior to this update, UNODC used a conversion ratio of opium to heroin of unknown purity for estimating the amount of heroin produced from a year's harvest of opium. The ratio described the amount of opium needed for producing a kilogram of heroin, without specifying the purity of the heroin yielded. With this update, UNODC no longer uses the concept "heroin of unknown purity", but instead introduces two different concepts for estimating heroin production: "conversion to pure heroin base" and "conversion to heroin of export quality" (impure heroin).

Until 2005, UNODC used a conversion ratio of 10:1 for all opium-producing countries (10 kilograms of opium needed to produce 1 kilogram of heroin base of unknown purity). In 2005, the conversion ratio of Afghan opium was changed from 10:1 to 7:1. This change was based on research made on the morphine content of 39 opium samples collected between 2000 and 2003, as well as key informant interviews and some scientific studies undertaken by third parties.[10]

The morphine content of opium harvested in Afghanistan has decreased since 2005, which is the reason for updating the conversion ratio of opium to heroin. Data on morphine content is available from the annual investigations undertaken from 2000 to 2005, and 2010 to 2012.[11]

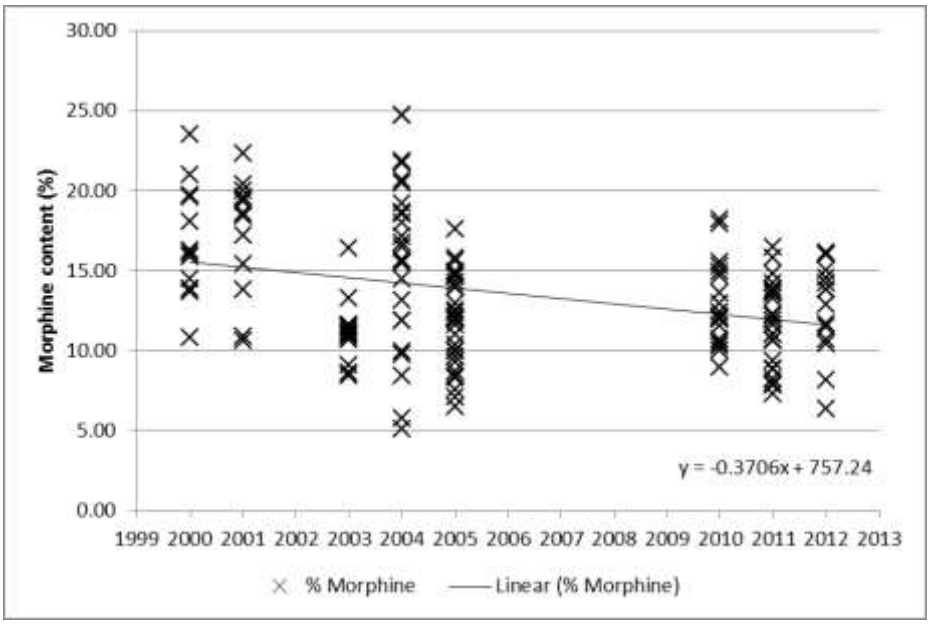
Figure 14 shows the morphine content of all opium samples collected between 2000 and 2012 with a linear trend line. Between 2000 and 2003, 39 opium samples from different regions of Afghanistan, which contained an average of 15.0% morphine content (95% confidence interval ±1.32),[12] were analysed. In 2004 and 2005, a total of 56 opium samples was collected and

[10] For a detailed description, see Ministry of Counter Narcotics/UNODC (2005): *Afghanistan Opium Survey 2005*, November 2005, p. 120 (http://www.unodc.org/unodc/en/crop-monitoring/index.html).
[11] In 2013 and 2014, UNODC/MCN also collected samples. These samples have been dried and stored to be analysed in the CNPA forensic laboratory when it becomes operational.
[12] UNODC, SCITEC/19, Limited Opium Yield Assessment Surveys, December 2003.

analysed, which had an average morphine content of 13.6% (95% confidence interval ±1.2).[13] From 2010 to 2012, 57 opium samples from all regions of Afghanistan were collected and analysed, which presented a statistically significant[14] lower average morphine content of 12.3% (95% confidence interval ±0.7)[15] than the average from 2000 to 2005. A trend analysis of all yearly data reveals a statistically significant[16] declining trend of average morphine content.

Based on recent trends, the simple[17] average of the morphine content of all samples collected between 2010 and 2012 was used (12.3%) for the calculations in this section. When more data becomes available, the morphine content will be updated.

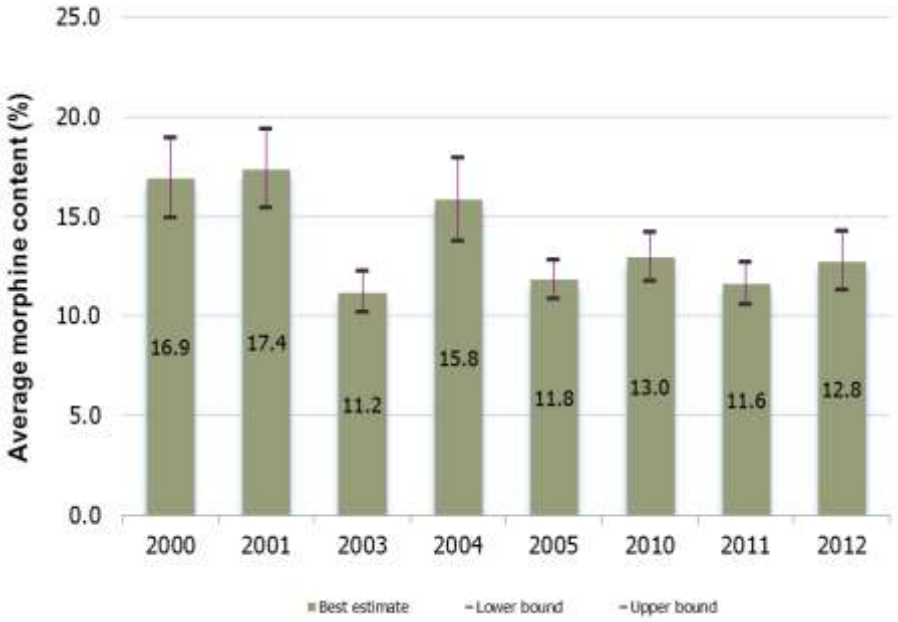
Figure 14: Morphine content (%) of all samples analysed between 2000 and 2012, with linear trend line.



Source: UNODC, UNODC/MCN.

[13] Analysis of the raw data used in B. Remberg, A.F. Sterrantino, R. Artner, C. Janitsch, L. Krenn, Science in drug control: the alkaloid content of Afghan opium, Chemistry and Biodiversity, 5 (2008), pp. 1770–1779.
[14] $p<0.05$.
[15] Recent data collected by UNODC/MCN.
[16] $p<0.001$.
[17] Analysis revealed that there are no statistically significant differences between regions in the data collected between 2010 and 2012. Therefore, the data has not been weighted according to production.

Figure 15: Average morphine content (%) in Afghan samples of oven-dry opium gum, 2000-2012



Note: the error bars reflect the 95% confidence intervals of the annual means.

4.2.2 Estimation of the conversion ratio of opium to pure heroin base

The amount of raw opium needed for producing pure heroin base depends on two main factors:[18]

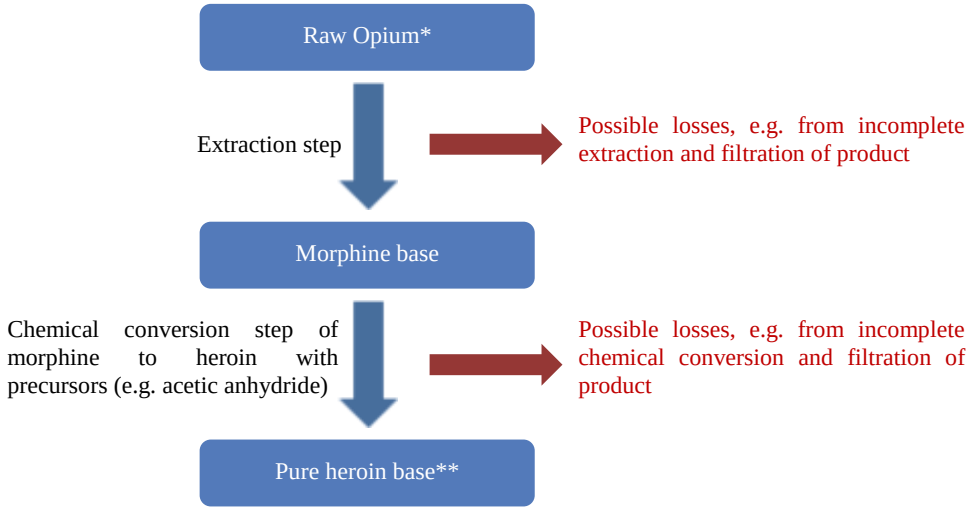
- the average morphine content of opium
- the efficiency of the heroin laboratory in extracting morphine from opium and in converting the yielded morphine to pure heroin base (laboratory efficiency).

Raw opium is converted into heroin base in two main steps (see Figure 16 for a simplified flow chart). In the first step (the extraction step), morphine (and other alkaloids) are extracted from raw opium by adding hot water and chemicals such as calcium oxide and ammonium chloride. Theoretically, 100 kilograms of opium with an average morphine content of 12.3%[19] can yield 12.3 kilograms of pure morphine (12.3% of 100). However, in reality, traffickers are not well trained chemists and do not work under optimal conditions, thus it is unlikely that the full potential of raw opium is used, and a certain percentage of potential morphine production is lost at this stage.

[18] For more details on the heroin production process in Afghanistan, please see *Bulletin on Narcotics, vol. LVII, Nos. 1 and 2, 2005, pp. 11-31.*

[19] Simple average of all observations collected between 2010 and 2012.

Figure 16: Simplified flow chart illustrating the main stages of processing pure heroin base from opium.



*Note: *oven-dried values are used in estimation; **For the purpose of comparability, 100% pure heroin base is considered.*

In the second step, morphine base is converted to heroin base by adding precursor substances such as acetic anhydride. During this step, when it becomes pure heroin base, the morphine molecule gains two additional "acetyl groups" from the acetic anhydride. These additional molecules add weight to the morphine base: in an optimal scenario, when morphine is completely converted into pure heroin base, the heroin output is 1.29[20] times heavier than the morphine used as input. Thus, 1 kilogram of pure morphine can theoretically yield 1.29 kilograms of pure heroin, if the reaction goes to completion. But this reflects only a potential weight gain as losses also occur at this stage.

The combined losses in both steps are reflected in "laboratory efficiency", which is a measure of the ability of traffickers and clandestine chemists to extract morphine from opium and to convert it into heroin. Laboratory efficiency is expressed as the percentage of actual amount of pure heroin base produced over the theoretically possible, maximum output (potential amount). Laboratory efficiency can vary substantially, depending on factors such as the skills and efforts of the chemists producing the heroin, the availability and quality of precursor substances, and the equipment used.

The number of kilograms of raw opium needed to produce a kilogram of pure heroin base is thus given by the inverse of the product of

average morphine content (%) x chemical conversion ratio (1.29) x laboratory efficiency (%).

While there is updated information on morphine content available, little is known about the laboratory efficiency of heroin laboratories in Afghanistan.

When the opium/heroin conversion ratio was revised in 2005, the underlying assumption was a laboratory efficiency of 60-70% together with a heroin purity range of 45-85%. These percentages were based on interviews with key informants and seizure data (purity).

In the same year, a study[21] conducted by the Federal Criminal Police Office, Wiesbaden, Germany was published, in which white heroin hydrochloride was produced by using locally seized substances and equipment. In this experiment, a laboratory efficiency[22] of 34% was achieved in the conversion of raw opium of low quality (8.5% morphine content) to pure heroin base. This is

[20] The factor of 1.29 is the ratio of the molecular weight of heroin to that of morphine (molecular weight of heroin and morphine are 369.42 and 285.34, respectively).
[21] Bulletin on Narcotics, vol. LVII, Nos. 1 and 2, 2005, pp. 11-31.
[22] In the study, 70 kilograms of raw opium with 8.5% morphine content were converted to 2.9 kilograms of pure heroin hydrochloride, which is equivalent to 2.64 kilograms of pure heroin base – assuming no further losses at this stage.

the only study available to date that has investigated laboratory efficiency in Afghanistan[23] under local conditions.

The main uncertainty surrounding the conversion ratio of opium to pure heroin base is thus due to a lack of information on the average efficiency of heroin laboratories in Afghanistan: the processing of illicit heroin from opium is normally carried out with readily available equipment such as buckets, barrels, pots and cloth.[24] Precursors and chemicals used, such as acetic anhydride, ammonium chloride, acids, bases and solvents, are of unknown purities. Furthermore, laboratory operators may be experienced but seldom have any background in chemistry. All these factors considered, laboratory efficiency can vary anywhere from 30% to 70% efficiency and an assumption of either percentage could be either a gross under- or over-estimation.

When estimating the quantity of pure heroin base yielded from annual Afghan opium production, UNODC/MCN uses a laboratory efficiency of 34% for the estimation of the conversion ratio of opium to pure heroin base.

Table 20: Conversion ratios of opium to pure heroin base corresponding to various morphine contents and a laboratory efficiency of 34%[25] (Kilograms of raw opium needed to produce a kilogram of pure heroin base)

Morphine content (%)	Conversion ratio
12.3% (average 2010-2012)	18.5:1
15.0% (average 2000-2003)	15.2:1

Note: 12.3% is the average morphine content of all samples collected between 2010 and 2013; 15% is the average morphine content of all samples collected between 2000 and 2003 and was the basis for the 7:1 ratio introduced in 2005.

Table 21: Updated conversion ratio of opium to pure heroin base (Kilograms of raw opium needed to produce a kilogram of pure heroin base)

Estimate	Conversion ratio
Midpoint	**18.5:1** (12.3% morphine content)
Lower bound	**19.6:1** (uses the lower limit of average morphine content)
Upper bound	**17.5:1** (uses the upper limit of average morphine content)

As only a few studies on Afghan heroin processing have been undertaken so far, and only one considered laboratory efficiency, more research on heroin processing procedures and laboratory efficiencies in Afghanistan is needed for estimating a more accurate opium/heroin conversion ratio. Moreover, the collection of data on morphine content should be continued and the heroin conversion ratio should be updated at least once every five to ten years, so that the annual Afghanistan heroin production estimate is based on the most current available data.

4.2.3 Heroin of export quality

The amount of pure heroin produced can only be a theoretical measure of the heroin output of Afghanistan opium production: heroin is rarely traded in its pure form and comes as brown heroin base or white heroin (heroin hydrochloride). It is also cut with diluents such as caffeine,

[23] A DEA study on heroin laboratory efficiency in Colombia estimated an overall laboratory efficiency of 67.2% under local conditions from opium (latex) to heroin HCl. This study is not applicable to Afghanistan, because in Colombia processors use a unique method known as the "ammonia method" (key chemicals are ammonia and ethyl acetate) to extract morphine base from opium latex.
[24] Bulletin on Narcotics, vol. LVII, Nos. 1 and 2, 2005.
[25] Based on results presented in Bulletin on Narcotics, vol. LVII, Nos. 1 and 2, 2005, pp. 11-31.

chloroquine, phenolphthalein and paracetamol.[26] When aiming to reflect local markets and estimate heroin availability for consumption, an estimate of the amount of heroin of export quality (quality of heroin traded by traffickers at the wholesale level) produced in a given year is a more informative measure. Pure heroin can only give a crude indication of market size.

