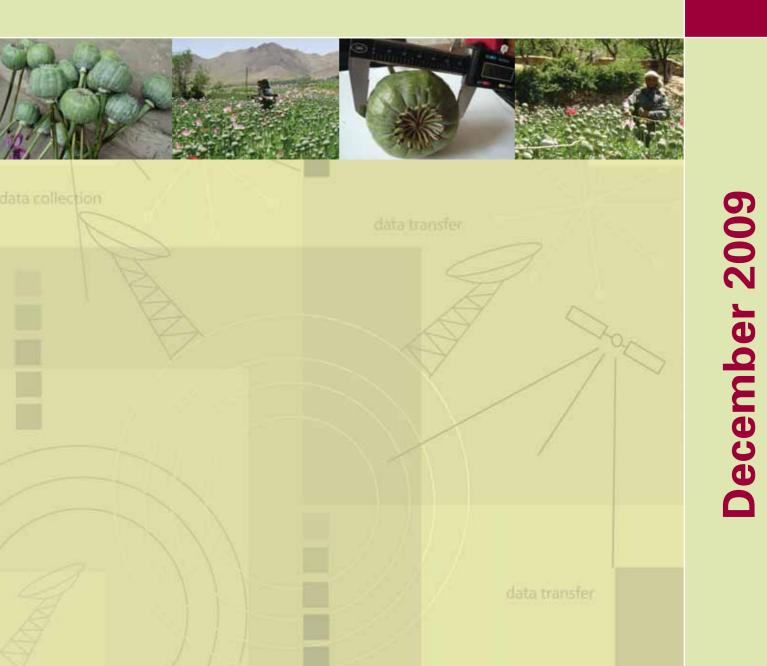




Afghanistan Opium Survey 2009



ABBREVIATIONS

ANP	Afghan National Police
CNPA	Counter Narcotics Police of Afghanistan
GDP	Gross Domestic Product
GLE	Governor-led eradication
ICMP	Illicit Crop Monitoring Programme (UNODC)
ISAF	International Security Assistance Force
MCN	Ministry of Counter-Narcotics
PEF	Poppy Eradication Force
PEF	Poppy Eradication Force
UNODC	United Nations Office on Drugs and Crime

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PREFACE

The *Afghanistan Opium Survey 2009* confirms that market forces are moving against the Afghan drugs trade as prices, revenues and excess production have put a damper on supply. As reported in September in the *Summary Findings* of this Survey, in 2009 opium cultivation in Afghanistan decreased by 22%, and production fell by 10% (to 6,900 tons). The number of people involved in opium cultivation (1.6 million) has dropped by one third, and the number of poppy-free provinces is up from 18 to 20.

The *Afghanistan Opium Survey 2009* goes into considerably more detail than the *Summary Findings*. It especially provides methodological evidence about how the information was derived. Furthermore, it introduces new information. Most importantly, it shows that the potential gross export value of Afghanistan's opiates is down 18%, from \$3.4 billion in 2008 to \$2.8 billion in 2009. This is equivalent to around a quarter of GDP, down from a third last year. This can be attributed to lower cultivation, lower production, lower prices, and higher GDP.

I appeal to President Karzai to seize this opportunity to work *with* the grain of favourable market conditions to further reduce the impact of opium on Afghanistan's economy and, as a result, strengthen its security and governance. This will have wider benefits for the country, like reducing the resources accruing to anti-government forces.

For the sake of a viable future, the Afghan government must regain control over the main opiumgrowing regions, bring major drug traffickers to justice, and promote more honest government. I hope these elements will be part of the new Afghan National Drug Control Strategy (to be developed in 2010).

Annual fluctuations of opium cultivation and production do not tell the whole story. Success will come when Afghanistan's farmers have sustainable licit livelihoods, when drug traffickers no longer operate with impunity, and when people no longer have to pay bribes for basic services. This day may be a long time coming, but the alternative of a society wracked by drugs, insurgency, and corruption is untenable.

gennfatu

Antonio Maria Costa Executive Director United Nations *Office on Drugs and Crime*

	2008	Change from 2008	2009
Net opium cultivation (after eradication)	157,000 ha	-22%	123,000 ha
in % of agricultural land ¹	2.1%		1.6%
in % of cultivation in major opium cultivating countries ²	84%		79%
No. of poppy-free provinces ³	18	+2 provinces	20
No. of provinces affected by opium cultivation	16	-2 provinces	14
Eradication	5,480 ha	-2%	5,351
Weighted average opium yield	48.8 kg/ha	+15%	56.1 kg/ha
Potential production of opium	7,700 mt	-10%	6,900 mt
in % of production in major opium producing countries ²	95%		95%
No. of household involved in opium cultivation ⁴	366,500	-33%	245,200
No. of persons involved in opium cultivation ⁴	2.4 million		1.6 million
in % of total population ⁴	9.8%		6.4%
Average farm-gate price (weighted by production) of fresh opium at harvest time ⁵	US\$ 70/kg	-31%	US\$ 48/kg
Average farm-gate price (weighted by production) of dry opium at harvest time ⁵	US\$ 95/kg	-34%	US\$ 64/kg
Total farm-gate value of opium production	US\$ 730 million	-40%	US\$ 438 million
in % of GDP ⁶	7%		4%
Potential gross export value of opiates	US\$ 3.4 billion	-18%	US\$ 2.8 billion
in % of GDP ⁶	33%		26%
Potential net export value of opiates in % of GDP ⁶	n.a.		US\$ 2.3 billion 21%
Average yearly gross income from opium of opium growing households	US\$ 1,997	-10%	US\$ 1,786
Gross income from opium per ha	US\$ 4,700	-23%	US\$ 3,600
Gross income from wheat per ha	US\$ 1,600	-25%	US\$ 1,200

Fact Sheet Afghanistan Opium Survey 2009

 $^{^{1}}$ The area available for agriculture was updated from 76,235 km² in 2008 to 77,217 km² in 2009.

² Includes Afghanistan, Lao PDR and Myanmar.

³ Poppy-free provinces are those which are estimated to have less than 100 ha of opium cultivation.

⁴ Estimates are based on a population of 25.5 million and an average household size of 6.5 persons for 2009 (Afghan year 1387) and a population of 24.5 million for 2008 (Afghan year 1386). Source: Gov. of Afghanistan, Central Statistical Office. Changes in methodology and new information available on population size may affect the comparability of the figures.

⁵ In 2008, the fresh and dry opium prices at harvest time were based on farmers responses collected through the Annual Opium Survey. In 2009, prices at harvest time were derived from the opium price monitoring system and refer to the month when opium harvest actually took place in different regions of the country.

⁶ Nominal GDP estimates, without the drug economy. For 2008: US\$ 10.2 billion (Afghan fiscal year 2007/08), for 2009: US\$ 10.7 billion (Afghan fiscal year 2008/2009): Source: Gov. of Afghanistan, Central Statistical Office.

EXECUTIVE SUMMARY

Every year the United Nations Office on Drugs and Crime (UNODC), in collaboration with the Afghan Government, produces the *Afghanistan Opium Survey*. This survey provides information on the location and extent of opium cultivation, potential opium production, opium eradication efforts and the socio-economic situation of families in rural areas. Each annual report offers a detailed profile of the current year's opium season and, together with data from previous years, reveals trends in the illicit drug problem. This information is essential for tackling the cultivation and trafficking of a substance that has serious implications for Afghanistan and the international community.

The 2009 *Afghanistan Opium Survey* identifies several encouraging and a few discouraging changes from the previous year. The good news far outweighs the bad.

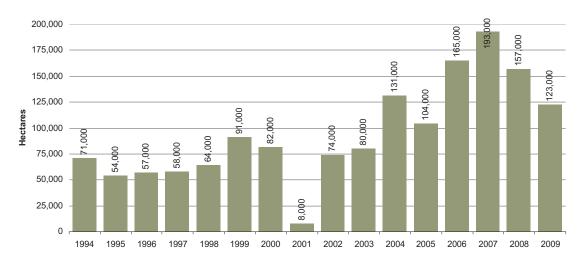


Figure 1: Opium cultivation in Afghanistan (ha), 1994-2009

Sources: UNODC and UNODC/MCN opium surveys 1994-2009

For the second year in a row, the area under opium cultivation shrank considerably. In 2009 opium cultivation fell by close to one quarter, down 22% from 2008. Opium cultivation (after eradication) now occupies only 1.6% of agricultural land, or 123,000 hectares (ha), compared to 157,000 ha in 2008. This is the smallest area of land under opium cultivation since 2005. As a result, the country's share of cultivation in major cultivating countries fell to 79% from 84% last year.

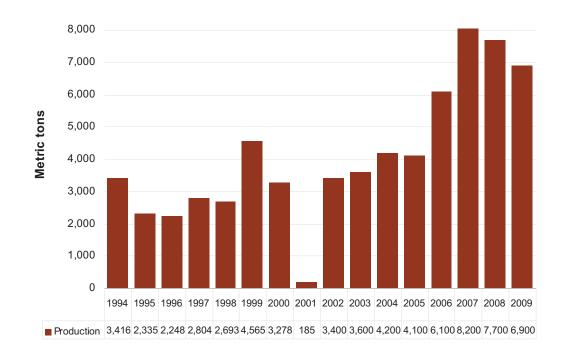
Although Afghanistan remains the world's top supplier of opium, it is an increasingly polarized nation and the regional divide of opium cultivation between the troubled south and the relatively stable north deepened in 2009. Most opium cultivation is confined to the south and west - areas dominated by insurgency and organized criminal networks. In 2009, 99% of the total cultivation took place in just seven provinces in the Southern and Western regions⁷, including the most insecure provinces in the country. These seven provinces are Hilmand, Kandahar, Uruzgan, Day Kundi, Zabul, Farah and Badghis. This reality confirms the link between insecurity and opium cultivation observed since 2007.

The main differences between opium cultivation patterns in 2009 compared to 2008 are: a drastic decrease in cultivation in Hilmand province which contributed the bulk of the overall decrease; a significant increase in opium cultivation in Badghis and Kandahar provinces; and mixed signals from the Eastern region where one province became poppy-free for the first time.

⁷ Regions as designated by UNODC for analytical purposes. Please refer to Table 1 for a full list.

Encouragingly, thanks to campaigns against poppy cultivation and effective law enforcement by the Government, the number of poppy-free provinces continues to grow. Among the 34 provinces in the country, 20 were poppy-free in 2009 compared to 18 in 2008, and only 13 in 2007. The new poppy-free provinces are Kapisa in the Central region and Baghlan and Faryab in the Northern region. The Northern region was poppy-free for the first time in almost a decade. With the exception of Nangarhar, all provinces that were poppy-free in 2008 remained so in 2009. Even though its level of opium cultivation stayed low, Nangarhar could not retain the poppy-free status it achieved in 2008. Still, Nangarhar has come a long way in a short time – only a few years ago it was one of the top opium-cultivating province in the country.





Sources: UNODC and UNODC/MCN opium surveys 1994-2009

Efforts were made in the remaining poppy-cultivating provinces in the Eastern (Kunar, Laghman, Nangarhar), Central (Kabul) and Northern regions (Badakhshan) to considerably reduce cultivation but, despite the low levels remaining in 2009, they did not drop below the 100 ha poppy-free threshold.

Despite the sizeable decline in opium cultivation, opium production edged down only 10% from 2008. As in recent years, favourable weather coupled with other positive growing conditions resulted in unusually high yields. In 2009, the average opium yield was up 15%, from 48.8kg/ha in 2008 to 56.1 kg/ha.

The volatile security situation in the South and Western regions – where almost all opium is grown – continues. Anti-government elements (AGE) as well as drug traders remain very active in the Western region. Provinces in the south are the strongholds of AGEs, while provinces in the West (Farah, Badghis and Nimroz) are known to have organized criminal networks. The link between lack of security and opium cultivation was also evident in Nangarhar province (Eastern region), where cultivation was located in districts classified as having a high or extreme security risk. Security incidents in Afghanistan have increased every year since 2003, and in 2009 there was another sharp rise in security incidents.

Not surprisingly, this increasingly hazardous environment deterred eradication campaigns in 2009. Eradication was insignificant in the major opium growing provinces such as Kandahar, Farah and Uruzgan. But eradication campaigns were down throughout the country. Eradication took place in 12 provinces in 2009 compared to 17 in 2008. Unlike last year, eradication did not take place in Ghor, Baghlan, Jawzjan and Nuristan because of negligible opium cultivation, and also did not happen in Laghman, Nimroz and Zabul due to lack of planning and political will. As a result, the total cultivated area eradicated fell only slightly from 5,480 ha in 2008 to 5,351 ha in 2009.

In another encouraging sign, a third fewer households were involved in opium cultivation in 2009 compared to 2008. Just 245,000 families, or 6.4 per cent of the total Afghan population, grew the opium poppy in 2009, compared to 366,500 households or 9.8% the year before. Of these households, an overwhelming 83% were in the Southern region and 13% in the Western region. In the rest of the country, the number of opium cultivating families is negligible. Given production and cultivation figures, this change means that more opium cultivation is being concentrated in fewer households.

Overall, opium prices in 2009 continued their downward slide begun several years ago. This decrease is due to the substantially high opium production that has taken place since 2007. In 2009, dry opium at harvest time hit its lowest farm-gate price since 2001. The average farm-gate price of dry opium at harvest time was US\$ 64/kg, a drop of 34% from 2008. For the same period, farm-gate prices of fresh opium fell by 31% to US\$ 48/kg at harvest time.⁸ Lower opium prices in Afghanistan reflect the continuing high levels of opium production, which is thought to exceed global demand for opium and its derivatives in the illicit market. Lower prices also convinced some farmers to stop cultivating opium in 2009. Thus, the decrease in opium cultivation in 2009 can be partially interpreted as a market correction. A one-third drop in the national average opium price – the lowest price in 8 years - makes growing opium poppy a much less lucrative enterprise.

The decline in opium production plus the drop in farm-gate opium prices reduced the total farmgate value of opium in 2009 by 40% compared to 2008 values - the lowest value since 2004. The total farm-gate value of Afghanistan's opium production in 2009 was equivalent to just 4% of Afghanistan's licit GDP (10.7 million).⁹ Another consequence of lower prices was a 23% drop in the gross income from one hectare of opium, the lowest level since 2002.

Opium cultivation is illegal in Afghanistan and is forbidden by Islam. Part of the 2009 survey involved asking farmers why they cultivated opium. Their answers reveal much about the financial dynamics of opium cultivation. In Southern, Western and Eastern regions, where the bulk of opium is grown, high sale price and provision of basic food and shelter for the family poverty were the dominant reasons for opium cultivation. Almost two-thirds of farmers (61%) cited the money-generating ability of opium to be the most important reason for growing the opium poppy in 2009. High demand for opium and the fact that it was an easy way to earn (cash) money were other important reasons given.

Significantly, data from the annual village survey on household income earned in 2008 shows that the average annual cash income of opium-growing households in 2008 was 43% higher than that of non-opium-growing households. Still, in 2009, the average annual gross income from opium in these opium-growing households fell 10% from 2008.

Farmers who stopped cultivating opium poppy in 2009 or before were also asked why they did so. The Government ban on opium cultivation was mentioned by about a third of respondents making it the most frequently cited reason for stopping. Low sale prices of opium were the second main reason. In previous years, low opium prices were mentioned by only a small percentage of farmers. This indicates that reduction in opium cultivation is partly a response to market changes. Notably, farmers in the Southern region differ from farmers in other regions. The low sale price of opium compared to other crops was the main reason reported by Southern farmers to stop opium cultivation (27%), followed by the Government ban (18%).

⁸ In 2008, the fresh and dry opium prices at harvest time were based on farmers responses collected through the Annual Opium Survey, which was conducted slightly before the opium harvest. In 2009, prices at harvest time were derived from the opium price monitoring system and refer to the month when opium harvest actually took place in the different regions of the country.

⁹ Source: Gov. of Afghanistan, Central Statistical Office. Nominal GDP value of Afghan fiscal year 2008/2009.

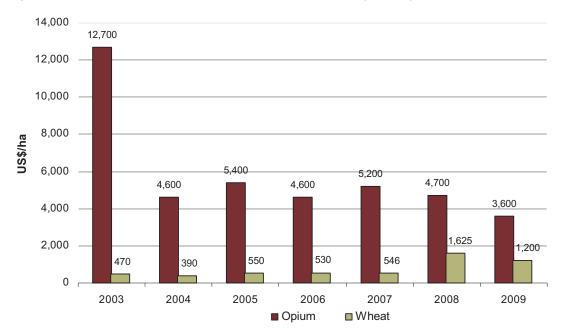


Figure 3: Gross income per hectare from opium and wheat (US\$/ha), 2003-2009

Comparing the per hectare income of wheat and opium poppy can provide an indication of the attractiveness of cultivating poppy, as in Afghanistan opium poppy and wheat are planted during the same season. The sharp price increase of wheat in Afghanistan and worldwide in 2008 helped narrow the gap between gross incomes from opium compared to wheat. In 2009, the ratio between gross income from opium and gross income from wheat was 3:1, similar to the ratio calculated in 2008, as both wheat and opium price decreased. The ratio between the net income from opium and wheat was even smaller (2:1). This ratio is much lower than in the years before 2008. In 2003, for example, farmers earned 27 times more gross income per hectare of opium than per hectare of wheat.

The calculation of the potential income from opium production for the Afghan economy is based on the value of opiate exports in the border areas of neighbouring countries. Afghan traffickers far more than their counterparts in other countries - are heavily involved in shipping opiates across borders, notably to Iran and Pakistan, and to a lesser extent, countries in Central Asia. From there, traffickers in those countries usually take over the drug shipments. Thus, the far larger profits generated by subsequent trafficking activities to Europe and other locations are not accrued by Afghanis or the Afghan economy. Nonetheless, while the financial gains made by criminal groups in Afghanistan make up only a small proportion of the overall trafficking profits from Afghan opiates, these amounts are still important when compared to the size of the Afghan economy.