Scarce data is available for the purity of heroin exported from Afghanistan. In 2012, Tajikistan reported purities of heroin at the wholesale level of 0.3% to 65%.[27] In 2013, the range was even larger (0.4% to 79%), but a typical range of 20% to 35% was also reported.[28] Kazakhstan (Republic of), reported ranges of 1.0% to 39.9% and 0.1% to 36.5% in 2011 and 2012,[29] respectively. In 2013, Kazakhstan reported a typical range of 20% to 25%.[30] No official data on the purity of heroin seizures in Afghanistan are available.

The United Kingdom, on the other hand, a destination country for heroin which receives Afghan heroin directly from Pakistan, reported purities of brown heroin of typically 45% (from 20% to 70%) in 2012. In the same year, Turkey, a transit country for the Afghan opiate trade to Europe, reported 52% (from 0.1% to 78%) purity of brown heroin.[31]

Table 22: Heroin purities at the wholesale level, as reported by selected countries

Country	Heroin purity at the wholesale level (year)
Kazakhstan*	0.1% to 36.5% (2012); Typical range: 20% to 25% (2013)
Tajikistan*	0.4% to 79% (2013)
Turkey**	52% (0.1% to 78% in 2012)
United Kingdom**	45% (20% to 70% in 2012)

*Sources: *Paris Pact Initiative and **World Drug Report 2014;*
Numbers in parenthesis are minimum and maximum values.

Heroin of high purity is smaller in volume than heroin of low purity, so it is easier to transport. Drug traffickers therefore have an incentive to traffic heroin of high purity and to cut it only when it gets close to its destination country. When estimating the amount of heroin of export quality produced, an average purity of 52% for wholesale is thus assumed (purity reported by Turkey in 2012).

Based on the conversion ratios of opium to pure heroin base, the amount of opium with a 12.3% morphine content needed to produce 1 kilogram of 52% pure heroin is 9.6 kilograms (9.1 to 10.2 kilograms), yielding a 9.6:1 ratio for converting opium to heroin of export quality.

Table 23: Amount of opium needed to produce a kilogram of heroin base of export quality (52% purity) with opium of 12.3% morphine content and 34% laboratory efficiency
(Kilograms of raw opium needed to produce a kilogram of pure heroin base)

Kilograms of opium needed to produce a kilogram of heroin of export quality
9.6:1 (9.1:1 to 10.2:1)

[26] *World Drug Report 2009*, page 61.
[27] UNODC, Annual Report Questionnaire (ARQ).
[28] UNODC/Paris Pact Initiative, *Paris Pact Report 2014*.
[29] CADAP, Ministry of Justice of Kazakhstan.
[30] Reported by national authorities at the CARICC/UNODC regional workshop on 27-28 June 2013, Almaty; see UNODC/Paris Pact Initiative, *Paris Pact Report 2014* country fact sheet Kazakhstan.
[31] See *World Drug Report 2014*.

4.2.4 Estimation of 2014 potential heroin production with updated heroin conversion ratio

Apart from morphine content, none of the factors in the opium-to-heroin estimation chain are well researched. The use of an average laboratory efficiency of 34% for the estimation of the conversion ratio of opium to pure heroin base is based on very little evidence, as only one study is available. Even less is known about the average purity of heroin produced in Afghanistan. The following has therefore to be considered as a rough estimate and more as an indication of the order of magnitude than as a precise measurement.

Based on information from 2011-2013 on the distribution of opium, morphine and heroin seizures in Afghanistan and neighbouring countries, and assuming a 52% purity of heroin of export quality, it can be estimated that out of every 100 kilograms of opium, 62 kilograms are converted into heroin of export quality and 38 kilograms are left unprocessed.[32]

The following table shows potential production of pure heroin and of heroin of export quality if 62% of potential opium production is converted to heroin and if all opium is converted to heroin.

Table 24: Potential heroin production from Afghan opium, 2014

	If 62% of potential opium production converted (tons)	If total potential opium production converted (tons)
Pure heroin base	210 (160-270)	350 (260-440)
Heroin of export quality (52% purity)	410 (350-470)	670 (560-760)
Unprocessed opium	2,450 (1,960-2,970)	-

A ratio of 18.5:1 (17.5:1 – 19.6:1) is used for converting opium to pure heroin base. For converting opium to 52% pure heroin, 9.6 kilograms (9.1 to 10.2 kilograms) of opium are assumed to be needed.

[32] In 2013, it was estimated that 54% of opium production was converted to heroin of unknown purity. The change in percentage is mainly caused by the update of the conversion ratio of opium to heroin, as the distribution between opium and morphine/heroin seizures remained stable.

Figure 17: Photographs of yield survey 2014

Yield survey in Kabul province (Central region), 2014

Yield survey in Hilmand province (Southern region), 2014

Yield survey in Farah province (Western region), 2014

5 Opium prices and farm-gate value of opium

5.1 Opium prices

Opium prices remained high in 2014 but decreased in all regions of Afghanistan, making 2014 the third year to show a decreasing trend since the price hike caused by the 2010 poppy disease.

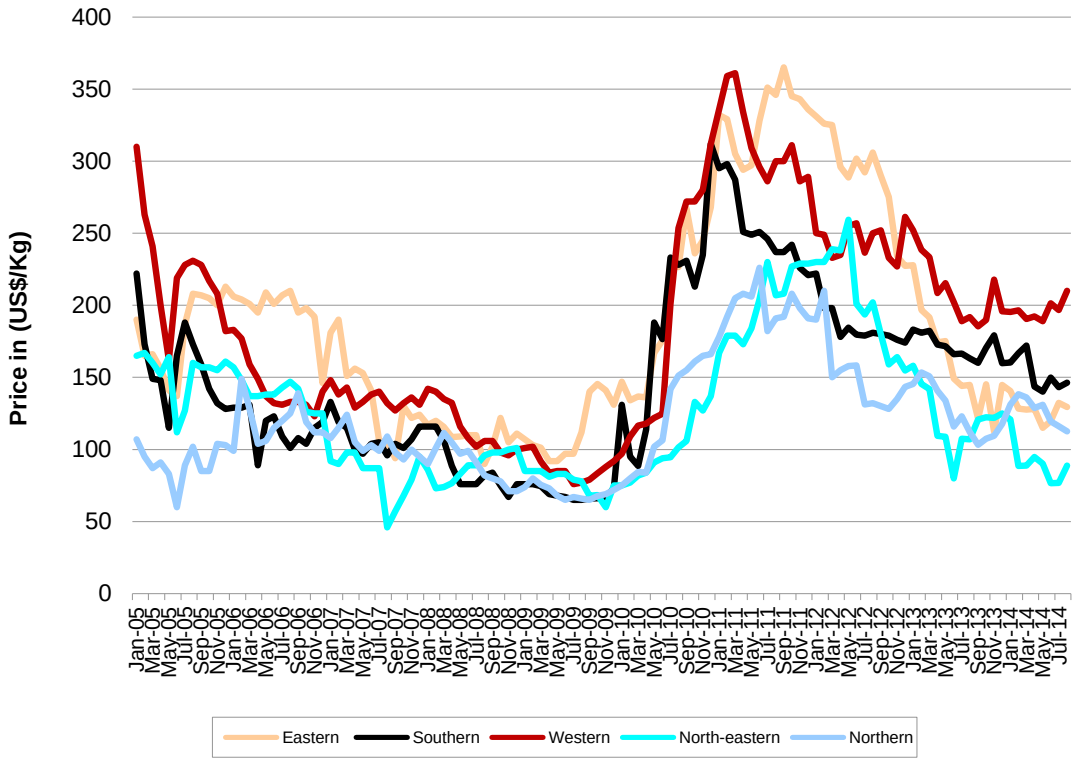
MCN/UNODC has monitored opium prices in selected provinces of Afghanistan on a monthly basis since 1994 (18 provinces as of September 2011). In 2008/2009, opium prices were at a low level but increased after that, most noticeably in the Eastern, Southern and Western regions, before reaching a maximum in 2011 after the unusually poor harvest caused by a disease of the opium poppy.

In 2011, opium prices started to decrease around harvest time in some regions, but remained volatile and at a higher level than in any year since 2005 (in absolute terms, not adjusted for inflation). This decrease can be explained by the relatively good 2011 harvest, since when reported opium prices have shown a decreasing trend in all regions, with an overall decrease of 23% between 2013 July and 2014 July. Dry opium prices reported by traders showed the same decreasing trend in all regions, with an overall decrease of 29% in the same period.

Table 25: Regional farm-gate prices of dry opium at harvest time, reported by farmers through the price-monitoring system, 2013-2014 (US dollars per kilogram)

Region	Average dry opium price (US$/kg) 2013	Average dry opium Price (US$/kg) 2014	Change 2013-2014 (%)
Central	221	142	-36%
Eastern	171	113	-34%
North-eastern	89	60	-33%
Northern	109	112	3%
Southern	161	129	-20%
Western	209	178	-15%
National average weighted by production*	**172**	**133**	**-23%**

Figure 18: Regional average price of dry opium reported by traders, January 2005 to August 2014 (US dollars per kilogram)

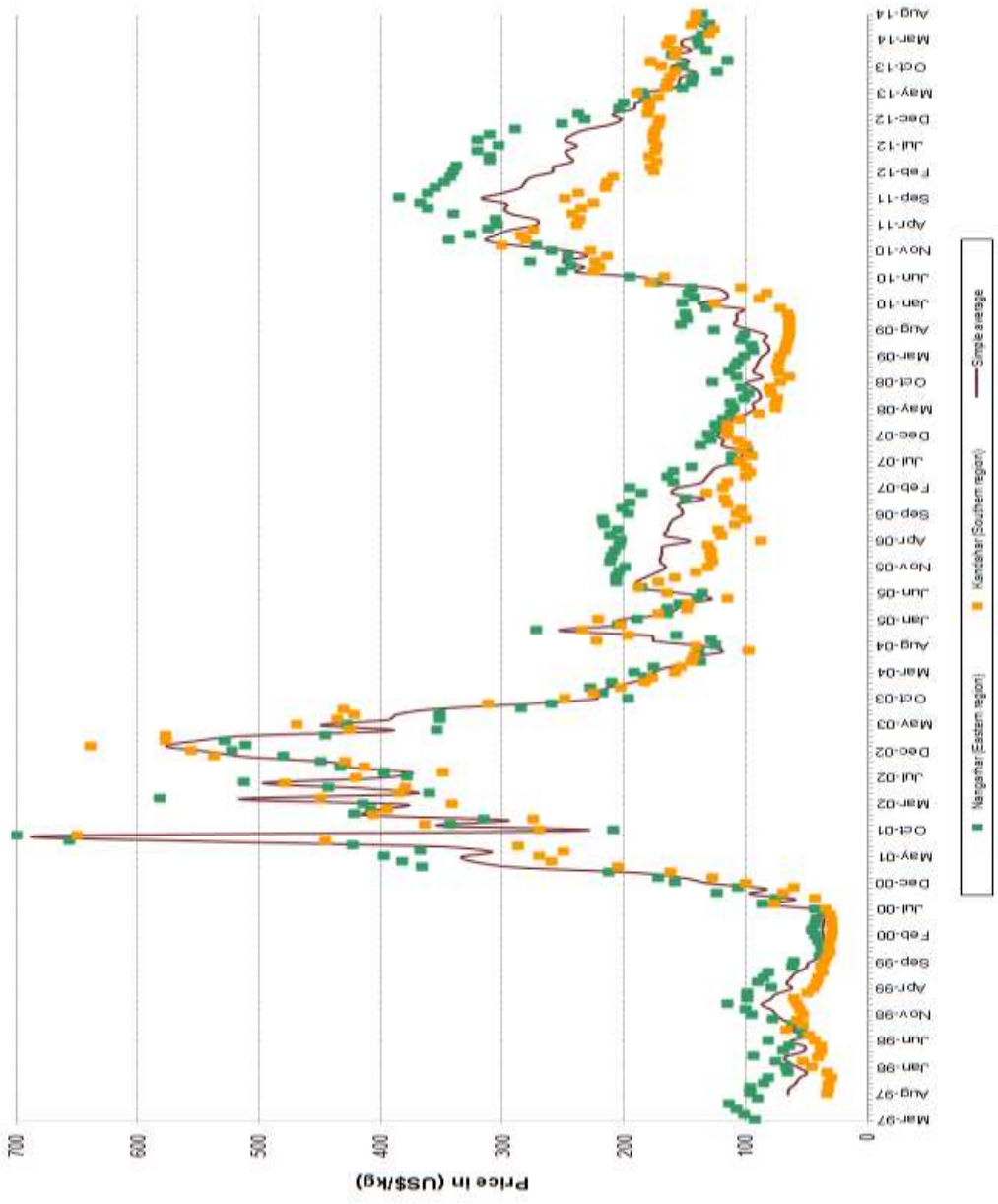


Source: MCN/UNODC Monthly Price Monitoring System.

Table 26: Dry opium prices reported by traders, by region, August 2013-August 2014
(US dollars per kilogram)

Region	Regional average price (US$/kg) August-2013	Regional average price (US$/kg) August-2014	Change 2013-2014 (%)
	Trader	Trader	
Eastern region (Kunar, Laghman, Nangarhar)	145	129	-11%
Southern region (Hilmand, Kandahar)	163	146	-10%
Western region (Badghis, Farah, Ghor, Hirat, Nimroz)	192	210	9%
North-eastern region (Badakhshan, Kunduz, Takhar)	107	89	-17%
Northern region (Balkh, Faryab, Kunduz)	112	112	0%
Average	**144**	**137**	**-5%**

Figure 19: Monthly prices of dry opium in Kandahar and Nangarhar province, as collected from March 1997 to August 2014 (US dollars per kilogram)



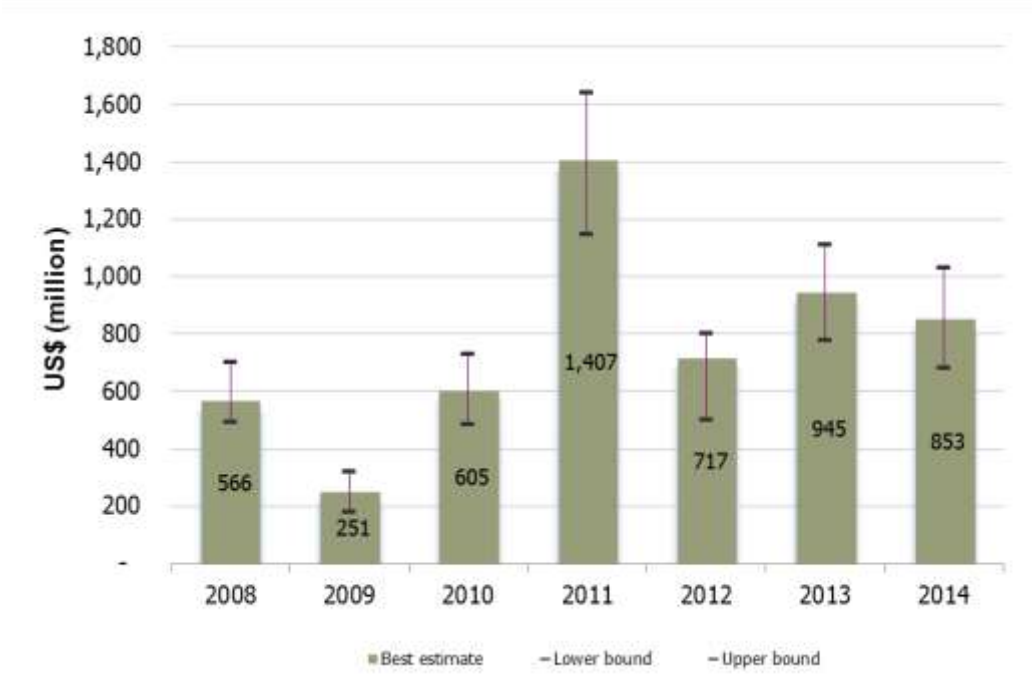
Source: MCN/UNODC Monthly Price Monitoring System.

5.2 Farm-gate value of opium production

Amounting to US$ 853 million (US$ 680-1,030 million), the farm-gate value of opium production in 2014 decreased by 13% from its 2013 level. The decrease in farm-gate value was mainly due to the 23% price decrease.

Farmers in Hilmand, the country's largest opium-producing province, earned some US$ 394 million, which was equivalent to 46% of the total farm-gate value of opium production in Afghanistan in 2014; a decrease of 13% from 2013 (US$ 945 million).

Figure 20: Farm-gate value of opium production in Afghanistan, 2008-2013 (Million US dollars)



Figures for 2008 and 2009 were recalculated from the revised opium production estimates, see MCN/UNODC Afghanistan Opium Survey 2012. Ranges were calculated proportionally to the previously published estimate.

6 Methodology

This chapter covers various methodological aspects regarding survey design and estimation procedure.

6.1 Estimation of area under opium cultivation

Remote sensing methodologies have been used by UNODC since 2002 to monitor the extent of opium cultivation in Afghanistan. Changes in the location of opium poppy cultivation and the increased security difficulties involved in accessing the area under scrutiny require continuous improvements of the sampling designs applied.

A sampling approach is used to cover those provinces where most of the poppy is found, whereas a targeted approach is used in provinces with a low level of opium cultivation. "Targeted approach" means that a certain area of a province is fully covered by satellite imagery.

In 2014, out of 34 provinces in Afghanistan, 11 were sampled and 11 were targeted. The remaining 12 provinces were considered to be poppy-free[33] based on information from the field. These provinces were not covered by the remote sensing survey, but were covered by the village survey.

Table 27: Area estimation method, by province, 2014

Region	Targeted approach	Sampling approach	Village survey only
Central	Kabul		Ghazni, Khost, Logar, Paktya, Panjshir, Parwan, Wardak, Paktika
Eastern	Kapisa, Laghman, Nuristan	Kunar, Nangarhar	Nuristan
Northern	Baghlan, Balkh, Faryab, Jawzjan, Sari-Pul		Bamyan, Samangan
North-eastern	Takhar	Badakhshan	Kunduz
Southern		Day Kundi, Hilmand, Kandahar, Uruzgan, Zabul	
Western	Ghor, Hirat	Badghis, Farah, Nimroz	

6.1.1 Area estimation based on sampling methods and targeted approaches

6.1.1.1 Sampling frame

The area available for agriculture was updated based on Landsat 8 ETM images and DMC images. The total estimated agricultural area in Afghanistan in 2014 amounted to 78,753.04 km^2. The sampling frame was established by extracting the area of land potentially available for opium cultivation in 11 provinces. This area was divided into regular 10 km by 10 km grids, which constituted the sampling frame. The final sampling frame, from which the satellite images were randomly selected, consisted of 1,463 cells in 11 provinces. In the case of images that cut across provincial boundaries, only the part falling into a particular province was considered to be in that province.

The area available for agriculture in the sampling frame covers irrigated and rain-fed land. The total area in the 11 provinces was 23,563 km^2, which is equivalent to 30% of all potential agricultural land in Afghanistan. Potential land refers to all land available for cultivation and also includes land that is currently fallow.

Cells containing less than 1 km^2 of potential agricultural land were excluded from the sampling frame in order to reduce the likelihood of choosing cells with very little arable land. In total, the exclusions represented less than 2% of the total potential agricultural land.

[33] Note that more than these 12 provinces turned out to be poppy-free in the satellite survey, because less than 100 hectares of opium cultivation was detected.

In 2014, high-resolution satellite images were acquired for 163 sampled locations 10 km by 10 km in size, covering a total of 11 provinces and 65 locations, for the 11 target provinces in Afghanistan.

Table 28: Sample size, agricultural land and sampling ratio, by province, 2014

Province	Total arable land (km^2)	Total	Selected	% of selected cells over total cells	Arable land in selected cells	Sample size (% of arable land in selected cells)
		# cells	# cells		(km^2)	
Badakhshan	3,983	130	16	12%	587	15%
Badghis	6,515	180	15	8%	808	12%
Day Kundi*	585	140	8	6%	55	9%
Farah	1,868	187	16	9%	146	8%
Hilmand	3,872	199	40	20%	927	24%
Kandahar*	2,938	214	22	10%	165	6%
Kunar	240	57	9	16%	51	21%
Nangarhar	804	59	9	15%	126	16%
Nimroz	948	68	10	15%	176	19%
Uruzgan*	770	84	10	12%	93	12%
Zabul*	1,040	145	8	6%	43	4%
Total	**23,563**	**1,463**	**163**	**11%**	**3177**	**13%**

** The sampling locations were changed or newly introduced in these provinces.*

The sample size (meaning the number of images acquired in each province) was approximately proportional to the square root of the area of potential agricultural land. This allocation methodology is one form of compromise between the appropriate allocations for producing national estimates and for producing provincial estimates. A minimum number of eight sample cells was set. The total number of images was constrained by cost considerations and the maximum number of images that the satellite provider could handle given the limited time window for each image.

The same image locations as in 2013 were used in 2014 for 7 out of the 11 sampled provinces. To account for the dynamics of poppy cultivation and the re-allocation of Gizab district from Day Kundi to Uruzgan, the provinces of Day Kundi, Kandahar, Uruzgan and Zabul were re-sampled.

In greater detail, the following methods were used:

In the provinces of **Day Kundi, Farah, Hilmand, Kandahar, Nimroz, Uruzgan and Zabul,** the study area ("frame") was divided into compact geographical strata of approximately equal area by applying a clustering algorithm ("k-means") in the statistical software *R*. In each stratum, two sampling locations were selected by simple random sampling. This method ensured a good geographical coverage by sampling locations while allowing for an unbiased estimation of the variance. In Hilmand and Nimroz, the area was additionally separated in two substrata: in Hilmand, this accounted for the lower poppy cultivation density in the former "Food Zone"; in Nimroz, it accounted for the high concentration of poppy cultivation in Dilaram district. This allowed the provision of two separate poppy estimates in Hilmand: one for the total area under cultivation in the province; and one for the area under cultivation within the former (2012) Food Zone. **Gizab district** was targeted.

In **Badakhshan Nangarhar and Kunar** provinces, a one-stage systematic random sampling approach was employed in which a sampling rule was applied that ensured good geographic coverage. Starting from a randomly chosen cell, every *k*th element from then onwards was chosen, where *k* is determined by the number of cells in the frame and the desired sample size (the actual sample size might differ slightly). To avoid adjacent cells, every other line was skipped.

In **Nangarhar** province, the districts Dara-e-Nur, Kuzkunar, Kama, Behsud, Jalalabad and partially Surkhrod were excluded from the frame.

In the remaining provinces, a historically grown, non-random sample was used. It is also planned to apply a new sampling strategy in these provinces in 2015.

6.1.2 Area estimation in sampled provinces

The estimation of the extent of opium poppy cultivation is a ratio estimate for each of the provinces, using potential agricultural land as an auxiliary variable. The national estimate was obtained by adding up the provincial estimates in what is known as a separate ratio estimate.

The Hansen-Hurwitz estimator is one method of estimating the extent of opium poppy cultivation when the probability of selecting sampling units is not equal.

An unbiased estimate of the area of opium poppy cultivation, A_k, within province *k*:

$$A_k = \frac{R_k}{n_k} \sum_{i=1}^{n_k} P_i / R_i$$

where n_k is the number of satellite image locations within the province.

P_i is the area of poppy cultivation in image *i.*

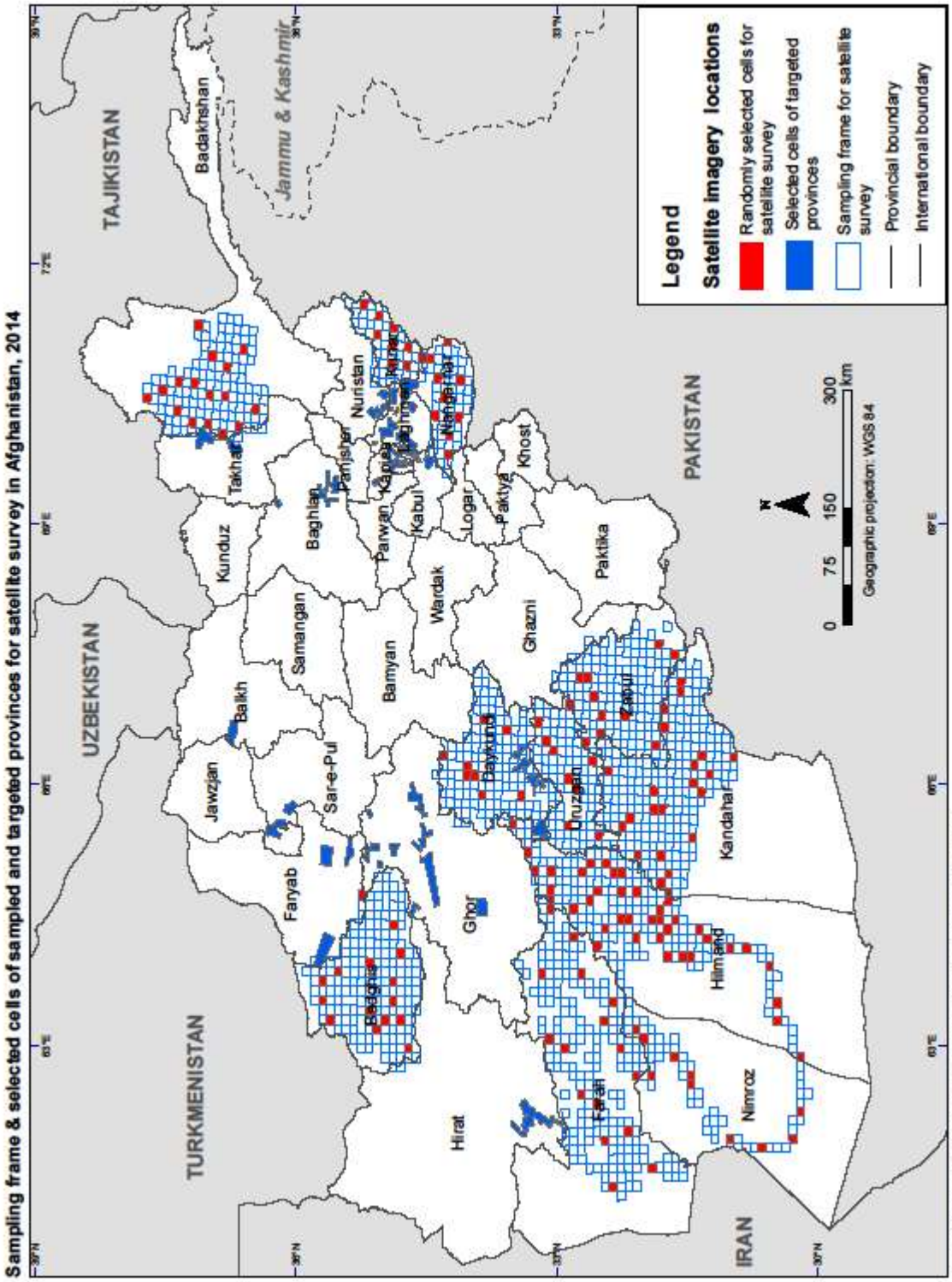
R_i is the area of land potentially available for poppy cultivation (risk area) in image *i*.

R_s is the total potential land available for poppy cultivation (risk area) from the sampling frame in province *k*.

In the newly sampled provinces with equal inclusion probability, a slightly different ratio estimate that uses agricultural area as regressor was used. An unbiased estimate of the area of opium poppy cultivation, A_k, within province *k*

$$A_k = \sum_{i=1}^{n_k} P_i \frac{R_s}{\sum_{i=1}^{n_k} R_i}$$

with the same notation, as above.


Sampling frame & selected cells of sampled and targeted provinces for satellite survey in Afghanistan, 2014
Legend
Satellite imagery locations
Randomly selected cells for satellite survey
Selected cells of targeted provinces
Sampling frame for satellite survey
Provincial boundary
International boundary
TAJIKISTAN
UZBEKISTAN
TURKMENISTAN
IRAN
PAKISTAN
Jammu & Kashmir
Badakhshan
Takhar
Kunduz
Baghlan
Panjshir
Nuristan
Kapisa
Parwan
Kabul
Logar
Paktya
Khost
Paktika
Wardak
Ghazni
Samangan
Balkh
Jawzjan
Sar-e-Pul
Bamyan
Faryab
Ghor
Baghdis
Hirat
Daykundi
Uruzgan
Zabul
Kandahar
Helmand
Farah
Nimroz
0 75 150 300 Km
N
Geographic projection: WGS 84
Source: Government of Afghanistan - National monitoring system implemented by UNODC
Note: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

6.1.2.1 Uncertainty

In Day Kundi, Farah, Hilmand, Kandahar, Nimroz, Uruzgan and Zabul, the confidence intervals were calculated following statistical practice.[34]

In all remaining provinces where no unbiased estimator for the variance was available, confidence intervals were calculated using the bootstrap method with 100,000 iterations. Bootstrapping consists of re-sampling with replacements from the original sample. After each iteration, the area under cultivation is estimated. After 100,000 iterations a distribution of cultivation areas can be observed and the 95% confidence interval is derived by using the 2.5 and 97.5 percentiles.

In Badakhshan the lower confidence interval was calculated by summing up the poppy in the sample and subtract eradicated area.

Table 29: Area estimates of sample provinces with 95% confidence interval, 2014 (Hectares)

Province	Point estimate (Hectares)	Lower bound (Hectares)	Upper bound (Hectares)
Badakhshan	4,204	1,269	11,225
Badghis	5,721	1,171	13,619
Day Kundi	587	192	841
Farah	27,513	13,722	41,305
Hilmand	103,240	91,026	114,063
Kandahar	33,713	24,850	42,712
Kunar	754	346	1,467
Nangarhar	18,227	8,690	26,634
Nimroz	14,584	10,420	18,744
Uruzgan	9,277	2,803	18,705
Zabul	2,894	668	5,145
Target provinces	**3,623**	**NA**	**NA**
National	**224,337**	**196,443**	**246,805**
National (rounded)	**224,000**	**200,000**	**200,500**

To express the uncertainty associated with the national area estimation, which includes the provinces covered by the targeted approach and the sample provinces, but excludes provinces with an estimate of less than 100 hectares (which are considered "poppy-free" and not counted), a range was calculated by adding the poppy area figures of the target provinces to the upper and lower limits of the 95% confidence interval at the national level.

6.1.3 Area estimation in target provinces

The consensus view of those working in Afghanistan was that the MCN/UNODC surveillance system developed in the provinces can identify sites where poppy was grown, with further inputs being obtained from the survey of village headmen. Fieldworkers visited potential poppy-growing sites to confirm the situation and provided GPS references for the sites. If geographical clusters of sites were identified, targeted satellite images were obtained to measure the areas involved. The total poppy area of a target province is equal to the poppy area measured on the imagery without any further calculation. For a list of provinces for which the target approach was used see Table 4.

In provinces where satellite images were targeted, the estimated area under opium cultivation is not affected by sampling errors, although they may be affected by the omission of areas with very little cultivation. Area estimates of target provinces should therefore be considered as a minimum estimate.

[34] See, e.g. Cochran, W. G., Sampling techniques, John Wiley & Sons (2007).