In 2009, the gross export value of opiates produced in Afghanistan amounted to US\$ 2.8 billion, a drop of 18 % from 2008. The best estimate of US\$ 2.8 billion is equivalent to about a quarter of the licit Afghan GDP, compared to a third of the Afghan GDP in 2008. This is due both to a decrease in the export value of opiates and an increase in the GDP of Afghanistan. The net export value of opiates amounted to US\$ 2.3 billion (range US\$ 1.0 billion to 4.1 billion). The best estimate of US\$ 2.3 billion is equivalent to 21% of the Afghan GDP.

A comparison of farm-gate value, net and gross export values reveals that by far the largest proportion of the revenue is made at the trafficking level. Farmers receive only a small portion of the profits. Those profits were down 10 % in 2009, with the average annual gross income from opium in opium-growing households being US\$ 1,786. In keeping with the general downward trend, the gross income from one hectare of opium (US\$3,600) dropped 23% from 2008 (US\$ 4,700), reflecting falling opium prices. This is the lowest value since 2004. Farmers' gross income from one hectare of wheat, however, fell even more – down 25% from 2008 to US\$ 1,200.

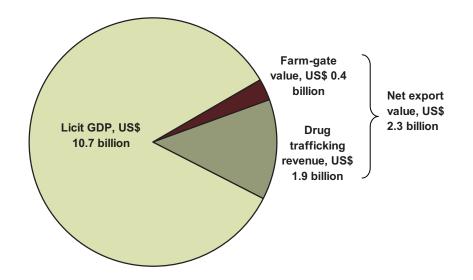


Figure 4: GDP and opiate industry in Afghanistan, 2009

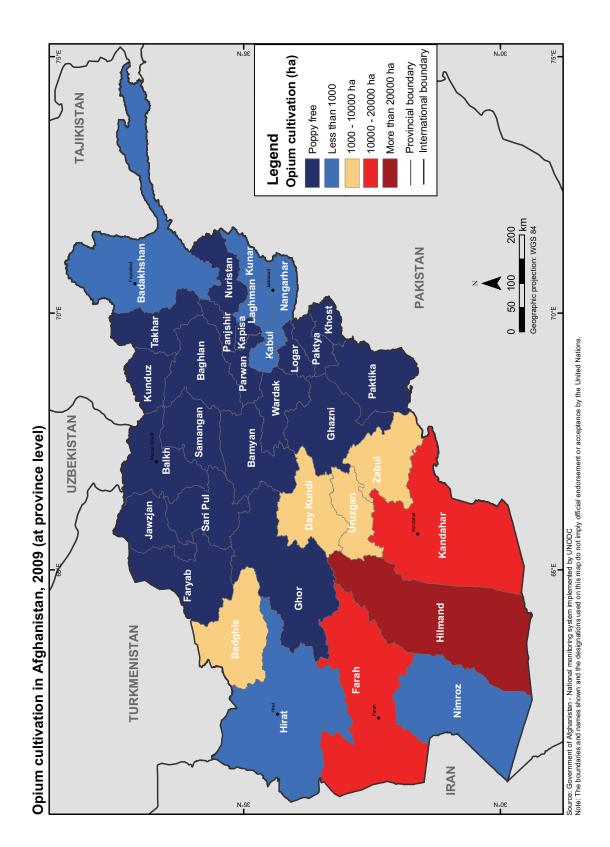
Sources: Afghanistan Central Statistical Office and UNODC, Afghanistan Opium Survey 2009

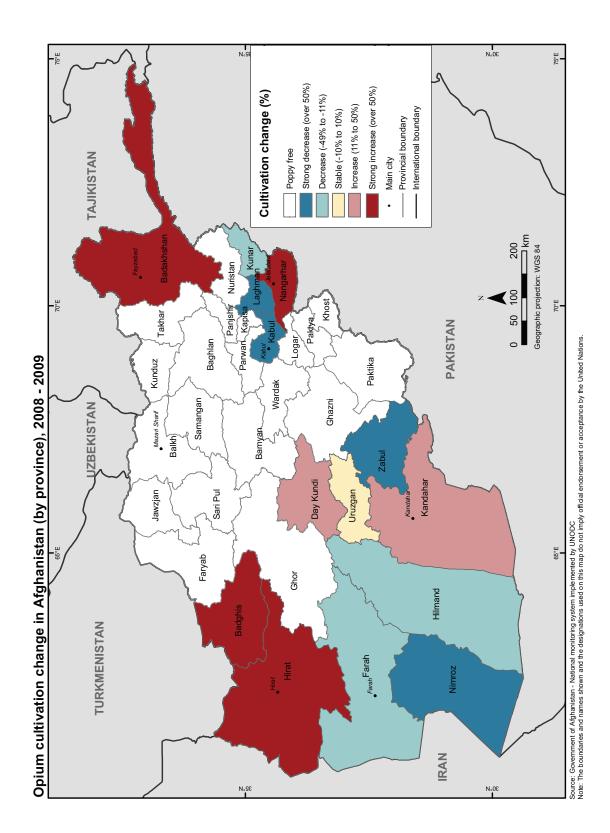
In 2009, ISAF and Afghan Forces intensified counter-narcotics activities in Afghanistan. Measures taken ranged from drug seizures, to destruction of clandestine laboratories to increased control of precursors (chemicals needed for the extraction of morphine and heroin from opium). Between April 2008 and July 2009, ISAF/NATO, the Counter Narcotics Police of Afghanistan (CNPA) and other Afghan forces seized considerable volumes of opiates, poppy seeds, cannabis, precursors and labs. Jointly, they conducted counter narcotics operations in 7 provinces (Badakhshan, Farah, Hilmand, Hirat, Kandahar, Nangarhar, and Uruzgan), mainly focusing on Hilmand and Nangarhar. They destroyed a total of 27 labs, 17 of them in Hilmand and 8 in Nangarhar, confirming the assumption that a large proportion of the morphine/heroin manufacturing happens *within* Afghanistan.

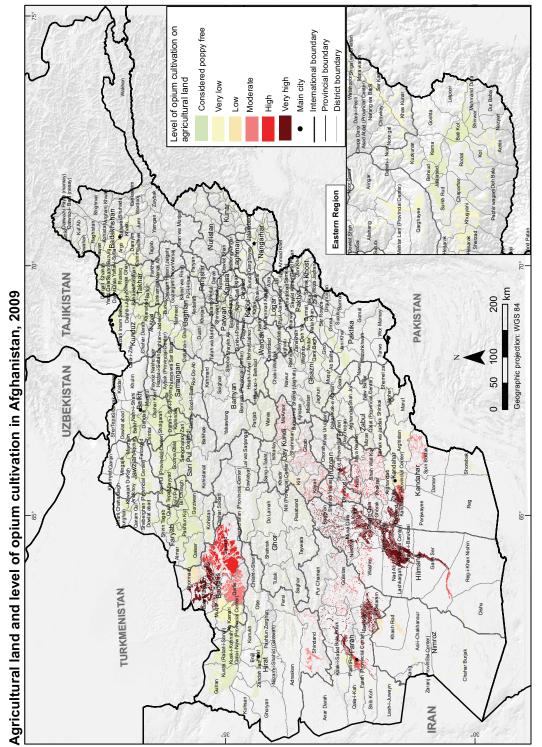
UNODC tried to capture the possible impact of these activities as well as obtain information about drug trafficking routes in the 2009 drug flow survey. The drug flow survey is not a representative but based on interviews with key informants who are knowledgeable about drug production and trafficking. Still, the information obtained this way is unique and may contribute to the understanding of trends and aspects of drug production and trafficking in Afghanistan that would otherwise be undetected.

Respondents reported that:

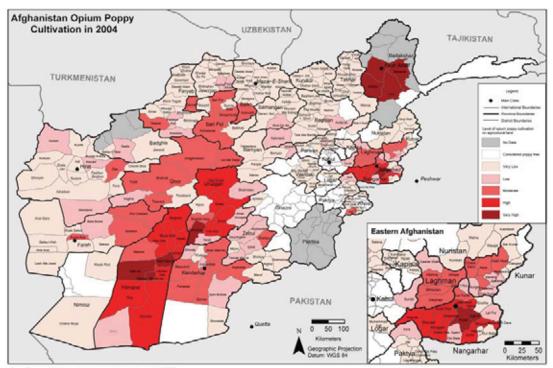
- The Eastern region seemed to experience counter narcotics pressure, which was felt by traffickers.
- The Southern region experienced also heavy counter narcotics activities, which, however, seemed to have had less impact on traffickers. Onward trafficking to neighbouring Pakistan seemed to be an attractive option.
- The Western region seemed to have experienced a lower level of counter narcotic activities and represents a comparatively low risk level, despite its location at one of the main thoroughfares of drug trafficking. Onward trafficking to neighbouring Iran, however was reported to be risky.
- The Northern and North-eastern regions showed a mixed picture.
- Overall, traffickers seem to consider trafficking within Afghanistan less risky compared to cross-border trafficking (comparatively high amounts of seizures in neighbouring countries confirm this assumption)



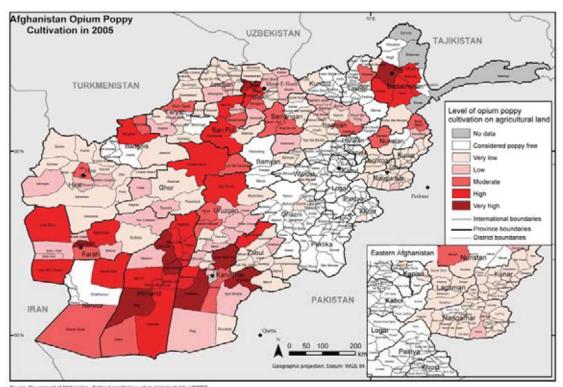




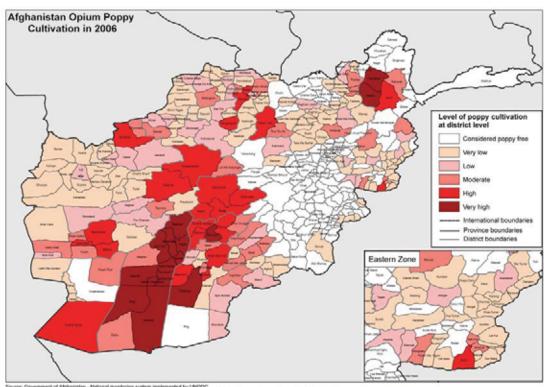




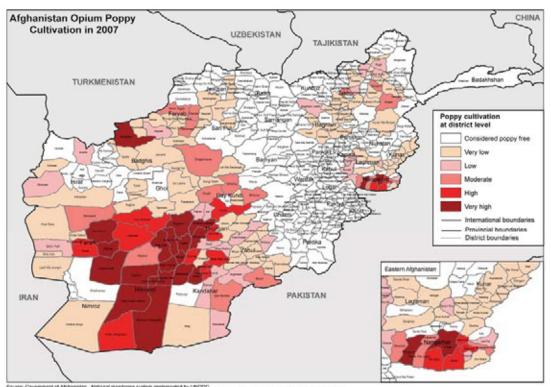
Source: Covernment of Alghanistan - National monitoring system implemented by UNCOC Note: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations



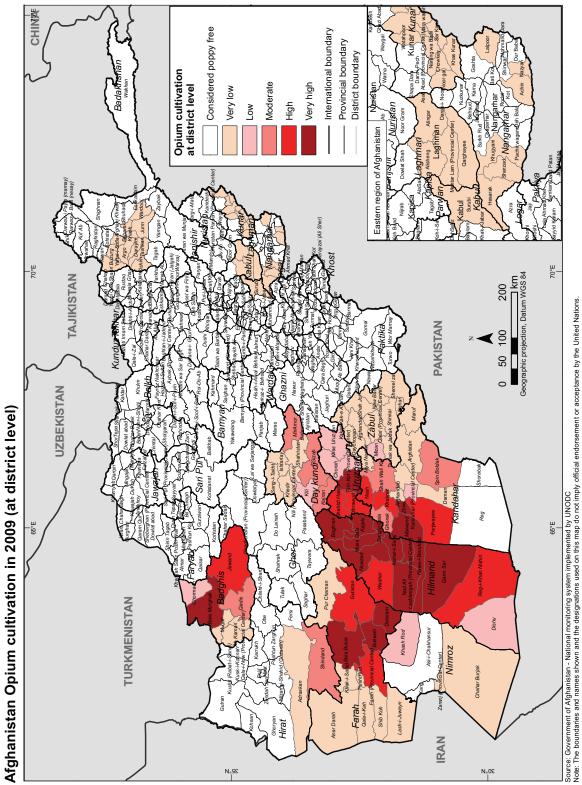
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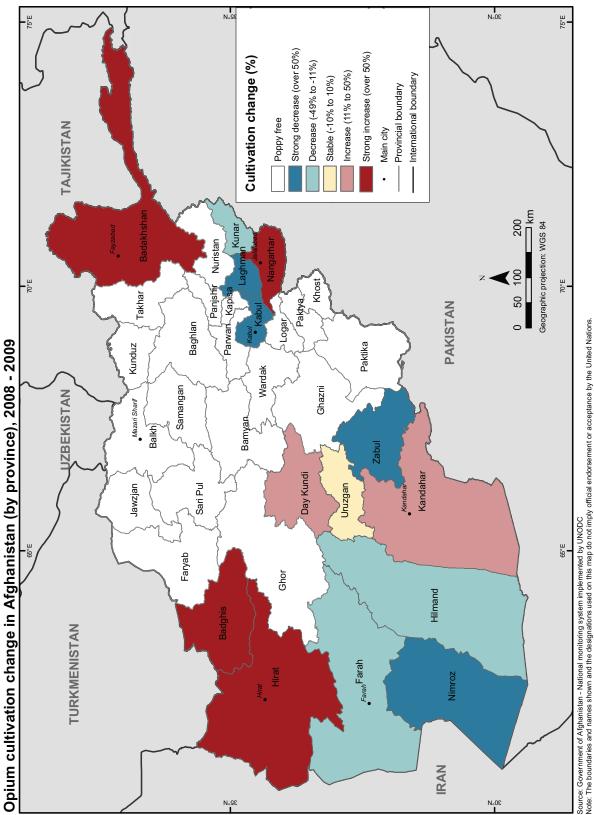


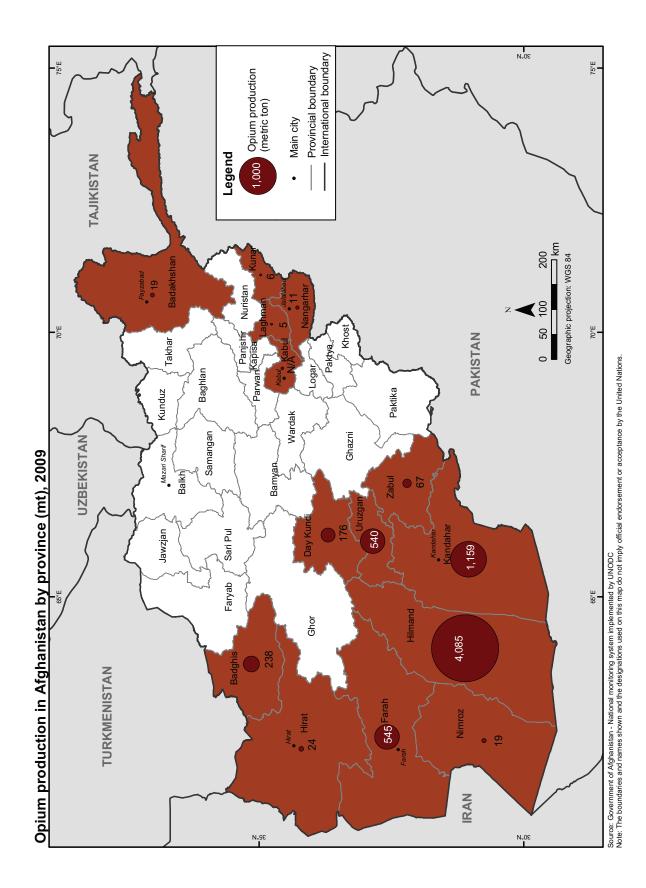
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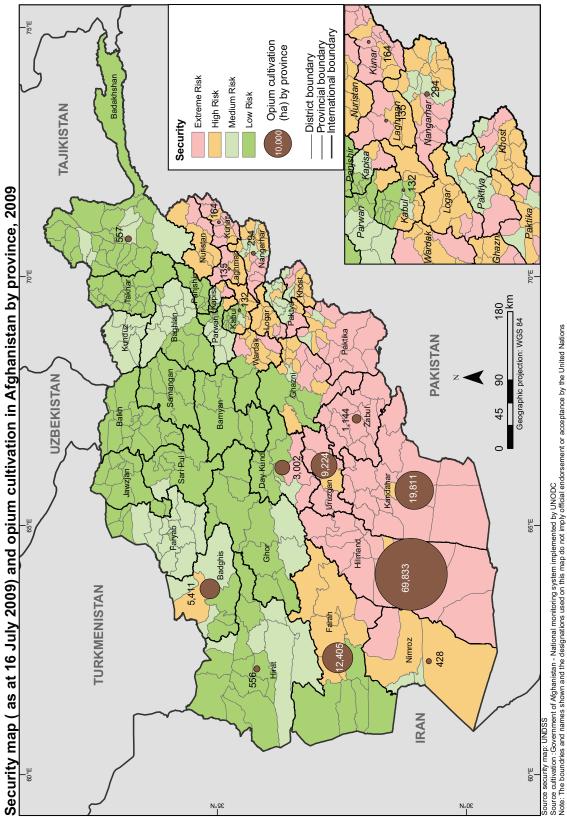


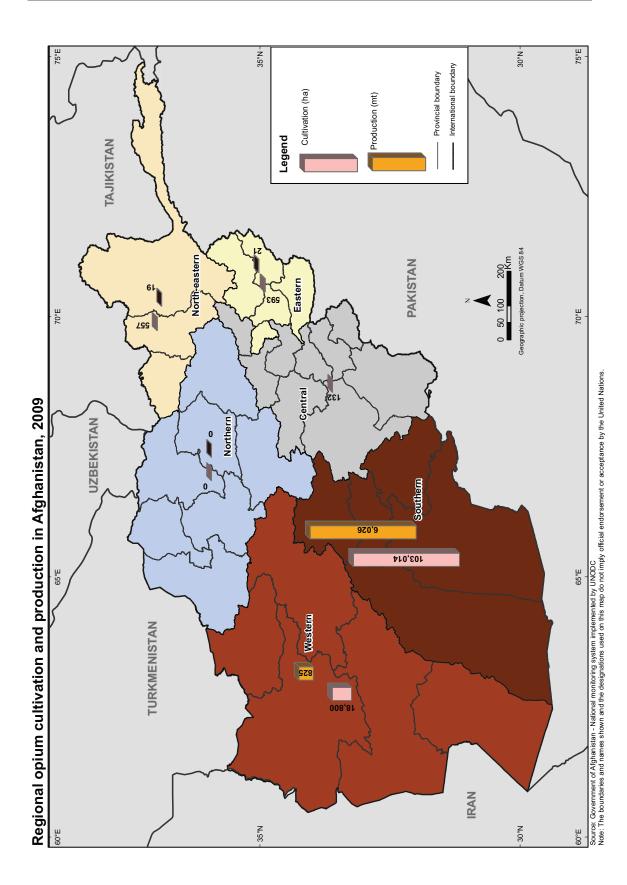
Source: Gevenment of Alghenisten - Netional monitoring system implemented by UNODC Note: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.











1 INTRODUCTION

The *Afghanistan Opium Survey* is implemented annually by the United Nations Office on Drugs and Crime (UNODC) and, since 2003, in collaboration with the Afghan Government. 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, UNODC has been involved in the verification of opium eradication conducted by provincial governors and central 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 within the context of the elimination objective adopted at the United Nations General Assembly Special Session on Drugs in June 1998. Under ICMP, monitoring activities are currently supported by UNODC in the seven other countries affected by illicit crop cultivation, namely Myanmar and the Lao People's Democratic Republic in Asia, Bolivia, Colombia, Ecuador and Peru in Latin America, and Morocco in Africa, which is one of the main areas of illicit cannabis cultivation.

The 2009 Afghanistan Opium Survey was implemented under project AFG/F98, "Monitoring of opium production in Afghanistan", and project GLO/U34, "Trends Monitoring and Analysis Programme Support (Illicit Crop Monitoring)", with financial contributions from the Governments of Germany, Norway, the United Kingdom, and the United States of America.

2 FINDINGS

2.1 Opium cultivation

The total opium cultivation in 2009 in Afghanistan is estimated at 123,000 hectares $(ha)^{10}$, a 22% reduction compared to 2008. This area is equivalent to 1.6% of agricultural land in 2009, down from 2.1% a year earlier¹¹. 99% of the total cultivation in 2009 occurred in seven provinces with security problems; four of these provinces were in the south and three in the west.

Of the 34 provinces in the country, 20 have been found to be free of opium cultivation. The number of poppy-free provinces¹² increased to 20 in 2009, compared to 18 in 2008 and 13 in 2007. Kapisa (Eastern region), Baghlan and Faryab (both Northern region) provinces became poppy-free for the first time.

In the Central region, cultivation was reduced to negligible levels while in the North-eastern region there was a significant increase (179%). The Northern region consists of Baghlan, Balkh, Bamyan, Faryab, Jawzjan, Samangan and Sari Pul provinces. In 2009, for the first time in almost a decade, all the provinces in this region were poppy-free. Most of these provinces sustained moderate levels of opium cultivation in the past, except Balkh. This province emerged as a major opium cultivating province in 2005 and 2006 (10,837 ha and 7,232 ha respectively), whereas the rest of the provinces contributed in the range of 2,000 to 3,000 ha each. The decline in opium cultivation in the Northern region started with strict law enforcement and counter-narcotic initiatives. Nangarhar province became poppy-free for the first time in 2008. In 2009, however, 294 ha of opium poppy were detected, despite 226 ha being eradicated. Nangarhar, traditionally a large opium growing province, was the only province that lost its poppy-free status in 2009. In the last six years the level of opium cultivation in Nangarhar province has been erratic. In 2004, cultivation was at 28,213 ha, the following year it dropped drastically to 1,093 ha and was confined to remote parts of the province. In 2006, it increased to 4,872 ha and in 2007 again increased to 18,739 ha before becoming poppy-free in 2008. Laghman and Kunar provinces of the Eastern region were virtually poppy-free with negligible amounts of cultivation (135 ha and 164 ha respectively) in 2009.

At the district level, 290 of Afghanistan's 400 districts were poppy-free in 2009.

The regional divide of opium cultivation between the south, west and rest of the country continued to deepen in 2009. Most of the opium cultivation is confined to the provinces of Hilmand, Kandahar, Uruzgan, Day Kundi, Badghis, Farah and Nimroz of the Southern and Western regions, which are dominated by insurgency and organized criminal networks. This mirrors the sharper polarization of the security situation between the lawless south and the relatively stable north of the country. This clearly highlights the strong link between opium cultivation and the lack of security. Hilmand still remains the dominant opium cultivating province (69,833 ha) followed by Kandahar (19,811 ha), Farah (12,405 ha), Uruzgan (9,224 ha), Badghis (5,411 ha), Day Kundi (3,002 ha) and Zabul (1,144 ha).

The total opium production in 2009 is estimated to be at 6,900 metric tons (mt), a 10% reduction compared to production in 2008. Almost all of the production (99%) takes place in the same seven provinces where the cultivation is concentrated and where the yield per hectare is relatively higher than in the rest of the country. All the other provinces contributed only 1% of total opium production in the country.

The gross income for farmers who cultivated opium is estimated at US\$ 438 million in 2009. This is a decrease from 2008, when farm-gate income for opium was estimated at US\$ 730 million.

¹⁰ 95% confidence interval: 102,000 – 137,000 ha.

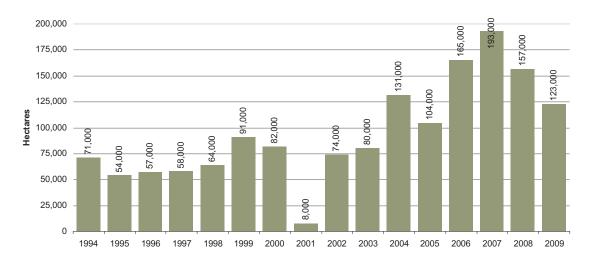
¹¹ The area available for agriculture has been updated by UNODC based on Landsat 7 ETM images and DMC images. The total estimated agricultural area amounts to 7,721,694 hectares.

¹² A province is defined as poppy-free when it is estimated to have less then 100 ha of opium cultivation.

Opium cultivation	Number of provinces						
trend	2006	2007	2008	2009			
Increase	14	8	1	6			
Decrease	2	11	11	7			
Stable	12	2	4	1			
Poppy-free	6	13	18	20			

Table 1: Number of provinces by opium cultivation trends, 2006-2009

Figure 5: Opium cultivation in Afghanistan (ha), 1994-2009



Sources: UNODC and UNODC/MCN opium surveys for 1994-2009.

The Opium Winter Assessment Survey 2008 anticipated a slight reduction in opium cultivation (UNODC, *Afghanistan Opium Winter Rapid Assessment Report*, February 2009). The full opium survey confirms that slight reduction in opium cultivation. In areas with reduction in cultivation, there are real challenges for the Government and international stakeholders to sustain this declining trend.

A major difference in the regional distribution between 2008 and 2009 is that opium cultivation in the Eastern (Kunar and Laghman) and the Central (Kabul) regions dropped to insignificant levels in 2009. Compared to a total of 1,150 ha of opium cultivation in 2008, the Eastern region is estimated to have cultivated only 593 ha in 2009.

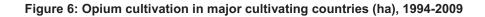
Cultivation in the south decreased by 22%. However, the Southern region accounted for 84% of the opium cultivated in 2009 no change from 2008. Due to the security problems in the south and west, since 2006 so-called anti-government elements (AGEs) are known to have encouraged farmers to cultivate opium poppy and even threatened them when they were reluctant to do so. The total area under opium cultivation in the Southern region in 2009 (103,014 ha) was very close to the total Afghan opium cultivation in 2005 (104,000 ha). Eradication campaigns carried out by governors and the Poppy Eradication Force (PEF) did not prevent opium cultivation in that region.

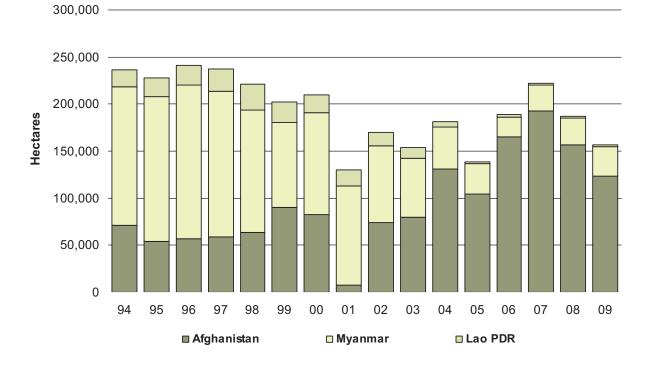
Region	2008 (ha)	2009 (ha)	Change 2008-2009	2008 (ha) as % of total	2009 (ha) as % of total
Southern	132,760	103,014	-22%	85%	84%
Western	22,066	18,800	-15%	14%	15%
North-eastern	200	557	179%	0.1%	0.5%
Eastern	1,151	593	-48%	0.7%	0.5%
Central	310	132	-57%	0.2%	0.1%
Northern	766	Poppy-free	NA	0.5%	NA
Rounded Total	157,000	123,000	-22%	100%	100%

Table 2: Regional distribution of opium cultivation, 2008-2009

Table 3:	Main opium	cultivating	provinces i	in Afghanistan	2006-2009
Table 5.		cultivating	provinces	in Aignainstai	1, 2000-2005

Province	2006	2007	2008	2009	Change 2008-2009	2009 (ha) as % of total	Cumulative %
Hilmand	69,324	102,770	103,590	69,833	-33%	57%	57%
Kandahar	12,619	16,615	14,623	19,811	35%	16%	73%
Farah	7,694	14,865	15,010	12,405	-17%	10%	83%
Uruzgan	9,773	9,204	9,939	9,224	-7%	7%	90%
Badghis	3,205	4,219	587	5,411	822%	4%	95%
Day Kundi	7,044	3,346	2,273	3,002	32%	2%	97%
Nimroz*	1,955	6,507	6,203	428	-93%	0%	98%
Rest of the country	63635	43020	7,888	2,982	-62%	2%	100%
Rounded Total	165,000	193,000	157,000	123,000	-22%		





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PROVINCE	Cultivation 2005 (ha)	Cultivation 2006 (ha)	Cultivation 2007 (ha)	Cultivation 2008 (ha)	Cultivation 2009 (ha)	Change 2008- 2009 (ha)	Change 2008- 2009 (%)	Eradication 2008 (ha)	Eradication 2009 (ha)
Kabul	Poppy-free	80	500	310	132	-178	-57%	20	1.35
Khost	Poppy-free	133	Poppy-free	Poppy-free	Poppy-free	NA	NA	0	0
Logar	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	NA	NA	0	0
Paktya	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	NA	NA	0	0
Panjshir	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	NA	NA	0	0
Parwan	Poppy-free	124	Poppy-free	Poppy-free	Poppy-free	NA	NA	0	0
Wardak	106	Poppy-free	Poppy-free	Poppy-free	Poppy-free	NA	NA	0	0
Ghazni	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	NA	NA	0	0
Paktika	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	NA	NA	0	0
Central Region	106	337	500	310	132	-178	-57%	20	1.35
Kapisa	115	282	835	436	Poppy-free	NA	NA	59	31
Kunar	1,059	932	446	290	164	-126	-43%	103	11
Laghman	274	710	561	425	135	-290	-68%	26	0
Nangarhar	1,093	4,872	18,739	Poppy-free	294	NA	NA	26	226
Nuristan	1,554	1,516	Poppy-free	Poppy-free	Poppy-free	NA	NA	3	0
Eastern Region	4,095	8,312	20,581	1,151	593	-558	-48%	217	269
Badakhshan	7,370	13,056	3,642	200	557	357	179%	774	420
Takhar	1,364	2,178	1,211	Poppy-free	Poppy-free	NA	NA	0	0
Kunduz	275	102	Poppy-free	Poppy-free	Poppy-free	NA	NA	0	0
North-eastern Region	9,009	15,336	4,853	200	557	357	179%	774	420
Baghlan	2,563	2,742	671	475	Poppy-free	NA	NA	85	0
Balkh	10,837	7,232	Poppy-free	Poppy-free	Poppy-free	NA	NA	0	0
Bamyan	126	17	Poppy-free	Poppy-free	Poppy-free	NA	NA	0	0
Faryab	2,665	3,040	2,866	291	Poppy-free	NA	NA	0	261
Jawzjan	1,748	2,024	1,085	Poppy-free	Poppy-free	NA	NA	0	0
Samangan	3,874	1,960	Poppy-free	Poppy-free	Poppy-free	NA	NA	0	0
Sari Pul	3,227	2,252	260	Poppy-free	Poppy-free	NA	NA	0	0
Northern Region	25,040	19,267	4,882	766	Poppy-free	NA	NA	85	261
Hilmand	26,500	69,324	102,770	103,590	69,833	-33,757	-33%	2,537	4119
Kandahar	12,989	12,619	16,615	14,623	19,811	5,188	35%	1,222	69
Uruzgan	2,024	9,703	9,204	9,939	9,224	-715	-7%	113	74
Zabul	2,053	3,210	1,611	2,335	1,144	-1,191	-51%	0	0
Day Kundi	2,581	7,044	3,346	2,273	3,002	729	32%	0	27
Southern Region	46,147	101,900	133,546	132,760	103,014	-29,746	-22%	3,872	4289
Badghis	2,967	3,205	4,219	587	5,411	4,824	822%	0	0
Farah	10,240	7,694	14,865	15,010	12,405	-2605*	(-17%)	9	43
Ghor	2,689	4,679	1,503	Poppy-free	Poppy-free	NA	NA	38	0
Hirat	1,924	2,287	1,525	266	556	290	109%	352	67
Nimroz	1,690	1,955	6,507	6,203	428	-5775*	(-93%)	113	0
Western Region	19,510	19,820	28,619	22,066	18,800	-3,266	-15%	511	110
Total (rounded)	104,000	165,000	193,000	157,000	123,000	-34,000	-22%	5,480	5351

Table 4: Opium cultivation	(2005-2009) and eradication	(2008-2009) in Afghanistan
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* Due to administrative boundary changes, the 2009 estimates for Farah and Nimroz were calculated considering parts of Khash Rod district, the main opium cultivating district in Nimroz, as being part of Farah province. The 2008 figures include all of Khash Rod district in Nimroz province.

A province is defined as poppy-free when it is estimated to have less then 100 ha of opium cultivation.

Southern region

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

Opium cultivation and opium production in the Southern region decreased by 22% and 13% respectively in 2009. A total of 103,014 ha of opium poppy were cultivated in the Southern region, which is equivalent to 84% of the total cultivation in Afghanistan. A total of 6,026 metric tons of opium was produced, representing 87% of the entire production in Afghanistan in 2009.

Table 5: Opium cultivation and eradication in the Southern region (ha) (2005-2009)

PROVINCE		(Cultivation (ha)		Change 2008- 2009 (ha)	Change		
	Cultivation 2005 (ha)	Cultivation 2006 (ha)	Cultivation 2007 (ha)	Cultivation 2008 (ha)	Cultivation 2009 (ha)		2008- 2009 (%)	Eradication 2008 (ha)	Eradication 2009 (ha)
Hilmand	26,500	69,324	102,770	103,590	69,833	-33,757	-33%	2,537	4,119
Kandahar	12,989	12,619	16,615	14,623	19,811	5,188	35%	1,222	69
Uruzgan	2,024	9,703	9,204	9,939	9,224	-715	-7%	113	74
Zabul	2,053	3,210	1,611	2,335	1,144	-1,191	-51%	0	0
Day Kundi	2,581	7,044	3,346	2,273	3,002	729	32%	0	27
Southern Region	46,147	101,900	133,546	132,760	103,014	-29,746	-22%	3,872	4,289

Table 6: Potential opium production in the Southern region (mt), 2008-2009

PROVINCE	Production 2008 (mt)	Production 2009 (mt)	Change 2008-2009 (mt)	Change 2008-2009 (%)
Hilmand	5,397	4,085	-1312	-24%
Kandahar	762	1,159	397	52%
Uruzgan	518	540	22	4%
Zabul	122	67	-55	-45%
Day Kundi	118	176	57	48%
Southern Region	6,917	6,026	-890	-13%

Hilmand

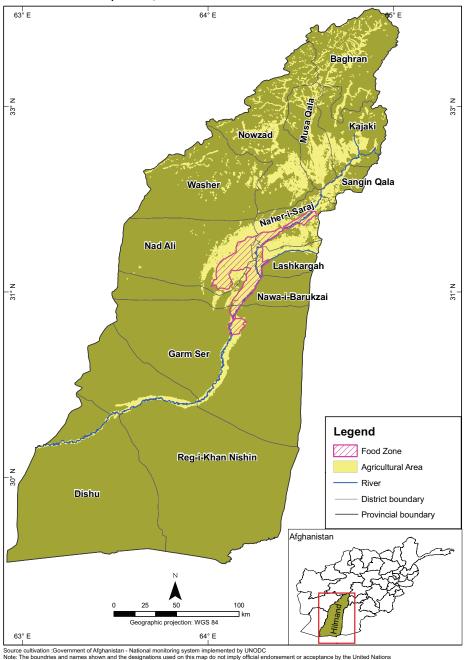
Hilmand remains the single largest opium cultivating province with 69,833 ha (57% of the total cultivation in Afghanistan) despite 33% decrease compared to 2008. This is the third consecutive year for a bumper cultivation of opium in the province. In 2008, opium cultivation in Hilmand was estimated at 103,590 ha, 48% more than in 2009. Between 2002 and 2008, cultivation in Hilmand province more than tripled. A great deal of land in the province outside the traditional agricultural areas has been reclaimed for the sole purpose of opium cultivation. Hilmand accounted for 57% of the country's total opium cultivation in 2009 compared to 66% in 2008, 53% in 2007, 42% in 2006, 25% in 2005, 23% in 2004 and 19% in 2003.