6.1.4 District level estimation

District level results are indicative only. A combination of different methods is used. If districts are covered by sampled cells, the average value of these cells is used. In the case of districts where sampled cells were not available, two methods were used to calculate district estimates. If the agricultural area of a district with a sample grid extended into a neighbouring district(s) without interruption, the poppy proportion of the sample grid was also used for the neighbouring district(s). For districts with isolated, non-contiguous agricultural areas, the average poppy proportion of the province was applied. The methodology and sample was not designed to produce results at the district level.

6.1.5 Accuracy assessment

Due to the difficult security situation in many parts of Afghanistan, which prevented surveyors from carrying GPS and mapping equipment, an insufficient number of ground segments could be visited in order to conduct a systematic accuracy assessment.

6.1.6 Estimation of the net cultivation area

The area figure presented is the net harvestable opium poppy cultivation area. The effect of poppy eradication activities was taken into account based on data from the eradication verification survey, which provides exact GPS coordinates of all eradicated fields supplemented with additional information. The gross cultivation areas would be the net cultivation plus eradication.

In provinces where the poppy area is estimated with a sampling approach, the first step is to calculate the gross poppy cultivation area. The total area eradicated in those provinces is then deducted from the mid-point estimate of the provincial cultivation estimate to obtain the net cultivation area. If eradication activities were carried out after the date of the image acquisition, no adjustment is necessary as the poppy present in the image reflects the gross poppy area. If eradication activities were carried out in a sample block before the date of the image acquisition, the area interpreted as poppy would not reflect the gross area. Therefore, the eradicated fields are added to the interpreted fields. The adjusted poppy area figure for the block is then used for the provincial estimate.

In provinces where the poppy areas is estimated with a targeted approach (census), eradication activities that happened before the date of the image acquisition are already reflected, as these fields no longer appear as poppy in the image. Fields that were eradicated after the date of the images acquisition are simply deleted.

6.2 Satellite image interpretation

6.2.1 Acquisition of satellite images

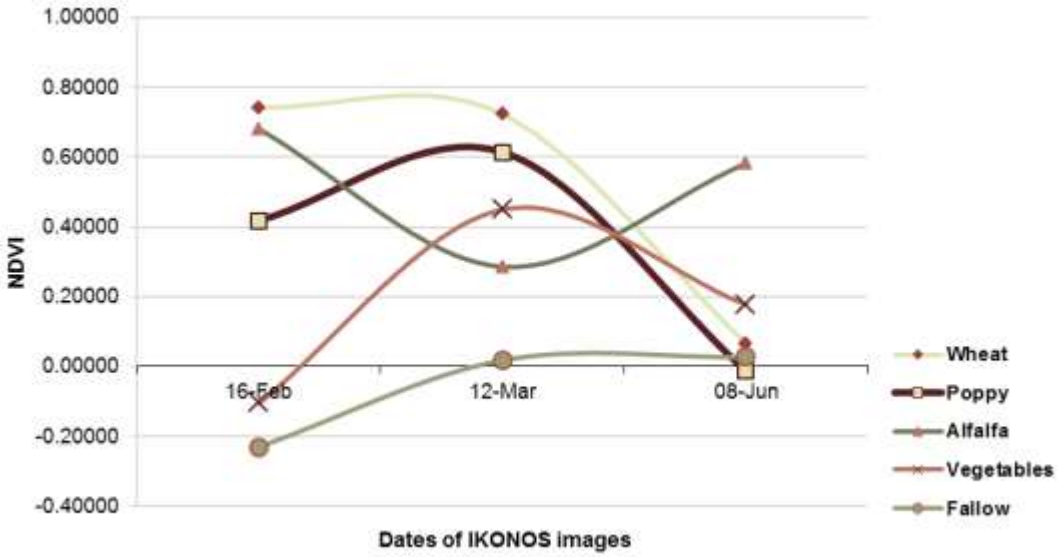
The acquisition of satellite images at the appropriate growth stage of the opium poppy is key to the successful identification of opium poppy fields on satellite images. Satellite data is collected at two stages: the pre-harvest (flowering) stage and the post-harvest (post-lancing) stage. In recent years, detailed information on the crop growth cycle of each district has been collected in the form of a phenological chart, which is useful for deciding on appropriate dates for satellite data acquisition. First-dated images of the Southern, Eastern and Western regions are collected during March and April due to the early cultivation and maturity of crops in those regions. The crop growth cycle begins later as one goes northward. Images of the North and North-eastern region are acquired during May, June and July. Second-dated satellite images are collected approximately two months after the first images are collected.

The normal time window for satellite data acquisition is one month, depending on the scheduled passing of satellite and weather conditions. The time window for first-dated image acquisition begins at the full flowering stage and continues through the capsule stage. Second-dated image acquisition begins towards the end of the lancing stage and continues until the opium poppy fields are ploughed. Images acquired in the middle of the prescribed time window facilitate optimum discrimination between opium poppy and other crops.

The figure below illustrates the spectral characteristics (Normalized Difference Vegetation Index; NDVI) of opium poppy and other crops between February and June. Wheat and opium poppy

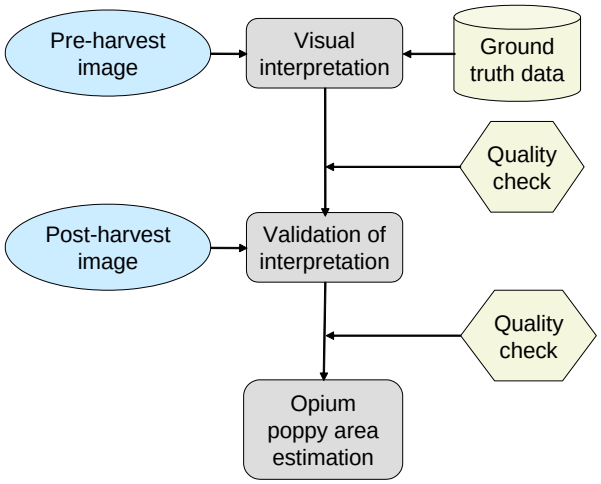
have the same growth cycle between March and June, as illustrated. The spectral differences between those two crops are more pronounced in February, which marks the beginning of the capsule stage of the crop in this example. Poppy fields are ploughed immediately after the harvest, whereas wheat fields are not. That is why two-dated images (pre-harvest and post-harvest) are collected for the same location.

Figure 21: Spectral reflectance of opium poppy and other crops



The figure above illustrates the growth cycles of opium poppy, wheat and clover from February to June, with the help of ground photographs. Note that maximum visual discrimination between opium poppy and other crops is possible during the flowering/capsule stage and after capsule lancing. The different phenological stages described above are shown in the figure on the previous page (field photographs of opium poppy, wheat and clover on different dates).

Figure 22: Image classification methodology for estimating opium cultivation area



6.2.2 Interpretation of opium cultivation from satellite images

First-dated images were acquired during the flowering or capsule stage and second-dated images were acquired after the opium harvest. For example, wheat appears mostly in bright red on the

first date image in false colour composite (full coverage with vegetation appears in red; bare soil in grey/green), while opium poppy fields are shown in tones of pink. Although there can be some confusion between opium poppy and wheat in the first-dated images, the acquisition of second-dated images makes it possible to distinguish opium poppy from other crops, because the opium poppy crop has been harvested and the fields appear in grey/green.

Visual interpretation was used to delineate opium poppy fields by interpreting IKONOS images covering a 10 km by 10 km area. Ortho-rectified IKONOS, QUICKBIRD, WORLD-VIEW2 and GEO-EYE images of 1 m resolution and 0.5 m resolution (PAN-sharpened) were used for this purpose. Opium poppy was initially identified using first-dated high resolution images. Ground truth information collected in the form of segment maps and GPS points was also useful in identifying opium poppy fields. The interpretation based on first-dated images was improved using patterns of observation in second-dated images. Aerial photographs of the poppy fields were acquired using helicopters in the provinces of Kandahar and Hilmand during the eradication season, as well as in Kabul, Kapisa, Kunar, Laghman and Nangarhar provinces during the flowering and capsule stages. These photographs were tagged by latitude and longitude and facilitated to locate the poppy areas on satellite images, and were very helpful in confirming the poppy areas in the satellite images. Poppy field boundaries in 2012 were delineated by an on-screen digitization method.

6.2.2.1 Band combination for opium poppy identification

Two kinds of band combination were used to detect opium poppy. True-colour combination (blue, green, red) was used in areas where land use is dominated by opium (for example, Hilmand and Kandahar) and in cases where images were obtained during the flowering and lancing stages of opium poppy. False-colour combination (infra-red, red, green) was used in almost all cases. Analysts used both combinations simultaneously to optimize discrimination between opium poppy and other crops.

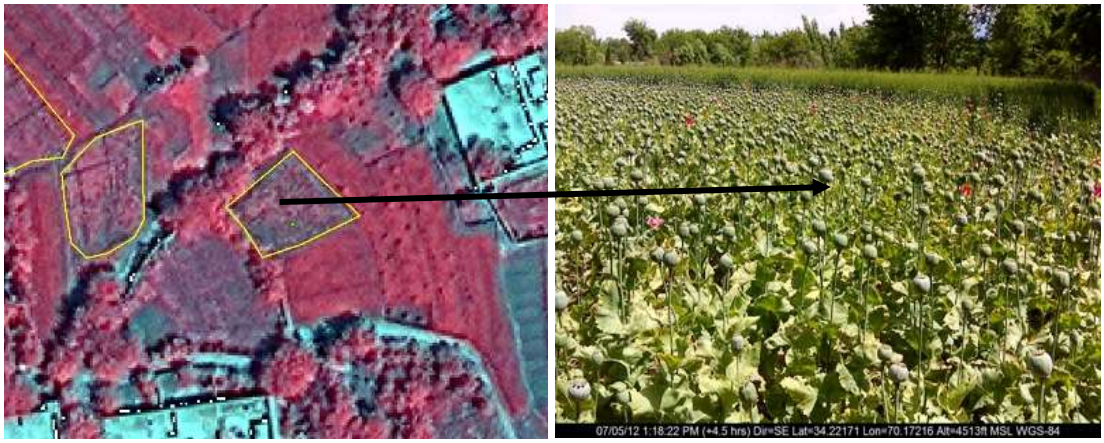
Some of the images could not be acquired at the appropriate time due to weather conditions and/or the time at which the satellite passed. The delayed acquisition of images makes it difficult to detect opium poppy, since fields may be at the senescence stage due to the lancing of capsules and can therefore be confused with fallow fields. In such cases, second-dated images are often useful in confirming opium poppy fields, since harvest patterns are different for wheat and opium poppy.

6.2.2.2 Ground reference information

Ground reference data were collected in the form of GPS points, field photographs and aerial photographs. Some 1,854 GPS points of poppy fields, supported with pictures, were collected from the provinces of Takhar, Sari Pul, Baghlan, Balkh, Faryab, Kapisa.

GPS point data were superimposed over the ortho-rectified satellite images to facilitate identification of poppy fields during visual interpretation.

Figure 23: Use of geo-referenced ground photos for image interpretation

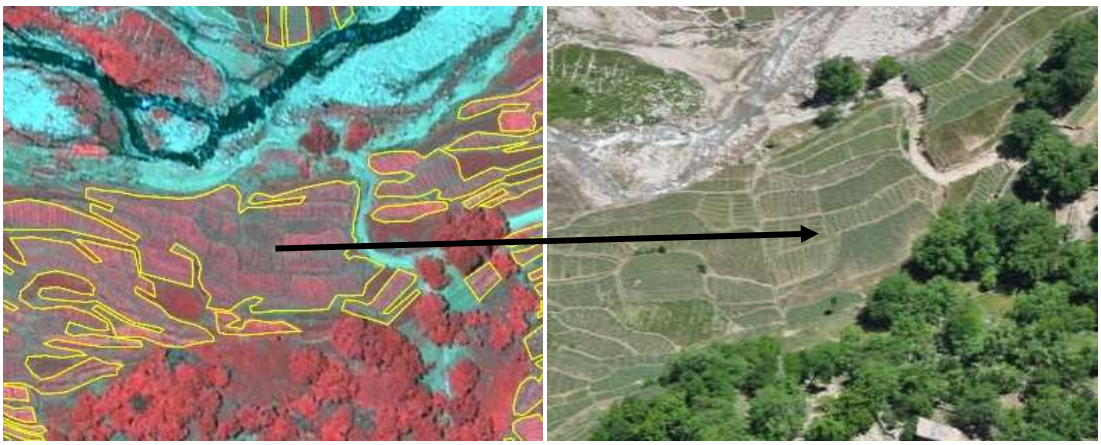


Satellite image (infra-red) *Field photograph (natural colour)*

Natural colour aerial photographs acquired from helicopters were co-related with the satellite images to identify poppy from other crops, as shown below.

Figure 24: Use of aerial photos for image interpretation

Satellite image (infra-red) *Aerial photograph (natural colour)*

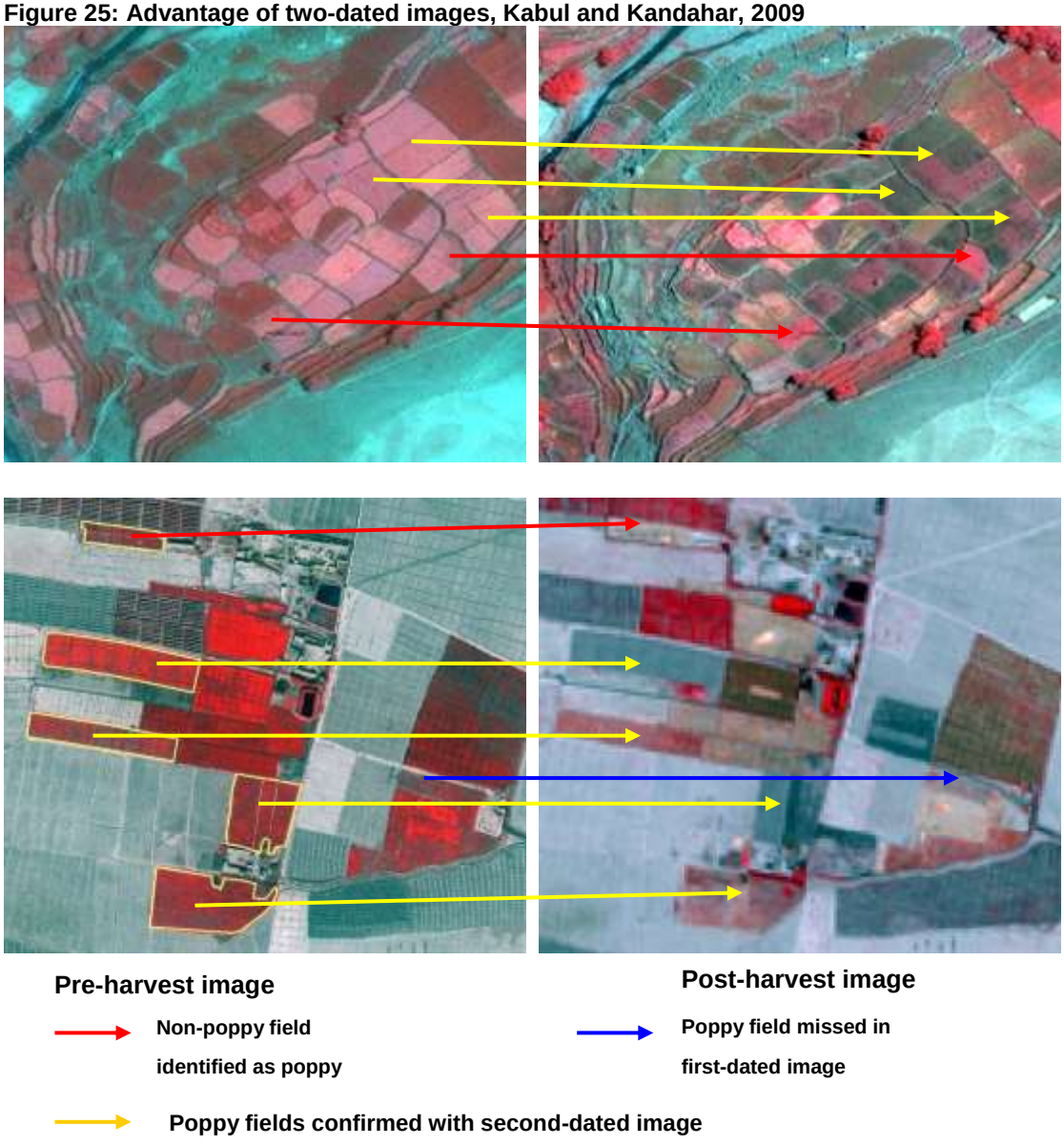


6.2.2.3 Advantage of two-dated images

Visual interpretation of single-dated very high-resolution images was a relatively easy task in Hilmand, Kandahar, Uruzgan, Farah and Nimroz provinces. This was due to larger field sizes and timely acquisition of the images. Interpretation in target provinces Nangarhar, Laghman, Kunar, Kabul, Kapisa, Hirat, Ghor, Baghlan, Faryab and Badakhshan was easy with the help of GPS

points and aerial photographs. Interpretation of images in Badghis and Zabul was more difficult since the spectral signatures of opium poppy were not as clear as in Hilmand, Kandahar, Uruzgan and Nangarhar. The second-dated images were useful to distinguish poppy from barley, wheat and grapes in certain provinces, namely Kabul, Kandahar and Nangarhar, particularly where the first-dated images were acquired late during the senescence stage. The second-dated (post-harvest) images were therefore useful in confirming whether the opium poppy on the first-dated images had been correctly identified. Image acquisition at two different times (pre- and post-harvest) is thus proven to be essential in such cases.