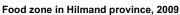
Information gathered during field work indicates that levels of cultivation are higher in the districts of Nad Ali, Naher-i-Sarraj, Musa Qala, Nawa-i-Barakzayi, Garmser (Hazarjuft) and Lashkar Gah (provincial center). Only 6% of the estimated opium cultivation was eradicated in 2009.

Independent figures from a study done by Cranfield University (UK) show that opium cultivation in the so-called "food zone" in Hilmand decreased by 37%, and was mainly replaced by cereal crops. Outside the food zone, however, poppy cultivation increased by 8%. The food zone programme was comprised of anti-poppy awareness raising campaigns, the distribution of wheat seed and fertilizer to farmers, and law enforcement activities including eradication. It covered the districts of Lashkar Gah, Nad Ali, Gereshk, Garm Seir, Sangin Qala and Musa Qala in Hilmand.

The programme was implemented by Hilmand's Governor with financial and technical support from the UK and USA.

Potential opium production in 2009 decreased by 24% to 4,085 metric tons, reaching 59% of the overall 2009 opium production in Afghanistan.





Kandahar

In Kandahar province, opium cultivation was 19,811 ha in 2009, an increase of 35% from 2008. The increase in opium cultivation started after 2004, when only 4,959 ha were cultivated. Since then, the area under opium poppy has tripled. Significant increases happened in Panjwayee (100%), Maiwand (93%) and Zhire (85%). The main opium cultivation districts in 2009 were Maiwand, Zhire, Nesh, Panjwayee and Miya Neshin. Opium production increased by 52%, reaching 1,159 mt, which is equivalent to 17% of the total production in Afghanistan in 2009.

A total of 69 ha were eradicated, as verified by MCN and UNODC, which amounted to 0.3% of the estimated opium cultivation in Kandahar province.

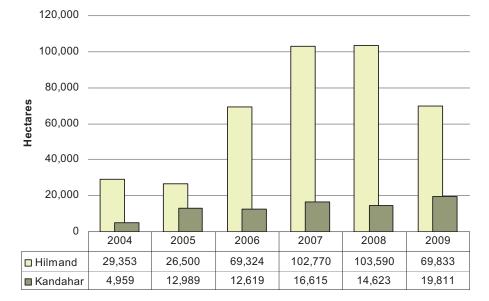


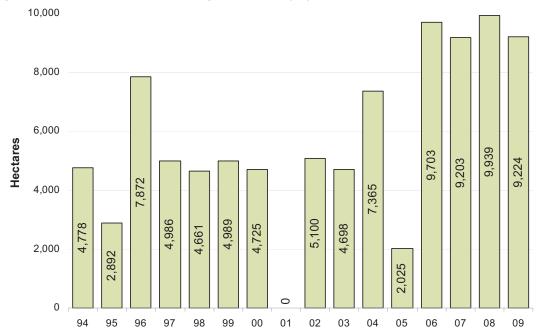
Figure 7: Opium cultivation in Hilmand and Kandahar provinces (ha), 1994-2009

Uruzgan

Opium cultivation in Uruzgan province decreased by 7% in 2009 and accounted for 7% of the total Afghan opium cultivation.

Tirin Kot (Provincial center), Shahidi Hassas, Dihrawud were the top opium poppy cultivating district in 2009 in Uruzgan province. They are adjacent to Hilmand and Kandahar provinces. Cultivation in other districts was negligible. Only 74 ha of opium crops were eradicated in this province in 2009.

Figure 8: Opium cultivation in Uruzgan province (ha), 1994-2009



Day Kundi

Opium cultivation increased significantly (by 32%) to 3,002 ha compared to 2,273 ha in 2008 and 3,346 ha in 2007. Governor-led eradication forces did not conduct operations in this province. Security was very poor in most parts of southern Day Kundi.

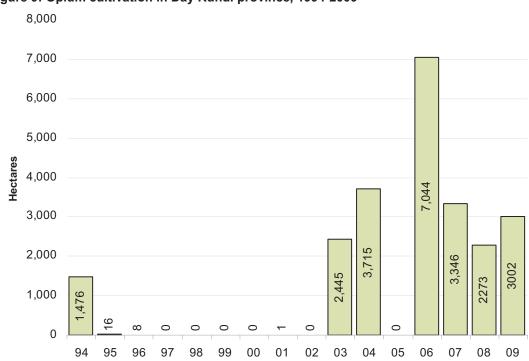
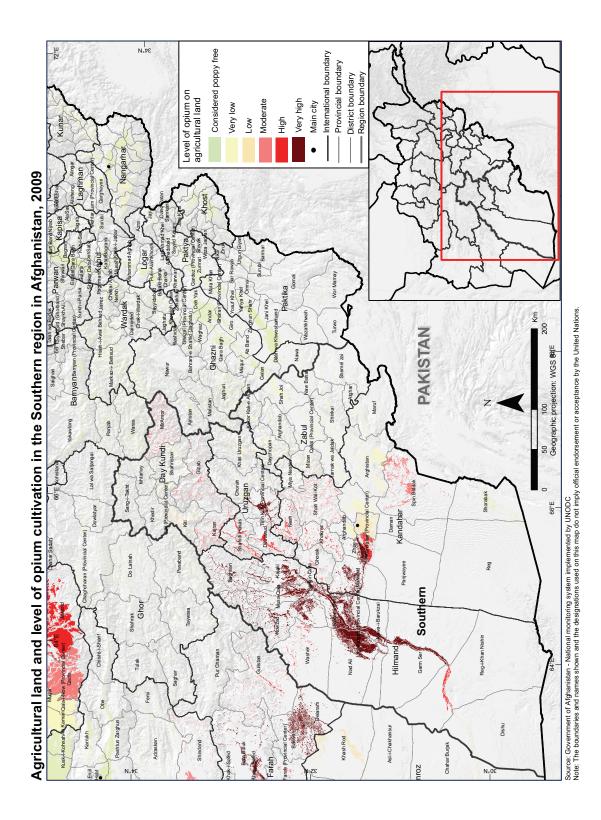


Figure 9: Opium cultivation in Day Kundi province, 1994-2009

Zabul

Opium cultivation in Zabul decreased by 51% in 2009 from 2,335 ha in 2008 to 1,144 ha. Prior to 2007, cultivation in this province ranged from about 2,000 to 3,000 ha.



Eastern region

(Kapisa, Kunar, Laghman, Nangarhar, Nuristan)

Opium cultivation in the Eastern region decreased by 48% in 2009. However, the same year Nangarhar province lost the poppy-free status it had achieved in 2008. Only 593 ha of opium poppy were cultivated in 2009 (0.5% of the total area cultivated in Afghanistan) compared to 1,151 ha in 2008, which accounted for 1% of the total opium cultivation in that year. The cultivation was reduced due to several factors, such as awareness campaigns and measures that forced farmers to eradicate their own opium cultivation and effective provincial leadership in implementing control measures to stop opium cultivation in the Eastern region.

Kapisa province has become poppy-free for the first time and Nuristan again remained poppy-free in 2009.

In 2009, Laghman and Kunar provinces of the Eastern region were virtually poppy-free with negligible amounts of cultivation (135 ha and 164 ha respectively).

Opium production decreased in 2009 by 53% to 21 mt.

PROVINCE		Cultivation (ha)						Eradication	Eradication
	Cultivation 2005 (ha)	Cultivation 2006 (ha)	Cultivation 2007 (ha)	Cultivation 2008 (ha)	Cultivation 2009 (ha)	2008- 2009 (ha)	2008- 2009 (%)	2008 (ha)	2009 (ha)
Kapisa	115	282	835	436	Poppy-free	NA	NA	59	31
Kunar	1,059	932	446	290	164	-126	-43%	103	11
Laghman	274	710	561	425	135	-290	-68%	26	0
Nangarhar	1,093	4,872	18,739	Poppy-free	294	NA	NA	26	226
Nuristan	1,554	1,516	Poppy-free	Poppy-free	Poppy-free	NA	NA	3	0
Eastern Region	4,095	8,312	20,581	1,151	593	-558	-48%	217	269

Table 7: Opium cultivation and eradication in the Eastern region (ha), 2005-2009

Table 8: Opium production in the Eastern region (mt), 2008-2009

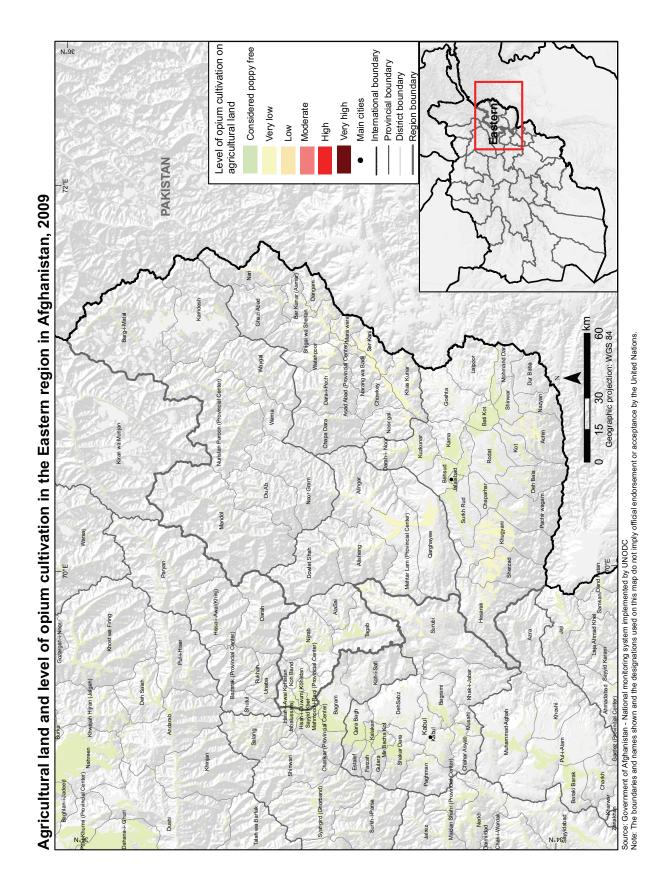
PROVINCE	Production 2008 (mt)	Production 2009 (mt)	Change 2008-2009 (mt)	Change 2008-2009 (%)
Kapisa	17	Poppy-free	NA	NA
Kunar	11	6	-5	-48%
Laghman	17	5	-12	-71%
Nangarhar	Poppy-free	11	NA	NA
Nuristan	Poppy-free	Poppy-free	NA	NA
Eastern Region	45	21	-24	-53%

Nangarhar

Traditionally, Nangarhar was a large poppy-growing province, and in 2007, it was estimated to have 18,739 ha of opium cultivation. In 2008, Nangarhar province became poppy-free for the first time. In 2009, however, 294 ha of opium poppy were detected, despite 226 ha being eradicated. Nangarhar was the only province that lost its poppy-free status in 2009.

In the last six years, the level of opium cultivation in Nangarhar has been erratic. In 2004, cultivation was at 28,213 ha, the following year it dropped drastically to 1,093 ha and was confined to remote parts of the province. In 2006, it increased to 4,872 ha and in 2007 again increased to 18,739, before becoming poppy-free in 2008.

A total of 226 ha of opium cultivation were eradicated by governor-led eradication forces as verified by MCN/UNODC.



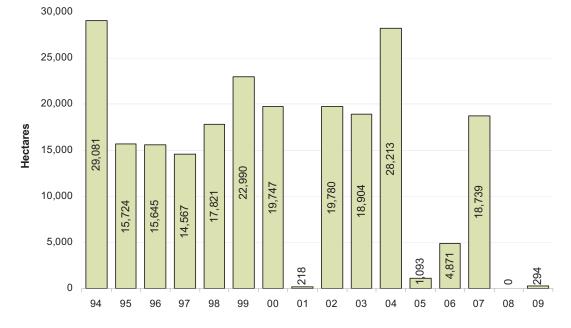


Figure 10: Opium cultivation in Nangarhar province (ha), 1994-2009

Laghman, Kunar, Kapisa and Nuristan

In 2009, Laghman and Kunar provinces of the Eastern region were virtually poppy-free with negligible amounts of cultivation (135 ha and 164 ha respectively). A total of 11 ha of opium cultivation were eradicated by governor-led eradication forces as verified by MCN/UNODC in Kunar province.

Kapisa province has become poppy-free for the first time. Nuristan again remained poppy-free in 2009. A total of 59 ha of opium cultivation were eradicated by governor-led eradication forces as verified by MCN/UNODC in Kapisa province.

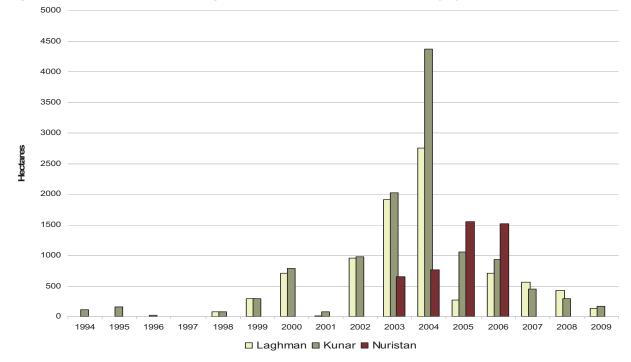


Figure 11: Opium cultivation in Lagman, Kunar and Nuristan provinces (ha), 1994-2009

North-eastern region

(Badakhshan, Kunduz and Takhar)

Opium cultivation in the North-east increased by 179% to 557 ha in 2009 from 200 ha in 2008. The increase happened only in Badakhshan province since the two other provinces in the region namely Takhar and Kunduz are poppy-free.

Opium production also increased by 204% to 19 mt in 2009 compared to 6 mt in 2008.

Table 9: Opium cultivation and eradication in the North-eastern region (ha, 2005-2009)
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PROVINCE		(Cultivation (ha)		Change Change 2008- 2008- Eradication			Eradication
	Cultivation 2005 (ha)	Cultivation 2006 (ha)	Cultivation 2007 (ha)	Cultivation 2008 (ha)	Cultivation 2009 (ha)	2008- 2009 (ha)	2008- 2009 (%)	2008 (ha)	2009 (ha)
Badakhshan	7,370	13,056	3,642	200	557	357	179%	774	420
Takhar	1,364	2,178	1,211	Poppy-free	Poppy-free	NA	NA	0	0
Kunduz	275	102	Poppy-free	Poppy-free	Poppy-free	NA	NA	0	0
North-eastern Region	9,009	15,336	4,853	200	557	357	179%	774	420

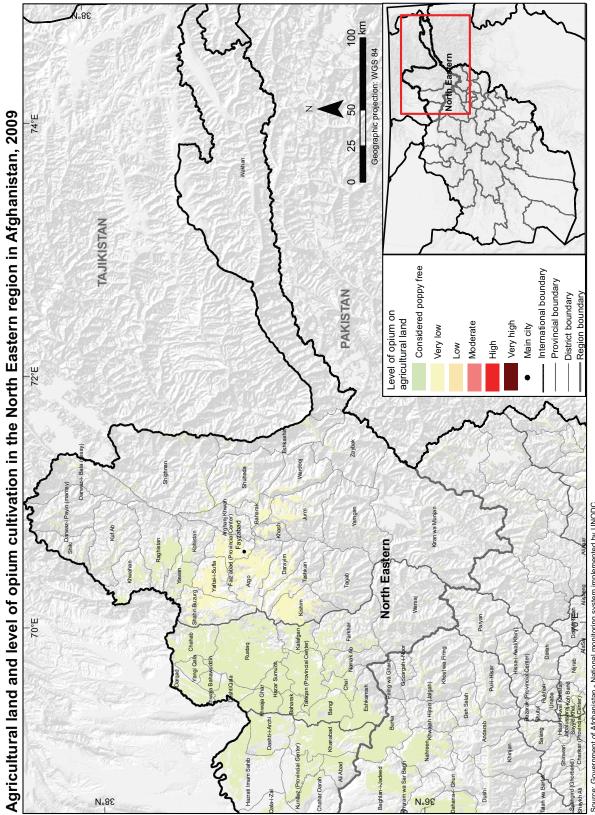
Table 10: Opium production in the North-eastern	region (mt), 2008-2009
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PROVINCE	Production 2008 (mt)	Production 2009 (mt)	Change 2008- 2009 (mt)	Change 2008- 2009 (%)
Badakhshan	6	19	13	204%
Takhar	Poppy-free	Poppy-free	NA	NA
Kunduz	Poppy-free	Poppy-free	NA	NA
North-eastern Region	6	19	13	204%

Badakhshan

In 2009, opium cultivation in Badakhshan increased by 179% to 557 ha from 200 ha in 2008 and 3,642 ha in 2007. Cultivation was confined mostly to rain-fed areas. This increase in opium cultivation was due to the non-prevention of spring cultivation. A total of 420 ha of opium cultivation were eradicated by governor-led eradication and Poppy Eradication Forces as verified by MCN/UNODC in Badakhshan province.