Figure 25: Advantage of two-dated images, Kabul and Kandahar, 2009



6.2.2.4 Quality control

A quality control mechanism was applied to the image interpretation process, with each analyst's work being checked by two other experts. Both first-dated and second-dated images were cross-checked.

All fields determined as likely to be under opium cultivation (potential opium poppy fields) were delineated on the basis of the interpretation of first-dated satellite imagery. In some cases a second-dated image was acquired for the purpose of confirmation. The corrections involved a few commissions and omissions.

6.3 Opium yield and production

6.3.1 Estimating opium yield

The relationship between poppy capsule volume per square metre and dry opium yield is used to estimate opium production.[35] It takes the form of a non-rectangular hyperbola.

Non-rectangular hyperbola formula for opium yield as function of capsule volume:

$$Y = [(VC + 1495) – ((VC + 1495)^2 – 395.259\ VC)^{0.5}] / 1.795$$

where

Y = Dry opium gum yield (kg/ha), and

VC = Mature capsule volume (cm^3/m^2).

In the yield survey, data on the number of yield capsules per plot and capsule volume are collected. The survey follows the procedure established in the UNODC *Guidelines for Yield Assessment*.

An imaginary transect was drawn on each surveyed field, along which three one-metre square plots were selected. In each plot, the number of flower buds, flowers, immature capsules and mature capsules that were expected to yield opium were counted, and the diameter and height of 10 to 15 opium-yielding capsules were measured with a calliper. The capsule volume per square metre was calculated with these data and entered into the formula for the yield calculation. Each plot thus provided one yield observation. The simple average of the three plots in a field is the field yield. The simple average of all fields in a region is the regional yield. A range was calculated to express the uncertainty of the yield estimate due to sampling with the 95% confidence interval.

Table 30: Regional opium yield values with 95% confidence intervals, 2014 (Kilograms per hectare)

REGION	Best estimate	Lower bound	Upper bound
Central	48.5	43.6	53.5
Eastern	39.6	28.3	50.8
North-eastern	38.2	34.1	42.4
Northern	34.5	27.1	41.9
Southern	29.5	25.0	34.0
Western	20.4	16.9	23.9
National weighted by opium cultivation	**28.7**	**23.8**	**33.6**

6.3.2 Changes to the yield survey and data quality

Since 2012, the yield survey has been significantly reduced in comparison to previous years. Due to the increasingly difficult security situation, only fields where it was possible to complete the survey without time pressure were visited. Furthermore, training was improved and surveyors worked in pairs rather than alone. The survey is therefore no longer statistically representative.

To further enhance data quality, data quality checks developed with external experts were applied. The statistical tests developed in 2011[36] were applied to the capsule measurements, i.e. to the values reported regarding height and diameter, and thus the resulting capsule volumes. Regarding the number of capsules contributing to yield per plot, no systematic tests are available.

[35] UNODC Guidelines for yield assessment of opium gum and coca leaf from brief field visits, UN New York, 2001, ST/NAR/33. See also UNODC (2003): Limited opium yield assessment surveys. Technical report: Observations and findings. Guidance for future activities. In: Scientific and Technical Notes, SCITEC/19, December 2003.

[36] See MCN/UNODC *Afghanistan Opium Survey 201, December 2011*, page 95.

The results showed that data continued to be of a high quality. In 2014, only data collected in one single village in Badakhsan (3 fields) had to be excluded. MCN and UNODC continue to work on improving the yield surveys.

Table 31: Yield survey villages and fields surveyed (all data)**, 2009-2014**

	2009	2010	2011	2012	2013	2014
Number of villages	248	240	232	41	48	45
Number of fields (max. 3 per village)	699	685	685	114	142	134
Number of plots (3 per field)	2,415	2,040	2,055	342	426	401
Number of capsules measured	26,901	20,474	20,769	3,211	4,009	3,474

6.3.3 Estimating opium production

Opium production was calculated by the estimated regional area under opium cultivation being multiplied by the corresponding regional opium yield. All opium estimates in this report are expressed in oven-dry opium equivalent, i.e. the opium is assumed to contain 0% moisture. The same figure expressed in air-dry opium, i.e. opium under "normal" conditions as traded, would be higher as such air-dry opium contains some moisture.

The point estimates and uncertainties of the opium production estimate due to sampling of the area under poppy cultivation and yield can be expressed as $a_p \pm \Delta a$ and $y_p \pm \Delta y$, respectively, where the uncertainty is determined from the 95% confidence intervals.

These uncertainties will impact on the estimate of production ($p_p \pm \Delta p$, or equivalently expressed as the range ($p_p - \Delta p$, $p_p + \Delta p$)), where the best estimate $p_p = a_p y_p$, such that

$$\frac{\Delta p}{p_p} = \left[\left(\frac{\Delta a}{a_p} \right)^2 + \left(\frac{\Delta y}{y_p} \right)^2 \right]^{\frac{1}{2}}$$

expresses the error in production, Δp , resulting from uncertainty in the estimates for cultivation area and yield.

For targeted regions there is no sampling error in the area under cultivation. In such cases, the error in production relates only to the uncertainty in the yield and is given by $\Delta p = p_p \Delta y / y_p$.

6.3.4 Estimating heroin production

The proportion of opium converted into morphine and heroin was derived from seizure data in Afghanistan and its neighbouring countries. A three-year average of all reported amounts was taken. In order to estimate the share of opium converted to heroin, all heroin and morphine seizures are converted into opium equivalents by applying the opium to heroin conversion ratio for heroin of export quality.

As seizures are often driven by pure chance and seizure data have some inherent uncertainties, changes should be interpreted with caution. Information from the CNPA laboratory indicates that not all assumed seizures of heroin turn out to actually contain heroin, or they contain heroin in combination with various other substances.[37] This is rather typical for seizures and not specific only to Afghanistan.

[37] Counter Narcotics Police of Afghanistan, Forensic Laboratory/UNODC (2008): Laboratory Information Bulletin 12/2008 (LIB IV/2008). http://www.unodc.org/pdf/scientific/LIB%20IV-2008_Kabul-.pdf.

Table 32: Proportions of opiate seizures in Afghanistan and neighbouring countries
(Percentage)

Distribution	2010	2011	2012	Average 2010-2012 weighted by amounts seized
Opium	63%	50%	41%	52%
Heroin and morphine combined	37%	50%	59%	48%

6.4 Verification of Governor-led eradication (GLE)

UNODC/MCN has improved field-based verification activities since 2010 by enhancing the control mechanism. The areas verified by eradication verifiers were randomly checked by the team leader and UNODC/MCN survey coordinators for validation of the reported figures. A total of 124 eradication verifiers were trained in eradication verification techniques and deployed in a phased manner to provinces where eradication activities were envisaged. The eradication verifiers were part of the eradication teams led by the respective provincial governor. Verifiers reported to the office of Provincial Governors in the last week of February 2013.

Verification methodology for GLE:

- Eradication verifiers were part of the Governor-led eradication teams.
- The verifiers took measurements of each eradicated field by their pace length, converted them into metres and calculated the area in jerib (1 jerib=2000 m^2), collected field coordinates using new GPS cameras and took photographs.
- The verifiers drew sketch maps of each field as a reference for area calculations.
- The verification-reporting officers in Kabul obtained the provisional data from the verifiers by telephone (mobile/satellite phones) and updated the database on a daily basis.
- The verifiers filled in hardcopy survey forms and submitted them to UNODC regional offices. The forms were then sent to the Kabul office for data entry. Quality control was undertaken by MCN/UNODC survey coordinators at the regional level. Eradicated fields were revisited randomly by team leaders and MCN/UNODC survey coordinators to check the accuracy of the reports. Further validation of the results was done using data obtained through helicopter flights, as well as from satellite imagery, to calculate the final area of eradicated poppy fields wherever possible.
- In Hilmand province, the area calculations of the eradicated poppy fields was facilitated by calculating the area of fields automatically using a standard template in Excel file, thus avoiding manual calculation errors at the field level.
- MCN/UNODC published periodical reports on a weekly basis to inform stakeholders of eradication activities. The eradication figures provided in these reports were considered provisional until they were finalized based on field checks and/or checks based on the satellite image interpretation.

6.5 Average farm-gate price and farm-gate value of opium production

Since 2009, farm-gate prices at harvest time have been derived from the opium price monitoring system and refer to the month when opium harvesting actually took place in the different regions of the country, which is thought to reflect opium prices at harvest time better. To calculate the national average price, regional price averages were weighted by regional opium production. The opium price in the Central region was calculated from the annual village survey, as there is no monthly opium price monitoring in that region.

The farm-gate value of opium production is the product of potential opium production at the national level multiplied by the weighted average farm-gate price of dry opium at harvest time. The upper and lower limits of the range of the farm-gate value were determined by using the upper and lower opium production estimate.

ANNEX I: OPIUM POPPY CULTIVATION PER PROVINCE, 2002-2013 (HECTARES)

PROVINCE	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Change 2013-2014 (ha)	Change 2013-2014 (%)
Badakhshan	8,250	12,756	15,607	7,370	13,056	3,642	200	557	1,100	1,705	1,927	2,374	4,204	+1830	+77%
Badghis	26	170	614	2,967	3,205	4,219	587	5,411	2,958	1,990	2,363	3,596	5,721	+2125	+59%
Baghlan	152	597	2,444	2,563	2,742	671	475	Poppy-free	Poppy-free	161	177	141	168	+27	+19%
Balkh	217	1,108	2,495	10,837	7,232	-	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	410	Poppy free	-410	NA
Bamyan	-	610	803	126	17	-	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy free	NA	NA
Day Kundi	-	2,445	3,715	2,581	7,044	3,346	2,273	3,002	1,547	1,003	1,058	1,536	587	-949	-62%
Farah	500	1,700	2,288	10,240	7,694	14,865	15,010	12,405	14,552	17,499	27,733	24,492	27,513	+3021	+12%
Faryab	28	766	3,249	2,665	3,040	2,866	291	Poppy-free	Poppy-free	Poppy-free	Poppy-free	158	211	+53	+33%
Ghazni	-	-	62	9	-	-	Poppy-free	Poppy-free	Poppy-free	145	Poppy-free	Poppy-free	Poppy free	NA	NA
Ghor	2,200	3,782	4,983	2,689	4,679	1,503	Poppy-free	Poppy-free	Poppy-free	Poppy-free	125	264	493	+229	+87%
Hilmand	29,950	15,371	29,353	26,500	69,324	102,770	103,590	69,833	65,045	63,307	75,176	100,693	103,240	+2547	+3%
Hirat	50	134	2,531	1,924	2,287	1,525	266	556	360	366	1,080	952	738	-214	-22%
Jawzjan	137	888	1,673	1,748	2,024	1,085	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy free	NA	NA
Kabul	58	237	282	-	80	500	310	132	152	220	120	298	233	-65	-22%
Kandahar	3,970	3,055	4,959	12,989	12,619	16,615	14,623	19,811	25,835	27,213	24,341	28,335	33,713	+5378	+19%
Kapisa	207	326	522	115	282	835	436	Poppy-free	Poppy-free	181	290	583	472	-111	-19%
Khost	-	375	838	2	133	-	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy free	NA	NA
Kunar	972	2,025	4,366	1,059	932	446	290	164	154	578	1,279	1,127	754	-373	-33%
Kunduz	16	49	224	275	102	-	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy free	NA	NA
Laghman	950	1,907	2,756	274	710	561	425	135	234	624	877	1,236	901	-335	-27%
Logar	-	-	24	-	-	-	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy free	NA	NA
Nangarhar	19,780	18,904	28,213	1,093	4,872	18,739	0	294	719	2,700	3,151	15,719	18,227	+2508	+16%
Nimroz	300	26	115	1,690	1,955	6,507	6,203	428	2,039	2,493	3,808	16,252	14,584	-1668	-10%
Nuristan	-	648	764	1,554	1,516	0	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy free	NA	NA
Paktika	-	-	-	-	-	-	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy free	NA	NA
Paktya	38	721	1,200	-	-	-	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy free	NA	NA
Panjshir	-	-	-	-	-	-	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy free	NA	NA
Parwan	-	-	1,310	-	124	-	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy free	NA	NA
Samangan	100	101	1,151	3,874	1,960	-	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy free	NA	NA
Sari Pul	57	1,428	1,974	3,227	2,252	260	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	195	NA	NA
Takhar	788	380	762	1,364	2,178	1,211	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy free	NA	NA
Uruzgan	5,100	4,698	7,365	2,024	9,703	9,204	9,939	9224	7,337	10,620	10,508	9,880	9,277	-603	-6%
Wardak	-	2,735	1,017	106	-	-	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy free	NA	NA
Zabul	200	2,541	2,977	2,053	3,210	1,611	2,335	1,144	483	262	424	1,335	2,894	+1559	+117%
Total (rounded)	**74,000**	**80,000**	**131,000**	**104,000**	**165,000**	**193,000**	**157,000**	**123,000**	**123,000**	**131,000**	**154,000**	**209,000**	**224,000**	**+15,000**	**+7%**

ANNEX II: INDICATIVE DISTRICT LEVEL ESTIMATES OF OPIUM CULTIVATION, 2002-2014 (HECTARES)[38]