Opium production also increased by 204% to 19 mt in 2009 compared to 6 mt in 2008.



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.

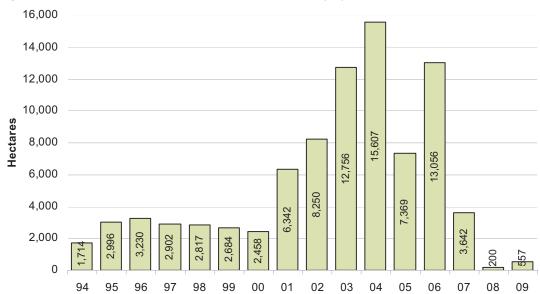
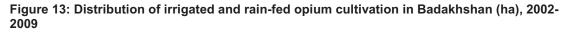
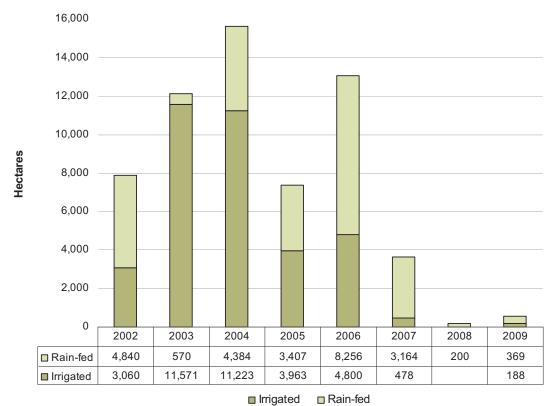


Figure 12: Opium cultivation in Badakhshan province (ha), 1994-2009





Takhar

Takhar was poppy-free in 2009 and 2008. In 2006 and 2007, opium cultivation in Takhar was 2,178 ha and 1,211 ha, respectively.

Kunduz

Kunduz was poppy-free in 2009 and 2008. An insignificant amount of cultivation was observed in this province during recent years, however, it has been poppy-free since 2007. The province is well known for growing a wide range of crops from vegetables and fruits to cotton.

Northern region

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

All provinces of the Northern region are poppy-free for the first time in almost a decade. Most of these provinces sustained moderate levels of opium cultivation in the past except Balkh. This province emerged as a major opium cultivating province in 2005 and 2006 (10,837 ha and 7,232 ha respectively), whereas the rest of the provinces contributed in the range of 2,000 to 3,000 ha each. This decline in opium cultivation in the Northern region started with strict law enforcement and counter-narcotic initiatives. In 2008, poppy cultivation in these provinces was already negligible and Balkh has remained poppy-free since 2007. In 2007, three provinces (Balkh, Bamyan and Samangan) became poppy-free. In 2008, Sari Pul province became poppy-free as well.

Table 11: Opium cultivation and eradication in the Northern reg	ion (ha), 2005-2009
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PROVINCE	Cultivation 2005 (ha)	Cultivation 2006 (ha)	Cultivation 2007 (ha)	Cultivation 2008 (ha)	Cultivation 2009 (ha)	Change 2008- 2009 (ha)	Change 2008- 2009 (%)	Eradication 2008 (ha)	Eradication 2009 (ha)
Baghlan	2,563	2,742	671	475	Poppy-free	NA	NA	85	0
Balkh	10,837	7,232	Poppy-free	Poppy-free	Poppy-free	NA	NA	0	0
Bamyan	126	17	Poppy-free	Poppy-free	Poppy-free	NA	NA	0	0
Faryab	2,665	3,040	2,866	291	Poppy-free	NA	NA	0	261
Jawzjan	1,748	2,024	1,085	Poppy-free	Poppy-free	NA	NA	0	0
Samangan	3,874	1,960	Poppy-free	Poppy-free	Poppy-free	NA	NA	0	0
Sari Pul	3,227	2,252	260	Poppy-free	Poppy-free	NA	NA	0	0
Northern Region	25,040	19,267	4,882	766	Poppy-free	NA	NA	85	261

Table 12: Opium production in the Northern region (mt), 2008-2009

PROVINCE	Production 2008 (mt)	Production 2009 (mt)	Change 2008-2009 (mt)	Change 2008-2009 (%)
Baghlan	26	Poppy-free	NA	NA
Balkh	Poppy-free	Poppy-free	NA	NA
Bamyan	Poppy-free	Poppy-free	NA	NA
Faryab	16	Poppy-free	NA	NA
Jawzjan	Poppy-free	Poppy-free	NA	NA
Samangan	Poppy-free	Poppy-free	NA	NA
Sari Pul	Poppy-free	Poppy-free	NA	NA
Northern Region	42	0	-42	Poppy-free

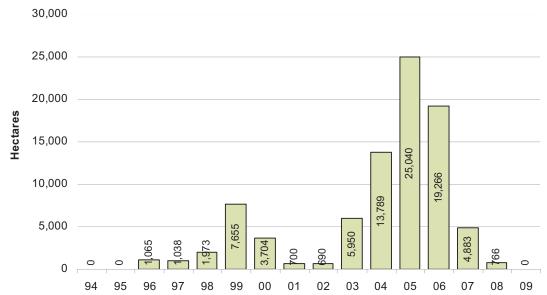


Figure 14: Opium cultivation in the Northern region (ha), 1994-2009

Balkh

Balkh province remained poppy-free for the third year. This success was attributed to a governorled pre-cultivation campaign. Opium cultivation was introduced in the province in 1996 (1,065 ha), but Balkh was not a major producer of opium until 2004. A high level of cultivation (10,837 ha) was recorded in 2005 and again in 2006 (7,232 ha).

Faryab

Faryab province has become poppy-free for the first time. There was 291 ha of opium cultivation in Faryab in 2008 and 2,866 ha in 2007.

Samangan, Bamyan and Sari Pul

Samangan and Bamyan has been poppy-free in 2007, 2008, 2009, and Sari Pul was poppy-free in 2008 and 2009. Cultivation in Bamyan was negligible in the past. Opium cultivation in Samangan province has ranged from 1,000 to 4,000 ha since 2004.

Jawzjan and Baghlan

Jawzjan province was found to be poppy-free in 2008 and 2009. Baghlan has become poppy-free in 2009 for the first time while there was 475 ha of cultivation in 2008, which was concentrated only in Andarab district. Cultivation in Baghlan province has been at lower levels since 2007. Cultivation in both provinces ranged from 1,500 to 3,000 ha between 2004 and 2006.

Central region

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

Opium cultivation decreased by 57% in 2009. The total area cultivated remained negligible (132 ha) and was limited to the Surobi district of Kabul province. All other provinces aside from Kabul were poppy-free in 2008 and 2009.

PROVINCE		(Cultivation (ha)		Change 2008-	Change 2008-	Eradication	
	Cultivation 2005 (ha)	Cultivation 2006 (ha)	Cultivation 2007 (ha)	Cultivation 2008 (ha)	Cultivation 2009 (ha)	2009 (ha)	2009 (%)	2008 (ha)	
Kabul	Poppy-free	80	500	310	132	-178	-57%	20	1.35
Khost	Poppy-free	133	Poppy-free	Poppy-free	Poppy-free	NA	NA	0	0
Logar	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	NA	NA	0	0
Paktya	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	NA	NA	0	0
Panjshir	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	NA	NA	0	0
Parwan	Poppy-free	124	Poppy-free	Poppy-free	Poppy-free	NA	NA	0	0
Wardak	106	Poppy-free	Poppy-free	Poppy-free	Poppy-free	NA	NA	0	0
Ghazni	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	NA	NA	0	0
Paktika	Poppy-free	Poppy-free	Poppy-free	Poppy-free	Poppy-free	NA	NA	0	0
Central Region	106	337	500	310	132	-178	-57%	20	1.35

Table 13: Opium cultivation and eradication in the Central region (ha), 2005-2009

PROVINCE	Production 2008 (mt)	Production 2009 (mt)	Change 2008-2009 (mt)	Change 2008-2009 (%)
Kabul*	11	n.a.	n.a.	n.a.
Khost	Poppy-free	Poppy-free	NA	NA
Logar	Poppy-free	Poppy-free	NA	NA
Paktya	Poppy-free	Poppy-free	NA	NA
Panjshir	Poppy-free	Poppy-free	NA	NA
Parwan	Poppy-free	Poppy-free	NA	NA
Wardak	Poppy-free	Poppy-free	NA	NA
Ghazni	Poppy-free	Poppy-free	NA	NA
Paktika	Poppy-free	Poppy-free	NA	NA
Central Region	11	7	-4	-34%

* For the Central region, no regional yield and production figure was calculated due to a low number of yield measurements in this region.

Western region

(Farah, Ghor, Hirat, Nimroz, Badghis)

Opium cultivation decreased by 15% (to 18,800 ha) compared to 22,066 ha in 2008. This decrease is mainly due to a reduced level of cultivation in Ghor (poppy-free), Farah and Nimroz provinces. A small area (110 ha) was eradicated in 2009 due to unfavourable security conditions in Nimroz and Farah and a lack of political will. Due to administrative boundary changes, the 2009 estimates for Farah and Nimroz were calculated considering parts of Khash Rod district, the main opium cultivating district in Nimroz, as being part of Farah province. To make a direct comparison

possible, the area figures for Farah and Nimroz were also calculated without taking into account the boundary changes. These results are presented in a separate table.

Security has been a major problem in the Western region. Because the lack of security compromises the rule of law from the legitimate Government, counter-narcotic interventions are limited and this region consistently show very high opium cultivation.

Opium production increased by 26% from 655 mt in 2008 to 825 mt in 2009. This increase in the production is due to high yield in the region (29.7 kg/ha in 2008 and 43.9 kg/ha in 2009).

PROVINCE		(Cultivation (ha)		Change 2008-	Change 2008-	Eradication	Eradication
	Cultivation 2005 (ha)	Cultivation 2006 (ha)	Cultivation 2007 (ha)	Cultivation 2008 (ha)	Cultivation 2009 (ha)	2009 (ha)	2009 (%)	in 2008 (ha)	in 2009 (ha)
Badghis	2,967	3,205	4,219	587	5,411	4,824	822%	0	0
Farah*	10,240	7,694	14,865	15,010	12,405	-2,605*	(-17%)	9	43
Ghor	2,689	4,679	1,503	Poppy-free	Poppy-free	NA	NA	38	0
Hirat	1,924	2,287	1,525	266	556	290	109%	352	67
Nimroz*	1,690	1,955	6,507	6,203	428	-5775*	(-93%)	113	0
Western Region	19,510	19,820	28,619	22,066	18,800	-3,266	-15%	511	110

 Table 15: Opium cultivation and eradication in the Western region (ha), 2005-2009

PROVINCE	Production 2008 (mt)	Production 2009 (mt)	Change 2008-2009 (mt)	Change 2008-2009 (%)
Badghis	17	238	220	1263%
Farah*	446	545	99	22%
Ghor	Poppy-free	Poppy-free	NA	NA
Hirat	8	24	16	209%
Nimroz*	184	19	-165	-90%
Western Region	655	825	170	26%

* Due to administrative boundary changes, the 2009 estimates for Farah and Nimroz were calculated considering parts of Khash Rod district, the main opium cultivating district in Nimroz, as being partof Farah province. The 2008 figures include all of Khash Rod district in Nimroz province.

Farah

Opium cultivation in Farah province decreased by 17% from 15,010 ha in 2008 to 12,405 ha in 2009 despite shifting the main opium cultivating district (Khash Rod) of Nimroz province to Farah.

Had parts of Khash Rod district not been shifted, opium cultivation in Farah in 2009 would have been 8,300 ha, a 45% decrease compared to 2008. This is a large proportional decrease and a considerable decrease in absolute terms as well (about 6,700 ha).

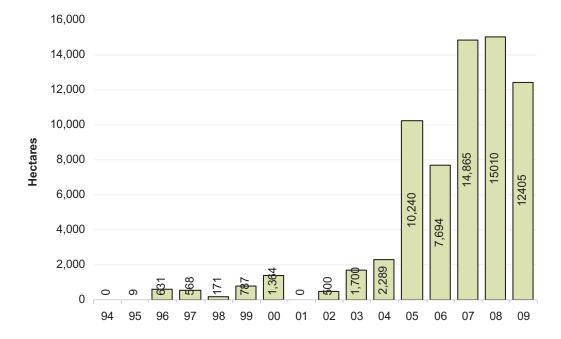


Figure 15: Opium cultivation in Farah province (ha), 1994-2009

Nimroz

In 2009, Nimroz province in the Western region ceased to be a major opium cultivating province as parts of its main opium cultivating district, Khash Rod, were shifted into the neighbouring Farah province. Khash Rod district had contributed over 95% of opium cultivation in Nimroz province in the past. There was a significant decrease (93%) in opium cultivation in Nimroz province (428 ha) in 2009 compared to 2008 (6,203 ha).

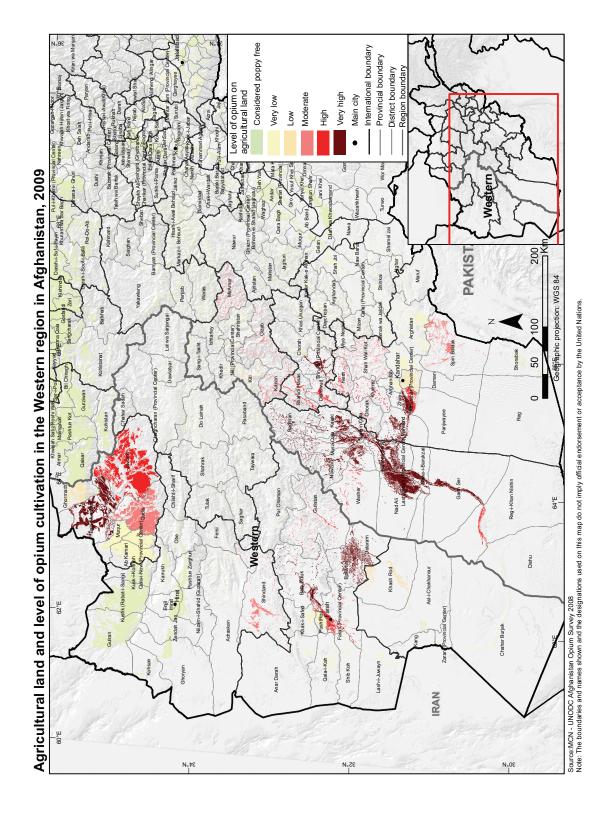
Even within the 2008 boundaries, i.e. with Khash Rod district still falling fully into the province, Nimroz would have experienced a strong decline in opium cultivation (56%).

Table 17: Comparison of opium cultivation in Farah and Nimroz provinces without
considering recent boundary changes (ha)

Province	2008	2009	Change
Farah	15,010	8,298	-45%
Nimroz	6,203	2,721	-56%

Hirat and Ghor

Opium cultivation increased by 109% in Hirat province from (266 ha in 2008) to 556 ha in 2009. The main opium cultivation district in Hirat is Shindand district. Ghor remained poppy-free again in 2009.



Badghis

Badghis emerges as the major opium cultivating province in 2009. The opium cultivation level in Badghis province has been rising steadily since 2004. In 2008, cultivation was expected to be high, but the total failure of rain-fed crops contributed to a drop in opium cultivation. In 2009, good rainfall resulted in extensive cultivation in rain-fed areas of this province, enabling farmers to grow more poppy. This contributed to a strong increase in opium cultivation from only 587 ha in 2008 to 5,411 ha in 2009, most in areas that are difficult to access. With the exception of the drought year 2008, Badghis has experienced a continuous increase in the area under opium cultivation since 2004. In 2009, it emerged as one of the major opium cultivating provinces. In 2009, no effort was made to eradicate opium poppy in this province.

Figure 16: Comparison of rain-fed area in Badghis, 2008 and 2009



Image date: 14 May 2008

Image date: 17 April 2009

The difference between the two images shows the effect of the 2008 drought in Balah Murghab district of Badghis province. The same rain-fed area shows in 2009 a large agriculture activity (red area) while in 2008 it shows only minor activities.

2.2 Eradication

In 2009, total eradication (including governor-led and PEF eradication) was 5,351 ha.

Governor led eradication (GLE)

This year, MCN/UNODC verifiers reported **2,687** ha of GLE-eradication verified by physical measurement of **6,262** poppy fields in 412 villages of 12 provinces. Quality control using high resolution satellite image was carried out to authenticate the eradication figures, particularly in Hilmand and Badakhshan provinces.

In 2008, MCN/UNODC verifiers visited 763 villages (8,676 poppy fields) in 17 provinces where eradication had been carried out by governor-led eradication teams. Total verified eradication led by Governors was 4,306 ha in 2008.

Province	Eradication (ha) verified	No. of fields with reported eradication	No. of villages where eradication was reported
Badakhshan	401	1,598	158
Day Kundi	27	113	24
Farah	43	75	8
Faryab	261	236	10
Hilmand	1,475	2,275	54
Hirat	67	247	31
Kabul	1	9	3
Kandahar	69	154	28
Kapisa	31	224	25
Kunar	11	152	12
Nangarhar	226	808	33
Uruzgan	74	371	26
Total	2,687	6,262	412

Table 18: GLE Eradication figures (by province), 2009

Note: Eradication figures by district are provided in Annex III

Poppy Eradication Force-led eradication (PEF)

PEF started eradication operations in Hilmand province on 28 January 2009 and concluded on 09 April 2009. PEF also carried out eradication for one month (25 May - 25 June) in Argo and Yaftal-i-Sufla districts of Badakhshan province. A total of 2,663 ha of eradication were verified by 25 June 2009.