Province	District	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Badakhshan	Arghanj Khwah							54	0	0	0	0	0	0	0
Badakhshan	Argo							210	60	203	327	617	610	565	2046
Badakhshan	Baharak	345	180		5,544	1,635	710	0	14	2	0	0	43	322	41
Badakhshan	Darayim							682	43	145	289	662	898	684	1282
Badakhshan	Darwaz-i Payin (mamay)						0	0	0	0	0	0	0	0	0
Badakhshan	Darwaz-i- Bala (nesay)							0	0	0	0	0	0	0	0
Badakhshan	Faiz abad (Provincial Center)	868	2,370	3,109	2,362	3,111	7,154	83	64	11	10	64	7	48	65
Badakhshan	Eshkashim						0	0	0	0	0	0	0	0	0
Badakhshan	Jurm	2,897	2,690	4,502	4,818	1,460	2,027	170	6	6	2	43	98	196	85
Badakhshan	Khash							999	7	6	4	46	0	0	0
Badakhshan	Khwahan						0	0	0	0	0	0	0	5	21
Badakhshan	Kishim	2,191	2,840	4,530	2,883	1,076	3,165	0	2	68	204	73	45	141	117
Badakhshan	Kohistan							0	0	0	0	0	2	0	11
Badakhshan	Kuf Ab							0	0	0	0	0	0	0	0
Badakhshan	Kiran wa Munjan					48	0	10	0	0	0	0	0	0	0
Badakhshan	Raghistan						0	400	0	0	0	0	19	9	26
Badakhshan	Shahri Buzurg	41	170	615		39	0	313	0	2	3	3	36	148	59
Badakhshan	Shighnan						0	0	0	0	0	0	0	0	0
Badakhshan	Shiki							0	0	0	0	0	0	0	0
Badakhshan	Shuhada							0	0	0	0	0	12	86	236
Badakhshan	Tagab							93	0	0	0	0	22	36	101
Badakhshan	Tashkan							136	0	57	163	145	73	107	92
Badakhshan	Wakhan						0	0	0	0	0	0	0	0	0
Badakhshan	Wardooj							9	3	14	1	1	0	0	0
Badakhshan	Yaftal-i-Sufla							305	0	43	97	50	32	18	12
Badakhshan	Yamgan							10	0	0	0	1	0	5	10
Badakhshan	Yawan							166	0	0	0	0	30	0	0
Badakhshan	Zaybak						0	0	0	0	0	0	0	0	0
Badakhshan Total		**6,342**	**8,250**	**12,756**	**15,607**	**7,369**	**13,056**	**3,642**	**200**	**557**	**1,100**	**1,705**	**1,927**	**2,374**	**4,204**
Badghis	Ab Kamari						127	0	11	161	16	5	14	24	0
Badghis	Ghormach		4	101		944	624	250	328	299	486	1485	1005	2395	1009
Badghis	Jawand				226	134	431	66	13	1,090	130	106	187	850	797
Badghis	Muqur						220	149	7	102	81	9	61	26	47
Badghis	Bala Murghab		22	69	345	1,889	1,034	3,557	81	2,754	2055	284	870	0	3762
Badghis	Qadis						391	198	146	906	135	92	152	264	57
Badghis	Qala-i-Now (Provincial Center)				43		378	0	0	99	55	9	75	37	49
Badghis Total		**0**	**26**	**170**	**614**	**2,967**	**3,205**	**4,219**	**587**	**5,411**	**2,958**	**1,990**	**2,363**	**3,596**	**5,721**
Baghlan	Andarab	81	31	301	564	548	947	130	475	0	0	18	5	3	4
Baghlan	Baghlan *		120	16	154	374	72		0	0	0	0	0	0	0
Baghlan	Baghlan-i-Jadeed				81	248	371	287	0	0	0	0	0	0	0
Baghlan	Burka				198	242	39	31	0	0	0	0	0	4	1
Baghlan	Dahana-i- Ghuri			37	200	24	35	0	0	0	0	0	0	0	0
Baghlan	Deh Salah							14	0	0	0	113	33	37	60
Baghlan	Dushi				89	116	174	68	0	0	0	0	0	0	0
Baghlan	Firing Wa Gharu							0	0	0	0	0	0	0	0
Baghlan	Gozargah-i-Noor							30	0	0	0	0	0	0	0
Baghlan	Kahmard *				527	263	255		0	0	0	0	0	0	0
Baghlan	Khinjan			9	21	92	137	23	0	0	0	0	0	0	0
Baghlan	Khost Wa Firing			21	0	295	442	56	0	0	0	0	0	0	0
Baghlan	Khwajah Hijran (Jalgah)							10	0	0	0	0	0	0	0
Baghlan	Nahreen	1		63	276	35	36	0	0	0	0	0	0	0	0
Baghlan	Pul-i-Hisar							0	0	0	0	30	139	97	103
Baghlan	Pul-i-Khumri (Provincial Center)		1	37	173	224	81	21	0	0	0	0	0	0	0
Baghlan	Talah wa Barfak			113	161	102	153	0	0	0	0	0	0	0	0
Baghlan Total		**82**	**152**	**597**	**2,444**	**2,563**	**2,742**	**671**	**475**	**p-f**	**p-f**	**161**	**177**	**141**	**168**
Balkh	Balkh	1	22	332	411	2,786	1,975	0	0	0	0	0	0	0	0
Balkh	Chahar Bolak			68	877	2,701	799	0	0	0	0	0	0	10	0
Balkh	Chahar Kent				23	25	16	0	0	0	0	0	0	0	0
Balkh	Chimtal		153	617	258	1,878	2,074	0	0	0	0	0	0	400	0
Balkh	Dowlat abad	3	-		141	202	181	0	0	0	0	0	0	0	0
Balkh	Dehdadi		8	35	16	990	307	0	0	0	0	0	0	0	0
Balkh	Kaldar (Shahrak-i-Hairatan)				152	395	123	0	0	0	0	0	0	0	0
Balkh	Khulm				50	367	0	0	0	0	0	0	0	0	0
Balkh	Kishindeh				111	290	189	0	0	0	0	0	0	0	0
Balkh	Marmul				3	18	12	0	0	0	0	0	0	0	0
Balkh	Mazar-i-Sharif				50	119	78	0	0	0	0	0	0	0	0
Balkh	Nahr-i-Shahi		14	30	139	425	833	0	0	0	0	0	0	0	0
Balkh	Sholgarah		19	28	256	543	245	0	0	0	0	0	0	0	0
Balkh	Shortepa				8	98	401	0	0	0	0	0	0	0	0
Balkh	Zari							0	0	0	0	0	0	0	0
Balkh Total		**4**	**217**	**1,108**	**2,495**	**10,837**	**7,233**	**p-f**	**p-f**	**p-f**	**p-f**	**p-f**	**p-f**	**410**	**P-f**

[38] The survey is designed to produce province level estimates. District estimates are derived by a combination of different approaches. They are indicative only, and suggest a possible distribution of the estimated provincial poppy area among the districts of a province.

ANNEX II (continued…)

Province	District	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Bamyan	Bamyan (Provincial Center)			20	93	19	17	0	0	0	0	0	0	0	0
Bamyan	Panjab			250	31		0	0	0	0	0	0	0	0	0
Bamyan	Saighan							0	0	0	0	0	0	0	0
Bamyan	Shebar			36	492	107	0	0	0	0	0	0	0	0	0
Bamyan	Waras			191	64		0	0	0	0	0	0	0	0	0
Bamyan	Yakawlang			112	123		0	0	0	0	0	0	0	0	0
Bamyan Total				**610**	**803**	**126**	**17**	**p-f**	**p-f**	**p-f**	**p-f**	**p-f**	**p-f**	**p-f**	**p-f**
Day Kundi	Gizab	0	-	776	1,109		1,243	1,054	665	810	722	621	684	727	Part of Uruzgan
Day Kundi	Ishtarlay							535	214	239	9	9	9	6	8
Day Kundi	Kajran	0	-	418	189		1,633	366	357	704	622	153	288	700	320
Day Kundi	Khedir							531	289	160	5	8	9	4	6
Day Kundi	Kiti							282	168	284	134	151	14	0	0
Day Kundi	Mir Amor							512	281	703	19	22	5	12	16
Day Kundi	Nili (Provincial Center)							0	214	5	5	9	16	3	0
Day Kundi	Sang-i-Takht							2	1	68	10	15	8	30	150
Day Kundi	Shahristan	1	-	415	421		2,220	64	85	29	21	13	25	53	87
Day Kundi Total		**1**	**0**	**1,609**	**1,719**	**2,581**	**5,096**	**3,346**	**2,273**	**3,002**	**1,547**	**1,003**	**1,058**	**1,536**	**587**
Farah	Anar Darah				91	1,828	143	16	239	79	1	9	3	314	104
Farah	Bakwah				39	390	1,093	3,458	3,090	3,570	1,936	800	5,822	8844	12651
Farah	Bala Buluk			513	336	1,665	1,669	5,312	1,509	2,705	2,586	3,157	3,951	1947	2730
Farah	Delaram									3,011	4,404	4,263	8,899	part of Nimroz	part of Nimroz
Farah	Farah (Provincial Center)				87	729	905	1,328	1,013	1,142	51	0	129	4451	4760
Farah	Gulistan			1,187	447	163	202	1,132	4,756	1,355	2,661	4,565	3,920	3759	2000
Farah	Khaki-Safed				84	432	537	99	609	232	645	1,103	2,220	1186	1726
Farah	Lash-i-Juwayn				41	1,568	215	233	109	45	3	6	2	179	27
Farah	Pur Chaman				409	293	363	1,549	1,046	96	2,175	3,512	2,164	230	930
Farah	PushtRod				554	2,482	1,709	1,314	1,588	46	61	46	505	2521	2214
Farah	Qala-i-Kah				189	407	506	337	888	47	11	39	117	914	354
Farah	Shib Koh				12	283	352	87	163	77	18	0	0	149	17
Farah Total		**0**	**500**	**1,700**	**2,289**	**10,240**	**7,694**	**14,865**	**15,010**	**12,405**	**14,552**	**17,499**	**27,733**	**24,492**	**27,513**
Faryab	Almar				239	57	338	213	0	0	0	0	0	0	0
Faryab	Andkhoy				15	13	31	0	0	0	0	0	0	0	0
Faryab	Bil Chiragh		26	232	24		322	620	102	0	0	0	0	0	0
Faryab	Dowlat abad				78	133	27	0	0	0	0	0	0	0	0
Faryab	Gurziwan							101	0	0	0	75	0	46	40
Faryab	Khani ChaharBagh				205	6	490	0	0	0	0	0	0	0	0
Faryab	Khwajah Sabz Poshi Wali				129	451	375	238	0	0	0	0	0	0	0
Faryab	Kohistan				640	50	84	152	10	0	0	49	0	65	69
Faryab	Maimanah				248		218	66	10	0	0	0	0	0	0
Faryab	Pashtun Kot		1	281	429	97	60	249	0	0	0	9	0	1	0
Faryab	Qaram Qul				55	138	43	0	0	0	0	0	0	0	0
Faryab	Qaisar			150	1,050	579	880	303	168	0	0	13	0	46	102
Faryab	Qurghan							0	0	0	0	0	0	0	0
Faryab	Shirin Tagab			103	137	1,141	172	924	0	0	0	0	0	0	0
Faryab Total		**0**	**28**	**766**	**3,249**	**2,665**	**3,040**	**2,866**	**291**	**p-f**	**p-f**	**146**	**p-f**	**158**	**211**
Ghazni	Ab Band						0	0	0	0	0	0	0	0	0
Ghazni	Ajristan		-		62		0	0	0	0	0	0	0	0	0
Ghazni	Andar						0	0	0	0	0	0	0	0	0
Ghazni	Bahram-e Shahid (Jaghatu)					9	0	0	0	0	0	0	0	0	0
Ghazni	Deh Yak						0	0	0	0	0	0	0	0	0
Ghazni	Gelan						0	0	0	0	0	0	0	0	0
Ghazni	Ghazni (Provincial Center)						0	0	0	0	0	0	0	0	0
Ghazni	Giro						0	0	0	0	0	0	0	0	0
Ghazni	Jaghatu *						0		0	0	0	0	0	0	0
Ghazni	Jaghuri						0	0	0	0	0	0	0	0	0
Ghazni	Khwajah Omari						0	0	0	0	0	0	0	0	0
Ghazni	Malistan						0	0	0	0	0	0	0	0	0
Ghazni	Muqur						0	0	0	0	0	0	0	0	0
Ghazni	Nawa						0	0	0	0	0	0	0	0	0
Ghazni	Nawur						0	0	0	0	0	0	0	0	0
Ghazni	Qara Bagh						0	0	0	0	0	0	0	0	0
Ghazni	Rashidan						0	0	0	0	0	0	0	0	0
Ghazni	Waghaz						0	0	0	0	0	0	0	0	0
Ghazni	Wali Muhammad Shadid Khugyani						0	0	0	0	0	0	0	0	0
Ghazni	Zanakhan						0	0	0	0	0	0	0	0	0
Ghazni Total		**0**	**0**	**0**	**62**	**9**	**0**	**p-f**	**p-f**	**p-f**	**p-f**	**p-f**	**p-f**	**p-f**	**p-f**
Ghor	Chaghcharan (Provincial Center)		700	1,189	872	1,149	1,233	910	0	0	0	0	71	72	222
Ghor	Chahar Sadah							41	0	0	0	0	0	64	95
Ghor	Dowlatyar							132	0	0	0	0	5	82	117
Ghor	Do Lainah							131	0	0	0	0	16	9	9
Ghor	Lal Wa Sarjangal				1,055	718	771	200	0	0	0	0	0	0	9
Ghor	Pasaband		700	805	175	48	241	17	0	0	0	0	0	0	0
Ghor	Saghar		300	256	340	120	283	18	0	0	0	0	0	0	0
Ghor	Shahrak			640	902	18	1,398	0	0	0	0	0	33	37	41
Ghor	Taywara		500	808	649	240	608	39	0	0	0	0	0	0	0
Ghor	Tulak			84	990	396	145	16	0	0	0	0	0	0	0
Ghor Total			**2,200**	**3,782**	**4,983**	**2,689**	**4,679**	**1,503**	**p-f**	**p-f**	**p-f**	**p-f**	**125**	**264**	**493**

ANNEX II (continued…)