Table 19:	PEF	eradication	figures	(by	province), 2009
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Province	Eradication (ha) verified	No. of fields with reported eradication	No. of villages where eradication was reported
Badakhshan	19	239	11
Hilmand	2,644	1,379	12
Total	2,663	1,618	23

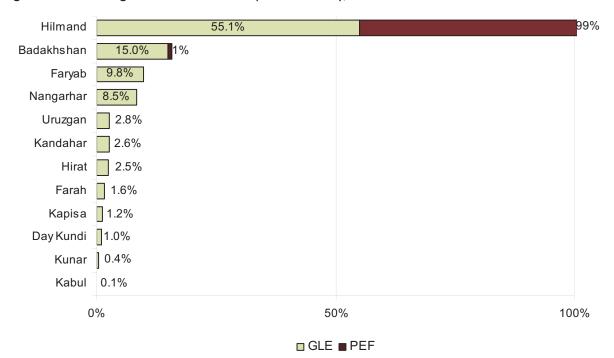
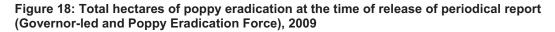
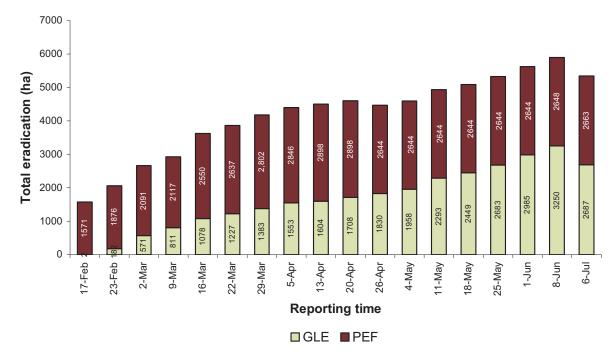


Figure 17: Percentage of total eradication (GLE and PEF), 2009





Year	2005	2006	2007	2008	2009
GLE (ha)	4,000	13,050	15,898	4,306	2,687
PEF (ha)	210	2,250	3,149	1,174	2,663
Total (ha)	4,210	15,300	19,510	5,480	5,351
Opium cultivation (ha)*	104,000	165,000	193,000	157,000	123,000
Eradication as % of opium cultivation	4%	9%	10%	3%	4%

Table 20: Eradication and cultivation in Afghanistan (ha) 2005-2009

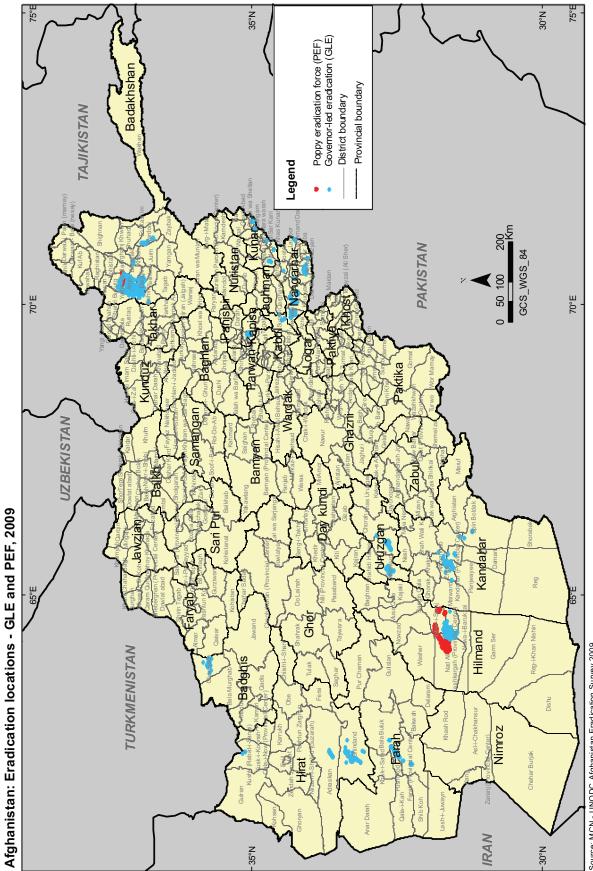
* Net opium cultivation after eradication

Points of note regarding eradication carried out in 2009 are:

- Total eradication was around 4% of the total opium cultivation.
- Eradication was insignificant in major opium growing provinces like Kandahar, Farah and Uruzgan.
- Timely eradication could have made Kunar, Laghman, Kabul, Badakhshan, Nangarhar, Hirat and Nimroz province poppy-free considering the low level of cultivation in those provinces.
- Eradication took place in 12 provinces in 2009 compared to 17 in 2008. Unlike last year, eradication did not take place in Ghor, Baghlan, Jawzjan and Nuristan because of negligible opium cultivation in these provinces. However, eradication did not take place in Laghman, Nimroz and Zabul due to lack of planning and will to eradicate.
- The security situation continued to be unfavorable for eradication campaigns in 2009, since most of the opium cultivation was confined to the Southern and Western provinces, which are affected by insurgency and organized crime groups.
- In 2009, there were 21 deaths related to eradication compared to 78 deaths in 2008. GLE and PEF teams were attacked 34 times during eradication in Badakhshan, Faryab, Hilmand, Kandahar, Kunar, Hirat, Nangarhar, Uruzgan and Zabul provinces.
- Most of the security-related incidents were reported in Hilmand province. In 2008, most incidents took place in Nangarhar and Nimroz provinces.
- In 2009, resistance by farmers to eradication was far less than in 2008.
- GLE was at the lowest level since it started in 2005

Methods used for eradication

Methods of governor-led eradication included tractor, animal plough and manual eradication (using sticks). 59% of the governor-led eradication was carried out with tractors, 38% using manual tools (sticks, uprooting) and 3% with animal plough.



Source: MCN - UNODC Afghanistan Eradication Survey 2009 Note: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

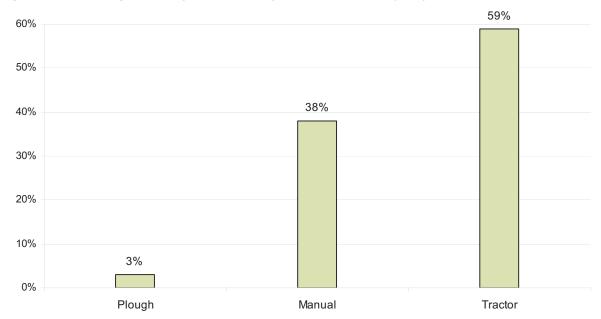


Figure 19: Percentage of poppy eradication by different methods (GLE)

Eradication by PEF was mostly carried out by ATV and tractors in Hilmand province. However in Badakhshan province the eradication was carried out manually with sticks.

Timing and percentage of eradication by month

The graph below shows the timing and percentage of governor-led eradication each month. 58% of eradication was carried out in three months from February 2009 to April 2009.

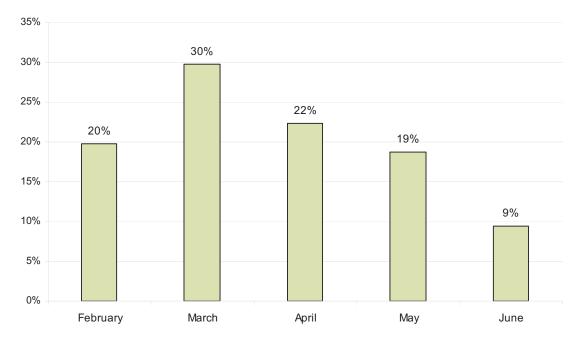


Figure 20: Total area of eradication in each month, shown as percentage (GLE)

Governor-led eradication started in February in Heart and Hilmand provinces and continued till June in Badakhshan, Day Kundi and Kapisa. The table below shows the start and end dates of eradication in each provinces.

PROVINCE	Feb_09	Mar_09	Apr_09	May_09	Jun_09	Eradication (ha)
Badakhshan		21-Mar			26-Jun	401
Day Kundi				31-May	06-Jun	27
Farah			14-Apr	18-Apr		43
Faryab				01-May	10-May	261
Hilmand	14-Feb		12-Apr			1475
Hirat	09-Feb			10-May		67
Kabul				06-May		1
Kandahar			13-Apr	10-May		69
Kapisa			03-May		14-Jun	31
Kunar			14-Apr	11-May		11
Nangarhar			12-Apr	21-May		226
Uruzgan			02-Apr	07-May		74

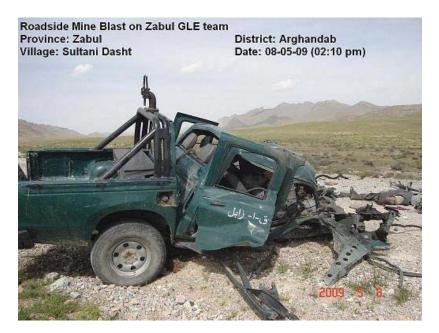
Table 21: Start and end dates of governor-led eradication

Eradication and security

Eradication activities in 2009 were affected by resistance from insurgents. The majority of incidents happened in Hilmand and Kandahar provinces in the Southern region which are mostly under the control of anti-government elements. Security incidents associated with eradication activities in Badakhshan, Faryab, Hilmand, Hirat, Kandahar, Kunar, Nangarhar, Uruzgan and Zabul provinces included attack, mine explosions and demonstration which resulted in the deaths of at least 21 persons, most of whom were policemen. The number of casualties was less than 2008 when 78 people, mostly policemen, were killed.

Province	No of incidents	Injured	Dead	Eradication (ha)
Badakhshan	3	5		420
Day Kundi	0			27
Farah	0			43
Faryab	2	1	1	261
Hilmand	16	25	9	4,119
Hirat	1	1	1	67
Kabul	0			1
Kandahar	6	8	7	69
Kapisa	0			31
Kunar	1			11
Nangarhar	3	5	1	226
Uruzgan	1	3		74
Zabul	1	4	2	0

Table 22: Summary of security incidents during GLE and PEF



Road-side mine explosion on Zabul governor-led eradication team

Quality control of eradicated fields by using satellite images

Cross checking of eradication verification reported by verifiers was done by using high resolution satellite image. UNODC procured satellite images based on the GPS readings recorded by verifiers in the eradicated poppy fields to validate authenticity of the reported eradication area by GLE and PEF.

Correction of GLE reports in Hilmand province based on satellite image analysis

Over-reporting was noticed when GLE verification reports coming from the field in Hilmand were compared with satellite image interpretation. GPS points of eradicated poppy fields were overlaid on the IKONOS images and actual areas of eradicated fields were interpreted. The area reported from field and area measured on satellite images was compared for each field.

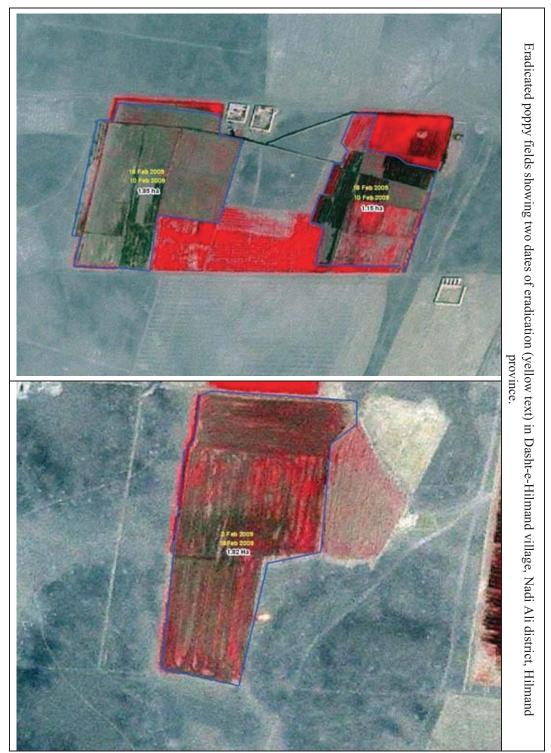
Total area of eradication reported by our verifiers from field in Hilmand province was 1,589 ha. After quality checks with satellite images, total eradication was reduced to 1,475 ha.



name: Lov Bagh, Nad Ali district, Hilmand province Date of eradication: 02 March 2009 The area (in ha) of eradicated fields. measured by verifiers on ground (white text) The area (in ha) of eradicated fields, from satellite image interpretation (yellow The difference in area is highlighted in circle.

Correction of PEF reports in Hilmand province based on satellite image analysis

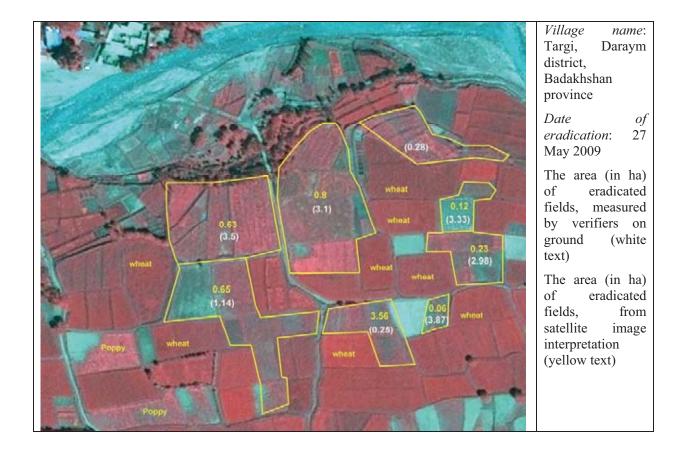
The total area of eradication carried out by PEF in Hilmand province has been checked using satellite images. The GPS track data of the eradicated fields recorded by PEF was processed and overlaid over the satellite image for verification. Total area of eradication reported by verifiers for Hilmand province was 2,898 ha. After quality checks with satellite images, total eradication was reduced to 2,644 ha. Snapshots of satellite data showing reporting of eradication twice for the same field in Hilmand is provided below.



Correction of GLE reports in Badakhshan province based on satellite image analysis

An area of 1,389 ha of eradication was reported by verifiers in Badakhshan province. Satellite images covering approximately 1,100 ha (79%) of the total eradicated area were checked for authenticating the reported eradication. The eradication area reported from fields and areas measured on satellite images was compared for each field.

Over-reporting of the eradicated area was observed to the extent of 3.46 times the reported area. The final eradication figure for Badakhshan province is derived using 3.46 as a correction factor. Total area of eradication reported from the field in Badakhshan province was 1,389 ha. After quality checks with satellite images, total area of eradication was reduced to 401 ha.



Comparison of Governor-led poppy eradication in 2008 and 2009

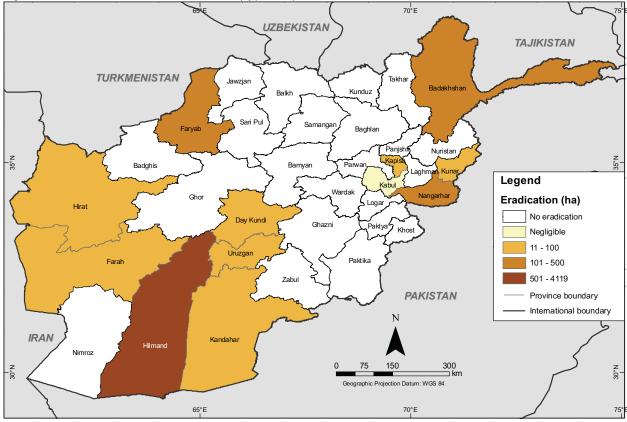
Total eradication in 2009 was 2,687 ha from 12 provinces compared to 4,306 ha from 17 provinces in 2008. Major observations on eradication campaign in 2008 and 2009 are given below:

- Eradication campaign started in February 2009 in Hilmand and Hirat provinces. In 2008, eradication was reported from Hilmand province in January.
- Eradication progressed at slower pace in 2009 compared to 2008 throughout the country.
- Since poppy cultivation level were insignificant in Northern and Eastern regions of Afghanistan, eradication campaigns were active mostly in the South and South-West.
- The number of security incidents and fatalities in 2009 were less than in 2008. About 21 eradication campaign-related fatalities were recorded this year against 78 deaths in 2008.

Table 23: Area of Governor-led eradication, 2005-2009

Year	Eradication (ha)	No. of provinces	Cultivation (ha)
2005	4,007	11	104,000
2006	13,051	19	165,000
2007	17,035	26	193,000
2008	4,306	17	157,000
2009	2,687	12	123,000

Afghanistan: Verified GLE and PEF eradication in 2009 (by province)



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.

Regional findings

Eastern region (Kunar, Nangarhar, Kapisa):

Governor-led eradication verification

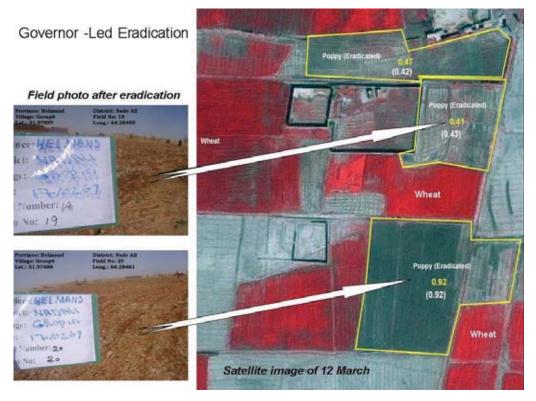
- Kunar: A total of 11 hectares of poppy eradication was verified in 12 villages
- Nangarhar: A total of 226 hectares of poppy eradication was verified in 33 villages..
- Kapisa: A total of 31 hectares of poppy eradication was verified in 25 villages.