Province	District	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Hilmand	Baghran		1,800	2,309	2,232	2,507	2,890	4,287	4,279	3,343	4,049	6,739	2,788	4,037	4553
Hilmand	Dishu		-		369	911	851	1,160	688	475	119	481	1,601	4,161	3338
Hilmand	Garm Ser		2,020	462	1,922	1,912	6,168	6,523	8,000	5,789	6,333	4,342	1,246	4,527	8394
Hilmand	Kajaki		2,640	1,392	1,676	1,639	6,760	5,807	6,240	3,696	3,299	6,435	9,065	10,611	10836
Hilmand	Lashkargah (Provincial Center)		1,140	605	1,380	1,332	4,008	6,320	7,857	4,379	2,014	649	1,469	1,828	2562
Hilmand	Musa Qala		3,690	2,455	2,404	1,664	6,371	8,854	12,687	8,603	8,415	**10,340**	7,235	10,586	8320
Hilmand	Nad Ali		5,880	870	4,177	2,356	11,652	20,045	20,824	17,063	18,646	5,413	8,038	19,136	22256
Hilmand	Marja										0	2,629	2,046	part of Nad Ali	part of Nad Ali
Hilmand	Naher-i-Saraj		1,850	1,575	6,486	3,548	10,386	22,769	13,270	9,598	11,517	12,638	22,468	18,701	16984
Hilmand	Nowzad		2,650	3,096	1,051	3,737	2,707	6,192	3,863	6,473	2,845	4,694	10,822	11,944	9839
Hilmand	Nawa-i-Barukzai		2,730	1,240	3,506	2,552	10,168	6,314	13,978	4,416	1,328	1,610	41	97	319
Hilmand	Reg-i-Khan Nishin		1,940		1,893	2,772	3,765	8,484	4,720	2,056	2,292	2,120	2,718	5,912	6781
Hilmand	Sangin Qala		2,810	777	1,365	1,184	2,862	5,150	5,532	2,754	2,631	2,941	2,882	3,709	5349
Hilmand	Washer		800	590	892	386	735	865	1,653	1,188	1,555	2,275	2,757	5,445	3710
Hilmand Total		**0**	**29,950**	**15,371**	**29,353**	**26,500**	**69,323**	**102,770**	**103,590**	**69,833**	**65,045**	**63,307**	**75,176**	**100,693**	**103,240**
Hirat	Adraskan				133	9	99	196	22	1	0	0	0	3	10
Hirat	Chiisht-i-Sharif				166	42	42	0	0	0	0	0	0	0	0
Hirat	Fersi			134	28	110	111	0	0	0	0	0	0	0	0
Hirat	Ghoryan				60	238	204	302	0	0	0	0	0	0	0
Hirat	Gulran				240	33	32	0	0	0	0	0	0	0	0
Hirat	Guzara				88	231	233	0	0	0	0	0	0	0	0
Hirat	Hirat				0	16	16	0	0	0	0	0	0	0	0
Hirat	Enjil				41	394	382	0	0	0	0	0	0	0	0
Hirat	Karrukh				265	124	121	0	0	0	0	0	0	0	0
Hirat	Kohsan				4	72	73	146	0	0	0	0	0	0	0
Hirat	Kushk (Rabat-i-Sangi)				73	64	50	367	43	0	0	0	0	0	0
Hirat	Kusk-i-Kohnah				3	15	15	0	0	0	0	0	0	0	0
Hirat	Obe				842	144	131	0	0	0	0	0	0	0	0
Hirat	Pashtun Zarghun				154	249	242	0	0	0	0	0	0	0	0
Hirat	Shindand				427	54	408	516	201	555	360	366	1,080	949	729
Hirat	Zendah Jan				7	128	129	0	0	0	0	0	0	0	0
Hirat Total		**0**	**50**	**134**	**2,531**	**1,924**	**2,288**	**1,526**	**266**	**556**	**360**	**366**	**1,080**	**952**	**738**
Jawzjan	Aqchah		47	171	247	631	30	0	0	0	0	0	0	0	0
Jawzjan	Darzab				625	272	16	803	0	0	0	0	0	0	0
Jawzjan	Faizabad		24	280	218	112	473	21	0	0	0	0	0	0	0
Jawzjan	Khamyab		30	51	40	68	2	0	0	0	0	0	0	0	0
Jawzjan	Khanaqa							0	0	0	0	0	0	0	0
Jawzjan	Khwajah DuKoh				19	15	271	0	0	0	0	0	0	0	0
Jawzjan	Mardyan		4	228	174	21	348	62	0	0	0	0	0	0	0
Jawzjan	Mingajik		7	64	101	77	38	0	0	0	0	0	0	0	0
Jawzjan	Qarqin		24	58	151	43	17	0	0	0	0	0	0	0	0
Jawzjan	Qush Tepah							43	0	0	0	0	0	0	0
Jawzjan	Sheberghan (Provincial Center)		1	36	98	508	828	156	0	0	0	0	0	0	0
Jawzjan Total		**0**	**137**	**888**	**1,673**	**1,748**	**2,023**	**1,086**	**p-f**	**p-f**	**p-f**	**p-f**	**p-f**	**p-f**	**p-f**
Kabul	Bagrami						0	0	0	0	0	0	0	0	0
Kabul	Chahar Asyab						0	0	0	0	0	0	0	0	0
Kabul	DehSabz						0	0	0	0	0	0	0	0	0
Kabul	Farzah							0	0	0	0	0	0	0	0
Kabul	Gulara						0	0	0	0	0	0	0	0	0
Kabul	Estalef						0	0	0	0	0	0	0	0	0
Kabul	Kabul						0	0	0	0	0	0	0	0	0
Kabul	Kalakan						0	0	0	0	0	0	0	0	0
Kabul	Khak-i-Jabar						0	0	0	0	0	0	0	0	0
Kabul	Mir Bacha Kot						0	0	0	0	0	0	0	0	0
Kabul	Musahi						0	0	0	0	0	0	0	0	0
Kabul	Paghman						0	0	0	0	0	0	0	0	0
Kabul	Qara Bagh						0	0	0	0	0	0	0	0	0
Kabul	Shakar Dara						0	0	0	0	0	0	0	0	0
Kabul	Surubi	29	58	237	282		80	500	310	132	152	220	120	298	233
Kabul Total		**29**	**58**	**237**	**282**	**0**	**80**	**500**	**310**	**132**	**152**	**220**	**120**	**298**	**233**
Kandahar	Arghandab		330	139	261	287	735	1,016	57	158	22	84	114	18	512
Kandahar	Arghistan		80	14	651	2,449	784	310	28	43	7	42	90	155	1515
Kandahar	Daman		190	357	895	775	183	375	19	119	0	0	0	0	1227
Kandahar	Ghorak		380	166	241	233	336	1,445	232	628	1,466	1,165	952	676	269
Kandahar	Kandahar (Provinclal Center)		640	293		0	1,367	1,220	590	425	108	262	11	46	0
Kandahar	Khakrez		560	312	145	185	217	132	1,224	1,474	1,215	1,190	794	1006	867
Kandahar	Maruf		-	63	117	150	464	914	182	36	33	31	28	49	275
Kandahar	Maiwand		1,090	353	514	1,281	1,362	2,878	3,375	6,524	9,966	10,114	12,690	16382	16228
Kandahar	Miya Neshin							322	1,603	158	44	45	30	162	632
Kandahar	Nesh							432	3,284	1,717	2,842	2,096	620	1057	405
Kandahar	Panjwayee		150	482	864	4,687	4,714			1,564	2,982	4,914	4,780	984	3315
Kandahar	Reg				0	327		4	0	0	0	0	0	0	0
Kandahar	Shah Wali Kot		260	489	923	2,379	1,593	1,258	560	911	813	615	242	474	1471
Kandahar	Shorabak			111	45	19	409	308	4	0	0	0	0	102	0
Kandahar	Spin Boldak		290	277	303	218	454	768	541	650	1,359	1,368	121	207	1889
Kandahar	Zhire							5,232	2,923	5,405	4,978	5,288	3,867	7017	5108
Kandahar Total		**0**	**3,970**	**3,055**	**4,959**	**12,990**	**12,618**	**16,615**	**14,623**	**19,811**	**25,835**	**27,213**	**24,341**	**28,335**	**33,713**

ANNEX II (continued…)

Province	District	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Kapisa	AlaSai				77	82	0	367	0	0	0	3	34	33	125
Kapisa	Hisah-i-Awal Kohistan							0	0	0	0	0	0	0	0
Kapisa	Hisah-i-Duwumi Kohistan							0	0	0	0	0	0	0	0
Kapisa	Koh Band				111	33	0	0	0	0	0	9	16	20	46
Kapisa	Kohistan *				116		0		0	0	0	0	0	0	0
Kapisa	Mahmood-i-Raqi (Provincial Center)				10		0	0	0	0	0	0	0	1	0
Kapisa	Nijrab				92		0	0	0	0	0	14	21	20	30
Kapisa	Tagab	0	207	326	116		282	468	436	0	0	155	219	508	270
Kapisa Total		**0**	**207**	**326**	**522**	**115**	**282**	**835**	**436**	**p-f**	**p-f**	**181**	**290**	**582**	**472**
Khost	Bak				0		14	0	0	0	0	0	0	0	0
Khost	Gurbuz				47		10	0	0	0	0	0	0	0	0
Khost	Jaji Maidan				8		16	0	0	0	0	0	0	0	0
Khost	Khost Matun (Provincial Center)				0		0	0	0	0	0	0	0	0	0
Khost	Manduzay (Ismyel Khel)				125		0	0	0	0	0	0	0	0	0
Khost	Musa Khel (Mangal)				86		0	0	0	0	0	0	0	0	0
Khost	NadirShah Kot				75		0	0	0	0	0	0	0	0	0
Khost	Qalandar				39		0	0	0	0	0	0	0	0	0
Khost	Sabari (Yaqubi)				0		0	0	0	0	0	0	0	0	0
Khost	Shamul (Dzadran)							0	0	0	0	0	0	0	0
Khost	Spera			118	0		5	0	0	0	0	0	0	0	0
Khost	Tanay	6		257	458	2	88	0	0	0	0	0	0	0	0
Khost	Terayzai (Ali Sher)				0		0	0	0	0	0	0	0	0	0
Khost Total		**6**	**0**	**375**	**838**	**2**	**133**	**p-f**	**p-f**	**p-f**	**p-f**	**p-f**	**p-f**	**p-f**	**p-f**
Kunar	Asad Abad (Provincial center	1	140	396	841	270	356	42	252	4	0	0	61	342	209
Kunar	Bar Kunar (Asmar)	31	40	163	52	14	10	111	7	9	7	18	62	83	57
Kunar	Chapa Dara				535	147	23	0	0	0	12	42	0	0	0
Kunar	Dangam	4	49		44	22	9	90	0	9	0	43	30	46	46
Kunar	Dara-i-Pech	11	263	310	585	76	183	0	0	1	5	170	298	254	82
Kunar	Ghazi Abad							5	0	0	4	13	0	0	0
Kunar	Khas Kunar		70		298	41	18	8	1	0	0	0	57	79	21
Kunar	Mara warah			345	170	22	33	6	0	84	0	2	4	1	0
Kunar	Narang wa Badil	10	100	173	425	55	25	57	0	4	1	1	41	22	4
Kunar	Nari	1	-	60	0	19	0	80	15	1	0	0	21	18	7
Kunar	Noor Gal	9	70	353	460	58	88	7	0	4	20	20	101	0	79
Kunar	Sar Kani	8	100	141	385	50	75	11	6	1	0	0	14	25	0
Kunar	Shigal wa Sheltan							5	0	36	73	102	459	212	155
Kunar	Sawkai	8	140	83	571	284	111	19	9	4	33	30	124	0	50
Kunar	Watapoor							3	0	6	0	137	7	46	45
Kunar Total		**74**	**832**	**1,942**	**3,795**	**775**	**820**	**446**	**290**	**164**	**155**	**578**	**1,279**	**1,127**	**754**
Kunduz	Ali Abad		3	5	41		0	0	0	0	0	0	0	0	0
Kunduz	Dashti-i-Archi				9		102	0	0	0	0	0	0	0	0
Kunduz	Chahar Darah		6	15	37		0	0	0	0	0	0	0	0	0
Kunduz	Hazrati Imam Sahib				28		0	0	0	0	0	0	0	0	0
Kunduz	Khanabad			11	70		0	0	0	0	0	0	0	0	0
Kunduz	Kunduz (Provincial Center)		3	9	32		0	0	0	0	0	0	0	0	0
Kunduz	Qala-i-Zal		5	8	7	275	0	0	0	0	0	0	0	0	0
Kunduz Total		**0**	**16**	**49**	**224**	**275**	**102**	**p-f**	**p-f**	**p-f**	**p-f**	**p-f**	**p-f**	**p-f**	**p-f**
Laghman	Alingar	3	146	354	593	107	259	23	13	1	48	343	303	503	477
Laghman	Alisheng	0	104	148	597	69	192	237	370	1	65	124	335	472	278
Laghman	Dowlat Shah	12	-	571	233	44	118	124	3	0	31	52	158	142	5
Laghman	Mehterlam (Provincial Center)		240	366	580	25	0	0	16	43	90	104	69	119	137
Laghman	Qarghayee	0	460	468	753	30	140	177	23	90	0	0	12	0	5
Laghman Total		**15**	**950**	**1,907**	**2,756**	**274**	**709**	**561**	**425**	**135**	**234**	**624**	**877**	**1,236**	**901**
Logar	Azra							0	0	0	0	0	0	0	0
Logar	Baraki Barak						0	0	0	0	0	0	0	0	0
Logar	Charkh						0	0	0	0	0	0	0	0	0
Logar	Kharwar							0	0	0	0	0	0	0	0
Logar	Khoshi						0	0	0	0	0	0	0	0	0
Logar	Muhammad Aghah						0	0	0	0	0	0	0	0	0
Logar	Pul-i-Alam						0	0	0	0	0	0	0	0	0
Logar Total		**0**	**0**	**0**	**0**	**0**	**0**	**p-f**	**p-f**	**p-f**	**p-f**	**p-f**	**p-f**	**p-f**	**p-f**
Nangarhar	Achin	1	940	2,131	1,907	198	1,274	1,797	0	14	10	254	580	2224	3004
Nangarhar	Bati Kot		2,390	1,994	4,683	166	550	1,774	0	0	0	0	0	0	0
Nangarhar	Behsud							0	0	0	0	0	0	0	0
Nangarhar	Chaparhar	2	990	1,169	1,818	20	209	878	0	0	0	12	19	1452	1866
Nangarhar	Darah-i- Noor		380	24	472	2	0	322	0	0	0	0	0	0	162
Nangarhar	Deh Bala	11	650	927	358	17	68	1,075	0	0	0	0	14	0	0
Nangarhar	Dur Baba		40	31	99	5	19	36	0	0	0	0	0	0	0
Nangarhar	Goshta	99	150	13	217	10	41	109	0	0	0	0	0	19	95
Nangarhar	Hesarak	2	620	1,016	1,392	64	283	295	0	18	5	178	89	0	775
Nangarhar	Jalalabad		90	4	1,658	77	0	0	0	0	0	0	0	0	0
Nangarhar	Kama		1,120	558	1,898	82	0	0	0	0	0	0	0	0	14
Nangarhar	Khugyani	3	2,640	2,986	2,269	117	750	3,253	0	108	131	557	1,481	5746	4755
Nangarhar	Kot							0	0	0	0	0	0	993	2040
Nangarhar	Kuzkunar		500	102	801	37	151	153	0	0	0	0	0	0	0
Nangarhar	Lalpoor	95	250	1	362	17	68	356	0	5	59	185	0	798	712
Nangarhar	Mohmand Dara		720	19	1,170	54	221	995	0	0	1	1	0	155	175
Nangarhar	Nazyan		150	98	168	8	160	266	0	1	0	0	0	0	0
Nangarhar	Pachir wagam	3	420	1,142	1,091	35	143	594	0	0	0	3	418	1672	1588
Nangarhar	Rodat		2,760	3,313	3,633	50	0	3,755	0	0	0	0	0	11	946
Nangarhar	Sherzad	2	1,470	1,641	1,229	57	430	864	0	148	513	1,510	550	2650	1876
Nangarhar	Shinwar		2,060	1,616	1,759	79	504	2,218	0	0	0	0	0	0	0
Nangarhar	Surkh Rud	0	1,440	118	1,229	0		0	0	0	0	0	0	0	219
Nangarhar Total		**218**	**19,780**	**18,904**	**28,213**	**1,093**	**4,871**	**18,739**	**0**	**294**	**719**	**2,700**	**3,151**	**15,719**	**18,227**
Nimroz	Asl-i-Chakhansur				0		0	0	1	0	183	855	98	9	0
Nimroz	Chahar Burjak				65	526	1,119	87	4	84	144	181	696	511	250
Nimroz	Kang				0		40	0	0	0	10	31	36	0	0
Nimroz	Khash Rod			26	50	1164	661	6,421	6,197	326	1,621	1,323	2,536	15,731	14334
Nimroz	Zaranj (Provincial Center)						135	0	0	17	81	102	442	1	0
Nimroz Total		**0**	**300**	**26**	**115**	**1,690**	**1,955**	**6,507**	**6,202**	**428**	**1,856**	**2,493**	**3,808**	**16,252**	**14,584**

ANNEX II (continued…)