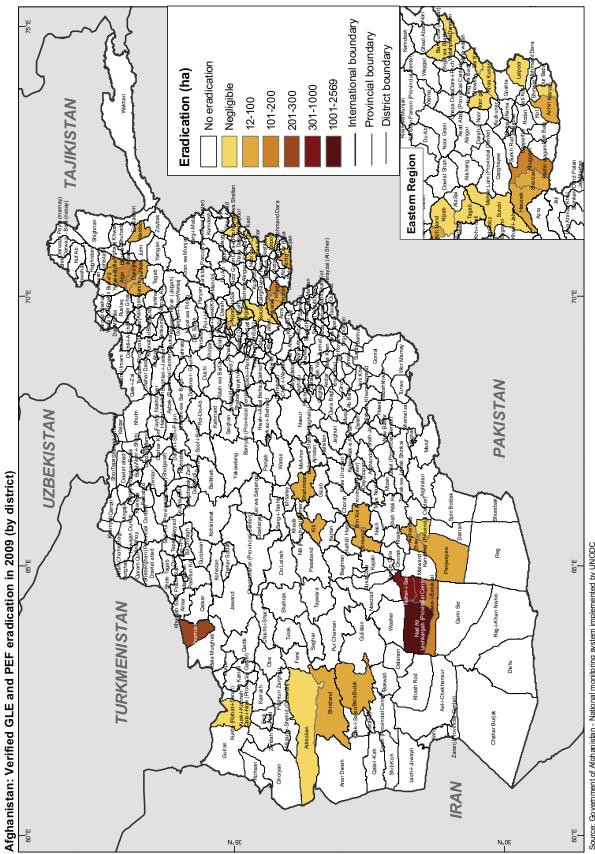


Southern region (Day Kundi, Hilmand, Kandahar, Uruzgan, Zabul):

Governor-led eradication verification

- Hilmand: A total of 1,475 hectares of poppy eradication were verified by MCN/UNODC verifiers in 54 villages based on satellite data analysis and field reports.
- Kandahar: A total 69 hectares of poppy eradication were verified by MCN/UNODC verifies in 28 villages based on satellite data and field reports.
- Uruzgan: A total of 74 hectares of poppy eradication were verified by MCN/UNODC verifies in 25 villages.
- Day Kundi: A total of 27 hectares of poppy eradication were verified by MCN/UNODC verifiers in 25 villages.
- Zabul: No eradication was carried out.

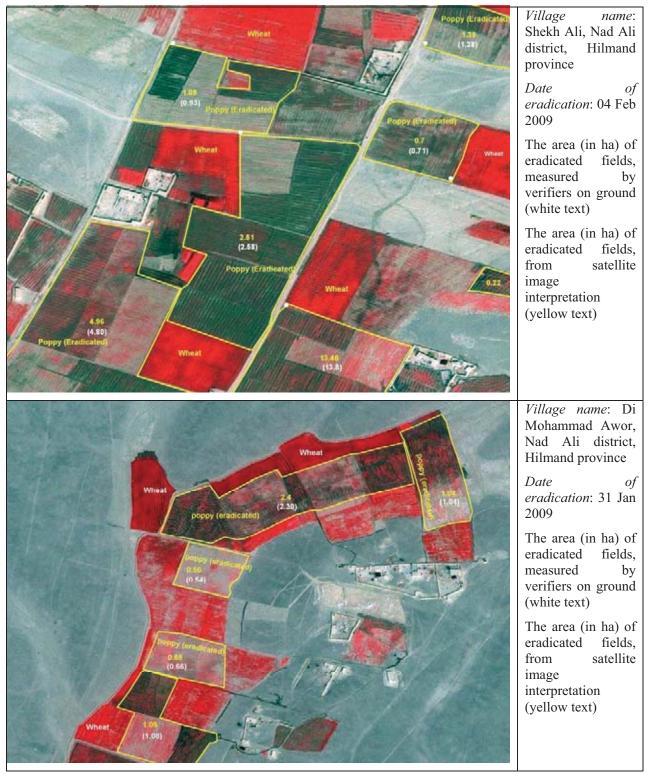


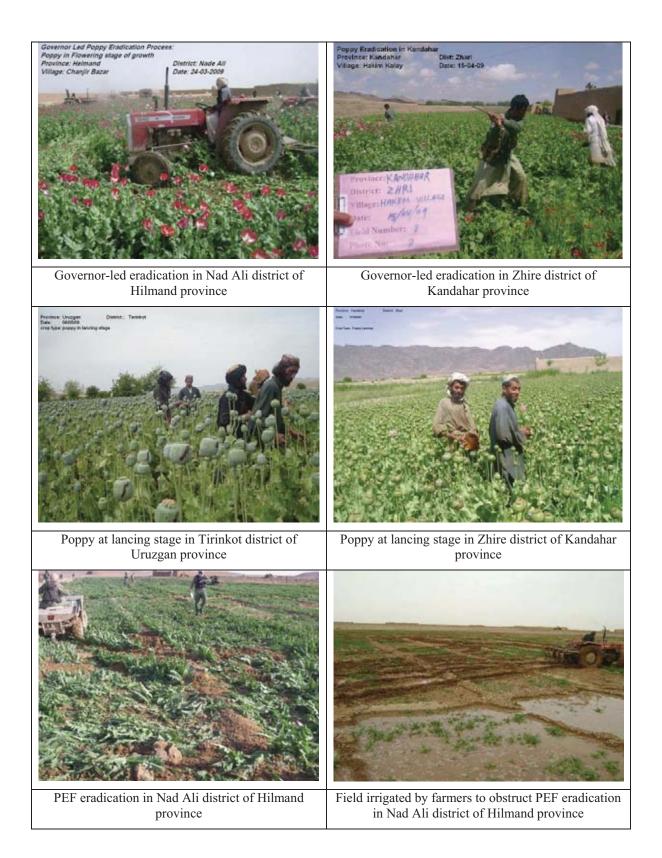


Source: Government of Afghanistan - National monitoring system implemented by UNODC Note: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Eradication activities led by Poppy Eradication Force (PEF)

- PEF-led eradication started in Hilmand on 28 January 2009 and concluded on 9 April. A total of 2,644 hectares of PEF eradication was verified by MCN/UNODC verifiers. PEF eradicated 135% more than last year in Hilmand province (1,121 hectares in 2008).
- Cross-checking of eradication using satellite data confirms that eradication was delivered with the best possible quality and eradicated fields were accurately measured.





Western region (Badghis, Ghor, Farah, Hirat, Nimroz):

Governor-led eradication verification

- Farah: A total of 43 hectares of poppy eradication were verified by MCN/UNODC verifiers in 8 villages.
- Hirat: A total of 67 hectares of poppy eradication were verified by MCN/UNODC verifiers in 31 villages.
- No eradication was carried out in Badghis, Ghor and Nimroz provinces.



Northern region (Baghlan, Balkh, Faryab, Jawzjan, Samangan, Sari Pul):

Governor-led eradication verification

- Faryab: A total of 261 hectares of poppy eradication were verified by MCN/UNODC verifiers in 10 villages.
- No eradication was carried out in Baghlan, Balkh, Jawzjan, Samangan and Sari Pul provinces. .



North-eastern region (Badakhshan, Takhar):

Governor-led eradication verification

- Badakhshan: A total of 401 hectares of poppy eradication were verified by MCN/UNODC verifiers in 158 villages based on satellite data analysis and field reports.
- No eradication was carried out in Takhar province.

Eradication activities led by Poppy Eradication Force (PEF)

• Badakhshan: A total of 19 hectares of poppy eradication were verified by MCN/UNODC verifiers in 11 villages.



Central region (Kabul):

• Kabul: A total area of 1 ha of poppy eradication was verified by MCN/UNDOC verifiers in 3 villages.

2.3 Opium yield

The national average opium yield for Afghanistan in 2009 was 56 kg/ha compared to 48.8 kg/ha in 2008. This is the highest average yield estimated for Afghanistan since 2000. The yield per hectare in the Southern region is normally considerably higher than in the rest of the country. Prior to 2008, there was also significant opium cultivation outside the Southern region, which lowered the average national yield. In 2009, the regions that accounted for 99% of the total national cultivation were those with the highest yield.

The average yield was higher in the Southern region (58.5 kg/ha) due to good weather conditions at the time of capsule formation and the fact that opium poppy crops were not affected by diseases. The lowest yield per hectare was found in the North-eastern region (34.3 kg/ha), where farmers reported losses due to rain during the harvest.

Region	2008 Average yield (kg/ha)	2009 Average yield (kg/ha)	Change
Central (Parwan, Paktya, Wardak, Khost, Kabul, Logar, Ghazni, Paktika, Panjshir)	36.2	n.a.*	55%
East (Nangarhar, Kunar, Laghman, Nuristan, Kapisa)	39.3	36.2	-8%
North-east (Badakhshan, Takhar, Kunduz)	31.4	34.3	9%
North (Bamyan, Jawzjan, Sari Pul, Baghlan, Faryab, Balkh, Samangan)	54.6	n.a.	n.a.
South (Hilmand, Uruzgan, Kandahar, Zabul, Day Kundi)	52.1	58.5	12%
West (Ghor, Hirat, Farah, Nimroz, Badghis)	29.7	43.9	48%
Weighted national average	48.8	56.1	15%

Table 24: Opium yield by region in 2008 and 2009 (kg/ha)

* For the Central region, no regional production figure was calculated due to a low number of yield measurements in this region. The Northern region was poppy-free.

The yield data reported above were obtained through a yield survey carried out by MCN/UNODC. A total of 27,246 opium poppy capsules were measured in 286 villages. Surveyors selected three opium poppy fields in each sampled village: one field of poor quality, one of medium quality and one of good quality. This practice is a change from 2007 when only one field per village was considered. The new method of measurement helped avoid any possible bias on the part of the surveyors to select fields of a certain quality. It also improved the sample distribution. It should be noted that 'field quality' here refers to the relative quality of a field compared to other fields in a village, not to any absolute, quantifiable quality.

Region	Mid- estimate	Upper limit	Lower limit
Central*	n.a.	n.a.	n.a.
Eastern	21	35	11
North Eastern	19	21	17
Northern*	n.a.	n.a.	n.a.
Southern	6,026	7,511	4,653
Western	825	1,259	455

Table 25: Opium production by region with 95% confidence intervals (mt), 2009

* For the Central region, no regional production figure was calculated due to a low number of yield measurements in this region. The Northern region was poppy-free.

Lancing

Lancing is the act of incising opium capsules during harvest using a sharp instrument, causing the opium latex to ooze out of the capsule. Depending on the type of capsules and the practices used by farmers to extract opium, there could be one or more lances per capsule. In Hilmand, capsules were lanced an average of three times. In general, the average number of lances are between two and six per capsule. At the country level, lancing was carried out four times per capsule on average. The highest number of lances (6) were observed in Kunar province.

Harvest conditions

In 2009, all regions rushed to harvest their opium crop because of fear of eradication. In the Southern and Western regions, shortage of labourers and heat wave/high temperature conditions were also reported. The opium crop was healthy and no diseases were reported during the entire cultivation cycle.

Opium poppy varieties

During the yield survey, information was collected in 286 villages on the opium poppy varieties planted by farmers. Farmers make a selection of varieties depending on soil conditions, weather conditions that govern the maturation date, resistance to disease and the need for inputs such as water, fertilizer and labour requirements. During the yield survey in 2009, *Watani Soorgulai* remained the variety planted by most farmers (39.5%); however, the proportion of this variety was much lower than in 2008 (20%) while in 2008, *Sebi* variety was the first variety planted by farmers (31.3%). The second most common variety planted in 2009 was *Ghwar Sebi* (17.4%), which was not used in 2008. This was closely followed by *Watani Spingulai* in 2009 (14.8%).

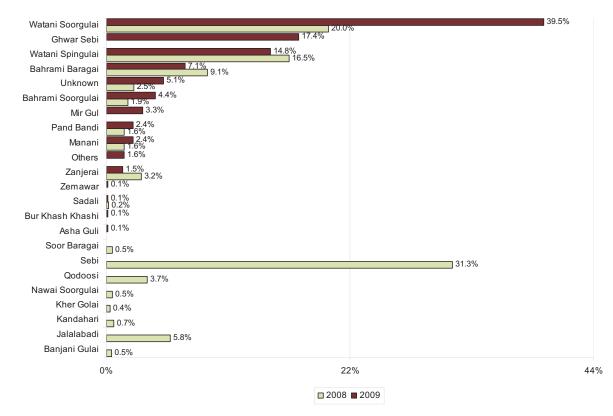


Figure 21: Reported opium poppy varieties by farmers in 2008 and 2009 (as % of farmers' responses)

A separate study to develop an inventory of opium poppy varieties in Afghanistan was carried out in 2007 with the assistance of botanists. The results are summarized in the *Afghanistan Opium Survey 2007* published by UNODC.

2.4 Potential opium production

As a result of 123,000 ha of cultivation and a high yield (56 kg/ha is the national average), potential opium production in Afghanistan for 2009 was 6,900 metric tons (mt), representing a decrease of around 10% compared to 2008. The decrease in production was less pronounced than the decrease in cultivation due to higher opium yields. In 2009, opium production in Afghanistan represented 95% of total opium production in major opium producing countries.

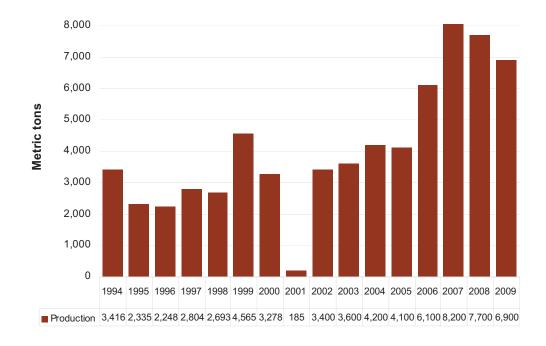


Figure 22: Potential opium production in Afghanistan (mt), 1994-2008

Sources: UNODC and UNODC/MCN opium surveys, 1994-2009

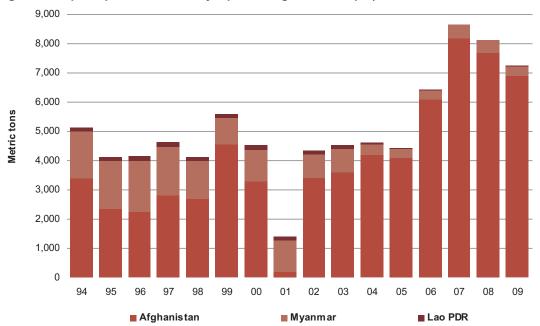


Figure 23: Opium production in major producing countries (mt), 1994-2009

Source: UNODC, World Drug Report 2009

Within Afghanistan, the Southern region accounts for 87% of 2009 national opium production. In 2009, the province of Hilmand alone produced 59% of Afghan opium. Four provinces in the south and west of Afghanistan, Hilmand, Kandahar, Uruzgan and Farah, account for 92% of national opium production, reflecting the heavy concentration of opium production in this part of the country.

Province	2008	2009
Hilmand	70%	59%
Kandahar	10%	17%
Uruzgan	7%	8%
Farah	6%	8%

Table 26: Main o	opium producing pr	ovinces (% of total	production), 2	2008-2009
	· · · · · · · · · · · · · · · · · · ·		p	

Table 27: Potential opium production by province and region, 2008-2009

PROVINCE	Production 2008 (mt)	Production 2009 (mt)	Change 2008- 2009 (mt)	Change 2008- 2009 (%)	
Kabul*	11	n.a.	n.a.	n.a.	
Khost	Poppy-free	Poppy-free	n.a.	n.a.	
Logar	Poppy-free	Poppy-free	n.a.	n.a.	
Paktya	Poppy-free	Poppy-free	n.a.	n.a.	
Panjshir	Poppy-free	Poppy-free	n.a.	n.a.	
Parwan	Poppy-free	Poppy-free	n.a.	n.a.	
Wardak	Poppy-free	Poppy-free	n.a.	n.a.	
Ghazni	Poppy-free	Poppy-free	n.a.	n.a.	
Paktika	Poppy-free	Poppy-free	n.a.	n.a.	
Central Region	11	n.a.	n.a.	n.a.	
Kapisa	17	Poppy-free	-17	-100%	
Kunar	11	6	-5	-48%	
Laghman	17	5	-12	-71%	
Nangarhar	Poppy-free	11	11	n.a.	
Nuristan	Poppy-free	Poppy-free	n.a.	n.a.	
Eastern Region	45	21	-24	-53%	
Badakhshan	6	19	13	204%	
Takhar	Poppy-free	Poppy-free	Poppy-free	-	
Kunduz	Poppy-free	Poppy-free	Poppy-free	0%	
North-eastern Region	6	19	13	204%	
Baghlan	26	Poppy-free	-26	-100%	
Balkh	Poppy-free	Poppy-free	n.a.	n.a.	
Bamyan	Poppy-free	Poppy-free	n.a.	n.a.	
Faryab	16	Poppy-free	-16	-100%	
Jawzjan	Poppy-free	Poppy-free	n.a.	n.a.	
Samangan	Poppy-free	Poppy-free	n.a.	n.a.	
Sari Pul	Poppy-free	Poppy-free	n.a.	n.a.	
Northern Region	42	Poppy-free	-42	-100%	
Hilmand	5,397	4,085	-1312	-24%	
Kandahar	762	1,159	397	52%	
Uruzgan	518	540	22	4%	
Zabul	122	67	-55	-45%	
Day Kundi	118	176	57	48%	
Southern Region	6,917	6,026	-890	-13%	
Badghis	17	238	220	1263%	
Farah	446	545	99	22%	
Ghor	Poppy-free	Poppy-free	n.a.	n.a.	
Hirat	8	24	16	209%	
Nimroz	184	19	-165	-90%	
Western Region	655	825	170	26%	
Total (rounded)	7,700	6,900	-800	-10%	

* In the Central region, no regional production figure was calculated due to a low number of measurements in the region.