Province	District	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Nuristan	Barg-i-Matal				2	535	522	0	0	0	0	0	0	0	0
Nuristan	Du Ab							0	0	0	0	0	0	0	0
Nuristan	Kamdesh			210	307	269	262	0	0	0	0	0	0	0	0
Nuristan	Mandol				0	731	713	0	0	0	0	0	0	0	0
Nuristan	Noor Gram							0	0	0	0	0	0	0	0
Nuristan	Nuristan Paroon (Provincial Center)			438	185	19	19	0	0	0	0	0	0	0	0
Nuristan	Wama				66		0	0	0	0	0	0	0	0	0
Nuristan	Waygal				205		0	0	0	0	0	0	0	0	0
Nuristan Total				**648**	**765**	**1 554**	**1 516**	**p-f**	**p-f**	**p-f**	**p-f**	**p-f**	**p-f**	**p-f**	**p-f**
Paktika	Barmal						0	0	0	0	0	0	0	0	0
Paktika	Dilah wa Khwoshamand						0	0	0	0	0	0	0	0	0
Paktika	Giyan						0	0	0	0	0	0	0	0	0
Paktika	Gomal						0	0	0	0	0	0	0	0	0
Paktika	Jani Khel							0	0	0	0	0	0	0	0
Paktika	Mata Khan						0	0	0	0	0	0	0	0	0
Paktika	Nika						0	0	0	0	0	0	0	0	0
Paktika	Omna						0	0	0	0	0	0	0	0	0
Paktika	Sar Rowza						0	0	0	0	0	0	0	0	0
Paktika	Sharan (Provincial Center)						0	0	0	0	0	0	0	0	0
Paktika	Surubi						0	0	0	0	0	0	0	0	0
Paktika	Turwo							0	0	0	0	0	0	0	0
Paktika	Urgun						0	0	0	0	0	0	0	0	0
Paktika	Wazahkhwah						0	0	0	0	0	0	0	0	0
Paktika	Wor Mamay						0	0	0	0	0	0	0	0	0
Paktika	Yahya Khel							0	0	0	0	0	0	0	0
Paktika	Yosuf Khel							0	0	0	0	0	0	0	0
Paktika	Zarghun Shahr						0	0	0	0	0	0	0	0	0
Paktika	Ziruk						0	0	0	0	0	0	0	0	0
Paktika Total		**0**	**0**	**0**	**0**	**0**	**0**	**p-f**	**p-f**	**p-f**	**p-f**	**p-f**	**p-f**	**p-f**	**p-f**
Paktya	Azra *	1	38	419	603		0	0	0	0	0	0	0	0	0
Paktya	Ahmadabad *									0	0	0	0	0	0
Paktya	Samkani	0	-	76	275		0	0	0	0	0	0	0	0	0
Paktya	Dand Patan				175		0	0	0	0	0	0	0	0	0
Paktya	Gardez (Provincial Center)						0	0	0	0	0	0	0	0	0
Paktya	Woza Jadran				0		0	0	0	0	0	0	0	0	0
Paktya	Jaji	0	-	185	11		0	0	0	0	0	0	0	0	0
Paktya	Jani Khel				18		0	0	0	0	0	0	0	0	0
Paktya	Laja Ahmad Khel									0	0	0	0	0	0
Paktya	Lija Mangal	0	-		118		0	0	0	0	0	0	0	0	0
Paktya	Sayyid Karam	0	-	41	0		0	0	0	0	0	0	0	0	0
Paktya	Shamul *				0		0		0	0	0	0	0	0	0
Paktya	Shwak				0		0	0	0	0	0	0	0	0	0
Paktya	Zurmat				0		0	0	0	0	0	0	0	0	0
Paktya Total		**1**	**38**	**721**	**1 200**	**0**	**0**	**p-f**	**p-f**	**p-f**	**p-f**	**p-f**	**p-f**	**p-f**	**p-f**
Panjshir	Bazarak (Provincial Center)							0	0	0	0	0	0	0	0
Panjshir	Darah							0	0	0	0	0	0	0	0
Panjshir	Hissa-i-Awal(Khinj)				0		0	0	0	0	0	0	0	0	0
Panjshir	Hisa-i-Duwumi				0		0	0	0	0	0	0	0	0	0
Panjshir	Panjshir				0		0	0	0	0	0	0	0	0	0
Panjshir	Paryan							0	0	0	0	0	0	0	0
Panjshir	Rukhah							0	0	0	0	0	0	0	0
Panjshir	Shutul							0	0	0	0	0	0	0	0
Panjshir	Unaba							0	0	0	0	0	0	0	0
Panjsher Total					**0**		**0**	**p-f**	**p-f**	**p-f**	**p-f**	**p-f**	**p-f**	**p-f**	**p-f**
Parwan	Bagram				274		0	0	0	0	0	0	0	0	0
Parwan	Charikar (Provincial Center)				181		0	0	0	0	0	0	0	0	0
Parwan	Syahgird (Ghorband)				141		0	0	0	0	0	0	0	0	0
Parwan	Jabalussaraj				21		0	0	0	0	0	0	0	0	0
Parwan	Koh-i-Safi				41		124	0	0	0	0	0	0	0	0
Parwan	Salang				0		0	0	0	0	0	0	0	0	0
Parwan	Sayyid Khel							0	0	0	0	0	0	0	0
Parwan	Shaykh Ali				263		0	0	0	0	0	0	0	0	0
Parwan	Shinwari				389		0	0	0	0	0	0	0	0	0
Parwan	Surkh-i-Parsa				0		0	0	0	0	0	0	0	0	0
Parwan Total		**0**	**0**	**0**	**1 310**	**0**	**124**	**p-f**	**p-f**	**p-f**	**p-f**	**p-f**	**p-f**	**p-f**	**p-f**
Samangan	Aybak (Provincial Center)			14	27	0	0	0	0	0	0	0	0	0	0
Samangan	Darah-i-Soof-i-Bala	614		34	196	1 454	1 182	0	0	0	0	0	0	0	0
Samangan	Darah-i-Suf-i-Payin							0	0	0	0	0	0	0	0
Samangan	Fayroz Nakhcheer									0	0	0	0	0	0
Samangan	Hazrat-i-Sultan			29	85	280	90	0	0	0	0	0	0	0	0
Samangan	Khuram wa Sar Bagh	0		24	238	307	99	0	0	0	0	0	0	0	0
Samangan	Roi-Do-Ab				605	1 833	589	0	0	0	0	0	0	0	0
Samangan Total		**614**	**100**	**101**	**1 151**	**3 874**	**1 960**	**p-f**	**p-f**	**p-f**	**p-f**	**p-f**	**p-f**	**p-f**	**p-f**
Sari Pul	Balkhab			453	204	95	188	0	0	0	0	0	0	0	0
Sari Pul	Gosfandi							0	0	0	0	0	0	0	0
Sari Pul	Kohistanat				471	1 424	377	0	0	0	0	0	0	0	0
Sari Pul	Sangcharak				687	441	1 122	16	0	0	0	0	0	0	0
Sari Pul	Sari Pul (Provincial Center)			595	476	959	415	203	0	0	0	0	0	0	0
Sari Pul	Sayyad				23	52	25	41	0	0	0	0	0	0	195
Sari Pul	Sozma Qala	0	57	380	113	256	124	0	0	0	0	0	0	0	0
Sari Pul Total		**0**	**57**	**1 428**	**1 974**	**3 227**	**2 251**	**260**	**p-f**	**p-f**	**p-f**	**p-f**	**p-f**	**p-f**	**195**

ANNEX II (continued…)

Province	District	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Takhar	Baharak							0	0	0	0	0	0	0	0
Takhar	Bangi	0		20	13		0	79	0	0	0	0	0	0	0
Takhar	Chahab	19		4	27		70	0	0	0	0	0	0	0	0
Takhar	Chal	20			30		15	9	0	0	0	0	0	0	0
Takhar	Darqad				15		0	0	0	0	0	0	0	0	0
Takhar	DashtiQala							0	0	0	0	0	0	0	0
Takhar	Farkhar	26		43	27	43	118	32	0	0	0	0	0	22	0
Takhar	Hazar Sumuch							32	0	0	0	0	0	0	0
Takhar	Eshkamish	19		77	40		2	47	0	0	0	0	0	0	0
Takhar	Kalafgan	27		77	69		609	318	0	0	0	0	0	21	0
Takhar	Khwaja Bahawuddin							0	0	0	0	0	0	0	0
Takhar	Khwaja Ghar	32		26	35		109	0	0	0	0	0	0	0	0
Takhar	Namak Ab							0	0	0	0	0	0	0	0
Takhar	Rustaq	24		34	194	1,321	816	118	0	0	0	0	0	25	0
Takhar	Taloqan (Provincial Center)	16		14	115		77	577	0	0	0	0	0	2	0
Takhar	Warsaj	10		14	66		46	0	0	0	0	0	0	0	0
Takhar	Yangi Qala	20		71	131		317	0	0	0	0	0	0	0	0
Takhar Total		**211**	**788**	**380**	**762**	**1,364**	**2,179**	**1,211**	**p-f**	**p-f**	**p-f**	**p-f**	**p-f**	**p-f**	**p-f**
Uruzgan	Chorah	0	1,330	975	1,402	259	2,024	71	316	306	221	301	349	611	502
Uruzgan	Dihrawud	0	1,340	1,282	2,523	209	1,704	3,538	2,849	2,038	145	3,438	4,375	3,321	2214
Uruzgan	Khas Uruzgan	0	-	580	358	338	886	173	304	407	230	384	38	123	1074
Uruzgan	Nesh *	0	490	59	426	352	614			0	0	0	0	0	0
Uruzgan	Shahidi Hasas	0	1,190	1,333	782	646	1,127	3,109	4,403	2,445	3,635	3,601	3,617	3,888	2296
Uruzgan	Tirin Kot (Provincial Center)	0	750	469	1,874	221	3,348	2,312	2,067	4,028	3,106	2,895	2,129	1,936	3042
Uruzgan	Gizab														148
Uruzgan Total		**0**	**5,100**	**4,698**	**7,365**	**2,025**	**9,703**	**9,203**	**9,939**	**9,224**	**7,337**	**10,620**	**10,508**	**9,880**	**9,277**
Wardak	Chak-i-Wardak			211	284		0	0	0	0	0	0	0	0	0
Wardak	Daimirdad			0	90	106	0	0	0	0	0	0	0	0	0
Wardak	Hisah-i-Awal Behsud			22	0		0	0	0	0	0	0	0	0	0
Wardak	Jaghatu									0	0	0	0	0	0
Wardak	Jalrez			531	78		0	0	0	0	0	0	0	0	0
Wardak	Markaz-i- Behsud			472	0		0	0	0	0	0	0	0	0	0
Wardak	Maidan Shahr (Provincial Center)			527	102		0	0	0	0	0	0	0	0	0
Wardak	Nerkh			780	215		0	0	0	0	0	0	0	0	0
Wardak	Sayyidabad			192	248		0	0	0	0	0	0	0	0	0
Wardak Total				**2,735**	**1,017**	**106**	**0**	**p-f**	**p-f**	**p-f**	**p-f**	**p-f**	**p-f**	**p-f**	**p-f**
Zabul	Arghandab	0		302	526	205	346	79	55	103	91	47	79	32	256
Zabul	Atghar			188	32	86	36	16	3	2	16	1	5	12	12
Zabul	Daychopan	0		646	431	1,016	742	389	422	147	122	26	25	259	178
Zabul	Kakar Kak-e Afghan							104	110	219	44	40	38	50	403
Zabul	Mizan	0		309	251	56	123	129	289	309	140	74	155	858	544
Zabul	Naw Bahar							63	44	33	4	2	12	0	0
Zabul	Qalat (Provincial Center)	0		689	317	188	657	78	310	19	20	56	10	28	146
Zabul	Shah Joi	0		178	679	240	538	320	237	175	20	11	69	96	146
Zabul	Shemel Zayi			65	44	16	35	159	153	46	15	1	5	0	41
Zabul	Shinkai			164	287	102	228	139	105	87	0	0	0	0	0
Zabul	Tarnak wa Jaldak	1			410	145	506	136	608	5	10	5	26	0	1168
Zabul Total		**1**	**200**	**2,541**	**2,977**	**2,053**	**3,211**	**1,611**	**2,335**	**1,144**	**482**	**262**	**424**	**1,335**	**2,894**
TOTAL		**7,598**	**73,905**	**79,563**	**126,328**	**103,635**	**162,910**	**192,981**	**157,252**	**123,095**	**122,332**	**131,065**	**154,436**	**209,450**	**224,337**
Rounded Total		**8,000**	**74,000**	**80,000**	**131,000**	**104,000**	**165,000**	**193,000**	**157,000**	**123,000**	**122,000**	**131,000**	**154,000**	**209,000**	**224,000**

p-f: poppy-free according to the definition of the respective year. This concept was introduced in 2007. In 2007, provinces with no poppy were considered poppy-free; since 2008, provinces with less than 100 hectares of poppy have been considered poppy-free.

ANNEX III: ERADICATION FIGURES, BY DISTRICT (2014)

Province	DISTRICT	Eradication verified (ha)	No. of fields eradication reported	No. of villages eradication reported
Daykundi	Kajran	6	65	4
Daykundi Total		**6**	**65**	**4**
Hilmand	Garmser	211	182	17
	Khanashin	48	84	12
	Lashkargah	193	441	19
	Marjah	75	134	14
	Musaqalah	60	127	9
	Nad-e-Ali	99	311	18
	Nahr-e-Saraj	57	89	10
	Nawa-e-Barakzaiy	13	24	2
	Nawzad	7	21	2
	Sangin	25	38	6
Hilmand Total		**787**	**1,451**	**109**
Kandahar	Maywand	68	58	8
Kandahar Total		**68**	**58**	**8**
Kapisa	Tagab	26	311	13
Kapisa Total		**26**	**311**	**13**
Kunar	Chawkay	1	4	1
	Ghaziabad	2	15	1
	Narang	6	21	2
	Nurgal	7	49	6
	Sarkani	18	34	2
	Shigal Wa sheltan	24	52	2
	Watapur	17	34	3
Kunar Total		**75**	**209**	**17**
Laghman	Dawlatshah	1	25	1
Laghman Total		**1**	**25**	**1**
Nangarhar	Achin	23	145	11
	Nazyan	11	39	4
	Shinwar	0	7	2
Nangarhar Total		**34**	**191**	**17**
uruzgan	Chora	5	25	2
	Tirinkot	158	552	22
Uruzgan Total		**163**	**577**	**24**
Zabul	Mizan	9	11	3
	Shar-e-safa	3	9	3
Zabul Toal		**12**	**20**	**6**
Badakhshan	Argo	680	3116	112
	Darayem	171	819	48
	Jorm	9	128	10
	Keshem	126	549	22
	Khash	64	774	12
	Teshkan	350	1344	33
	yaftal	11	11	1
Badakhshan Total		**1,411**	**6,741**	**238**
Baghlan	Burka	3	20	1
	Pul-e-Hesar	1	4	3
Baghlan Total		**3**	**24**	**4**
Balkh	Chemtal	35	176	5
Balkh Total		**35**	**176**	**5**
Faryab	Garziwan	10	123	12
Faryab Total		**10**	**123**	**12**
Ghor	Chaghcharan	7	57	10
	Dawlatyar	1	6	1
Ghor Total		**8**	**63**	**11**
Kunuz	Kunduz	1	12	2
	Qala-e-Zal	7	35	2
Kunduz Total		**9**	**47**	**4**
Sar-e-Pul	Sayad	43	135	6
Sar-e-Pul Total		**43**	**135**	**6**
Takhar	Rostaq	1	5	1
Takhar Total		**1**	**5**	**1**
Grand Total		**2,692**	**10,221**	**480**