2.5 Security

Eighty four per cent of the opium cultivated in 2009 was concentrated in Hilmand, Kandahar, Uruzgan, Day Kundi, and Zabul provinces of the Southern region. These are the most insecure provinces where security conditions are classified as high or extreme risk by the United Nations Department of Safety and Security (UNDSS). Most of the districts in this region were not accessible to the UN and NGOs.

Farah, Nimroz and Badghis, which are insecure provinces in the Western region, contributed to 15% of cultivation. 99% of the total opium cultivation came from the Southern and Western regions. Anti-government elements (AGE) as well as drug traders are very active in the Western region. Provinces in the south are the strongholds of AGEs, while provinces in the West (Farah, Badghis and Nimroz) are known to have organized criminal networks. The link between lack of security and opium cultivation was also evident in Nangarhar province (Eastern region), where cultivation was concentrated in districts classified as having high or extreme security risk.

Security incidents in Afghanistan have rises every year since 2003, especially in the South and South-western provinces. The number of security incidents increased sharply in 2006, in parallel with the increase in opium cultivation. 2009 shows a further sharp increase in security incidents. Most security incidents that arose during the eradication verification survey in 2009 were due to insurgency. In 2009, resistance to eradication forces resulted in the deaths of 21 people, mostly policemen.

The chart below shows security incidents from January 2003 to June 2009, as recorded by the UNDSS. Security incidents increased sharply after 2005, particularly in the South and South-western provinces, and additional dramatic increases were recorded in 2009. The levels of opium cultivation were the highest (over 80%) since 2007 in Hilmand, Kandahar, Uruzgan, Day Kundi, Farah and Nimroz provinces, where security is very poor. Most of the districts in this region cannot be reached by UN agencies or NGOs because anti-government elements and drug traders are very active. The security map (page 37) shows the higher risk areas in the Northern and Southern provinces in terms of security.

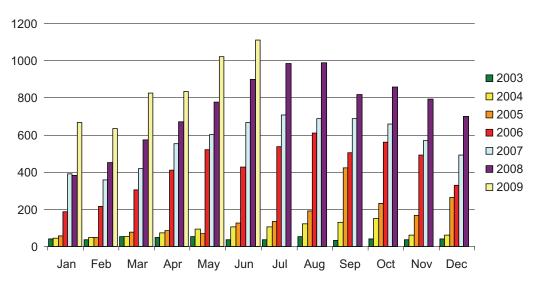
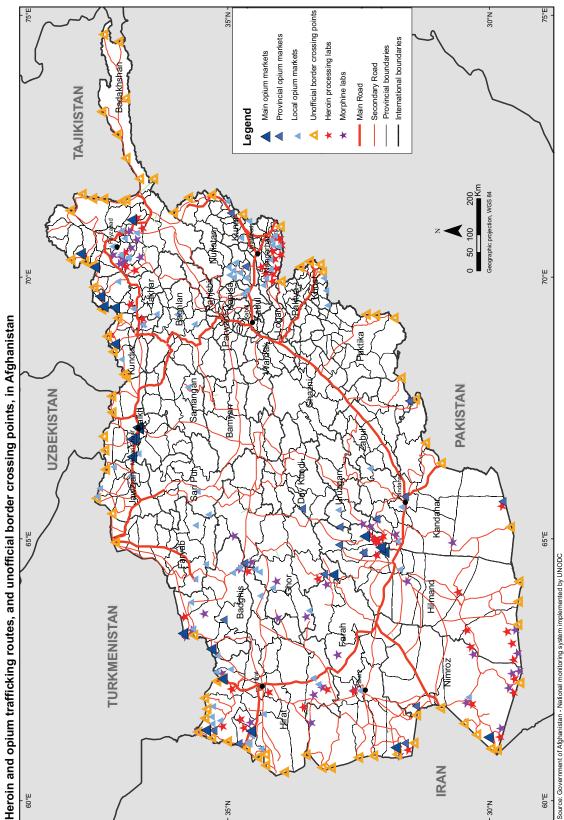


Figure 24: Number of security incidents between January 2003 and June 2009

Source: UNDSS, Afghanistan





2.6 Counter narcotics activities and drug trafficking

In the course of 2009, ISAF and Afghan Forces intensified counter-narcotics activities in Afghanistan. The measures taken ranged from drug seizures, to destruction of clandestine laboratories to increased control of precursors. UNODC tried to capture the possible impact of these and other activities, such as the Operation Tarcet, with a range of qualitative questions in the drug flow survey, mainly aiming at comparing the situation at the time of the survey in May 2009 with the previous year. It should be noted that the two sets of information presented are of a very different nature which does not allow a direct assessment of the impact of individual counter narcotic operations. Neither do they cover exactly the same reporting time. Rather, the drug flow survey provides a source of information how these operations are perceived.

The drug flow survey relies on information from key informants who are knowledgeable about drug production and trafficking. In 2009, 47 key informants were interviewed in all regions with the exception of the Central region. 33 of 47 respondents classified themselves as being involved in either opium, morphine, heroin or precursor trade. The survey reflects the informants' personal views and experiences, and what they chose to reveal during the interview. Additional insights were gained during an intensive debriefing session of the drug flow surveyors.

According to the information provided by the key informants, several observations can be made:

- The Eastern region seemed to experience counter narcotics pressure, which was felt by traffickers.
- The Southern region experienced also heavy counter narcotics activities, which, however, seemed to have had less impact on traffickers. Onward trafficking to neighbouring Pakistan seemed to be an attractive option.
- The Western region seemed to have experienced a lower level of counter narcotic activities and represents a comparatively low risk level, despite its location at one of the main thoroughfares of drug trafficking. Onward trafficking to neighbouring Iran, however was reported to be risky.
- The Northern and North-eastern regions showed a mixed picture.
- Overall, traffickers seem to consider trafficking within Afghanistan less risky compared to cross-border trafficking (comparatively high amounts of seizures in neighbouring countries confirm this assumption)

The 2009 drug flow survey results are not representative in any way and should be treated with caution. Still, the information obtained is unique in character and may help to understand trends and aspects of drug production and trafficking in Afghanistan, which would otherwise go undetected.

Seizures by ISAF and Afghan forces

In October 2008, based on the request of the Afghan Government, consistent with UN Security Council Resolutions and under ISAF's existing operational plan, NATO Defence Ministers agreed that ISAF could act in concert with Afghan police and army against narcotics facilities and facilitators who support the insurgency. Narcotics facilities/facilitators were defined as all facilities associated with the narcotics industry and those individuals involved in the processing, storing and transporting of illegal narcotics or precursor chemicals that directly support the insurgency.

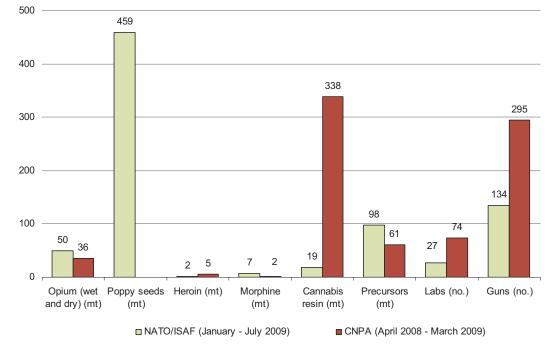


Figure 25: Results of counter-narcotics operations as reported by NATO/ISAF and CNPA



Against this background, over the period from April 2008 to July 2009, ISAF/NATO, the Counter Narcotics Police of Afghanistan (CNPA) and other Afghan forces together seized considerable volumes of opiates, poppy seeds, cannabis, precursors and labs.

Province	Poppy Seed (mt)	Opium (mt)*	Mor- phine (mt)	Heroin (mt)	Canna- bis seed (mt)	Canna- bis resin (mt)	Acetic Anhyd- ride (lt)	Other precur- sors/ chemi- cals (mt)	Labs
Badakhshan		0.03							
Farah	0.60	2.27						0.02	1
Hilmand	456.28	42.81	0.46	0.59		10.95	4,180	91.10	17
Hirat		0.14							
Kandahar	2.03	1.28		0.85	3.99	8.23	900	1.40	1
Nangarhar	0.13	2.67	6.81	0.12		0.18	400	1.41	8
Uruzgan		0.76							
Total	459	50	7	2	4	19	5,480	94	27

Table 28: Results of counter-narcotics operations reported by ISAF/NATO, Jan. to Jul. 2009

* 80% of the total weight of the seized amount was wet and 20% dry opium.

Source: Statistics compiled by ISAF Headquarters.

Combined ISAF/NATO and Afghan forces conducted counter narcotics operations in 7 provinces (namely Badakhshan, Farah, Hilmand, Hirat, Kandahar, Nangarhar, and Uruzgan), mainly focusing on Hilmand and Nangarhar (especially the district of Achin). They destroyed a total of 27 labs, 17 of them in Hilmand and 8 in Nangarhar, corroborating the assumption that a large proportion of the morphine/heroin manufacturing takes place within Afghanistan.

Twelve laboratories were seized in Sangin district of Hilmand alone, suggesting that this district is crucial for drug traffickers. In addition, large opium seizures at the border of Hilmand with Pakistan indicate high volumes of opium trafficking in this area. The location of laboratories in the most insecure areas of Afghanistan further substantiates the link between insurgency and opiates trade.

ISAF reported that between January and July 2009 most of the joint ISAF/ANP opium seizures took place in the Southern region (58 mt) whereas most of the combined morphine and heroin seizures took place in Nangarhar in the Eastern region (7 mt). Given the very low level of opium production in the East, the higher opium prices compared to the South, and taking into account that the seizures in the Eastern region (Nangarhar) represent a much higher market value as they were mainly in the form of morphine, the pattern of ISAF seizure figures supports the assumption that the Eastern region provides a more risky environment for opiates trafficking.

Loss of drug or precursor shipments

According to key informants it was rather common in 2009 for drug traders to lose a shipment due to counter-narcotics activities. More than half of the respondents had lost a shipment in the last 12 months, and an even higher proportion knew of others who had.

The two informants who reported the highest number of loss events (4 each) were both from the Southern region. About half of the loss occurred at road blocks (11) and during raids (12). Heroin was more often seized at road blocks, precursors more often during raids, and opium about equally at road blocks and during raids.

	Heroin	Morphine	Opium	Precursor	Total
Seizure at road block	6		3	2	11
Seizure during raid	2	1	4	5	12
Not specified			1		1
Total	8	1	8	7	24

Table 29: No. of respondents reporting loss of a shipment due to law enforcement activities (n=15)

Note: Multiple answers possible.

A similar picture emerged from the question of whether the respondents knew someone else who had lost a shipment in the past 12 months. Twenty-nine out of 47 respondents reported to have knowledge about one or more loss events (total 48 loss events reported) of other traders. Informants from the Southern region mentioned most of the loss events.

Table 30: No. of respondents who had knowledge of other traders loosing a shipment by type of shipment (n=29)

	Crystal	Heroin	Morphine	Opium	Precursor	Total
No. of respondents	1	16	6	17	8	48

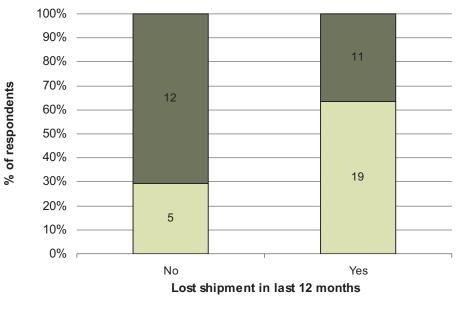
Note: Multiple answers possible.

The risk of loosing shipments during counter narcotic activities seems to have been increased in 2009 in the Eastern and Northern region. About half of all respondents thought the risk of losing a shipment had increased in the past 12 months, while the other half thought it remained stable. None thought that the risk had decreased. Most informants from the Eastern and Northern regions thought it had increased. Most informants from the Southern and Western regions, where most opium production occurs, thought the risk had remained the same.

Region	Increased	Remained the same	Decreased	Total
Eastern	7	1	0	8
North-eastern	5	4	0	9
Northern	10		0	10
Southern	2	8	0	10
Western		10	0	10
Total	24	23	0	47

Table 31: Reported risk to loose a shipment in the last 12 months (no. of respondents, n=47)

Figure 26: Reported risk to loose a shipment and experience of seizure (% of respondents, n=47)



■ Risk increased ■ Risk remained the same

Knowledge of destroyed drug laboratories

Just under half of the informants (21) reported that they knew about the destruction of clandestine drug laboratories in the last 12 months, and often they could recall several instances when laboratories were destroyed by NATO/ISAF and/or ANP.

The highest number of respondents who knew about destroyed laboratories came from the Southern and Eastern region. Fewer respondents had heard about destroyed laboratories from the North-eastern and Western regions, and none from the Northern region. Informants from Hilmand and Kandahar reported a rather similar number of laboratories destroyed, ranging from 12 to 17 (average of 13). It is possible they were referring, at least partly, to the same events. In the Eastern region, the number of laboratories destroyed known to the informants differed much more than in the Southern region. Two informants reported 5 labs destroyed, two other respondents 15 labs, and two more 40 and 50 labs destroyed, respectively. Again, it is not possible to say to what extend the respondents were referring to the same events.

Purchases of precursor chemicals

The informants were asked several questions on precursor chemicals, which are necessary for the extraction of morphine from opium and its conversion to heroin.

A majority of respondents (26 out of 47) reportedly had experience with buying precursor substances in the last 12 months. Many respondents in the Southern and Western region found it was "easier" or "about the same" to buy precursor chemicals compared to one year ago. This is consistent with information from the debriefing of drug flow surveyors who reported that better quality and more variety of precursors were available in the Southern region. In contrast, in the North-eastern and Eastern regions, some, but not all, informants found it more difficult to obtain precursors.

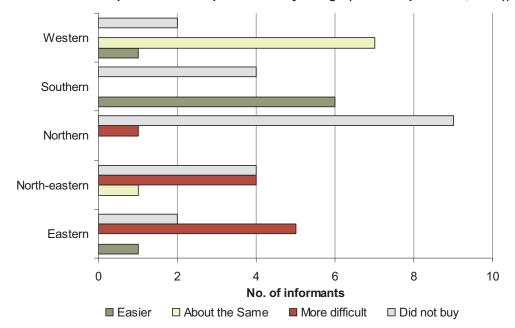


Figure 27: Purchase of precursors compared to one year ago (no. of respondents, n=47))

The regional differences on the perceived supply of precursors reflect the regional price differences of two of the main precursor substances, acetic anhydride and ammonium chloride. Prices of these two precursors seemed to be considerably lower in the Southern and Western regions than elsewhere, and particularly high in the North and North-eastern regions¹³. According to anecdotal information, the lower price level does not reflect a lower quality of precursors products.

¹³ Information received from UNODC Country Office Afghanistan in April 2009 also indicated higher than average prices of acetic anhydride in the north of the country, namely in Badakhshan (cf. "A note on precursor trends in Afghanistan", 08/04/2009).

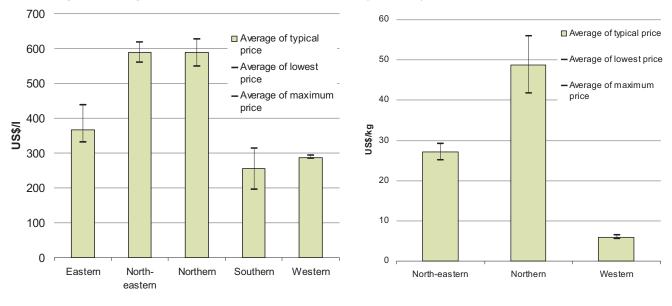


Figure 28: Regional price differences of precursors (US\$/unit), 2009

Acetic anhydride

Ammonium chloride

Note: Respondents were asked for the typical, minimum and maximum prices.

Lucrative destinations

Respondents were asked which of morphine or heroin trafficking route they used was, in their opinion, the most risky, and which the most lucrative one.¹⁴ Within Afghanistan, routes to several regions were reported as being lucrative. Routes with destination Western region seem to be more lucrative than routes with destination North-eastern region. Among the routes leading out of the country, routes to Pakistan were reported as lucrative more frequently than other routes.

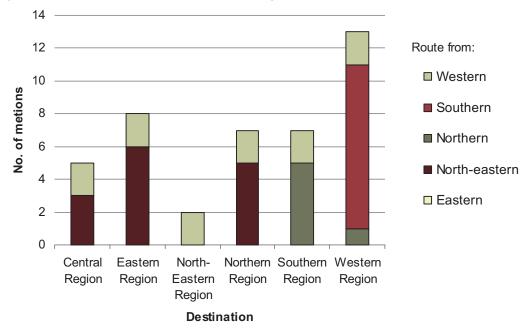


Figure 29: Reported lucrative routes within Afghanistan

¹⁴ Caution is necessary when analysing the results, as, in addition to the usual problems with a key informant survey on a sensitive topic, the notions of risky route and lucrative route may not be seen as completely independent concepts by respondents.

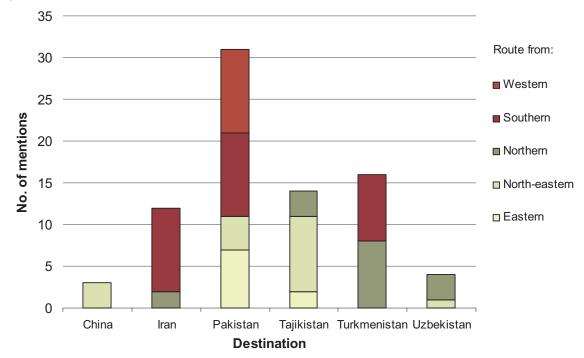


Figure 30: Reported lucrative export routes

Risky destinations

Overall, few respondents reported trafficking to other regions within Afghanistan as a "most risky route". Those who did often mentioned routes from the North-eastern region to the Western and Central regions as risky.

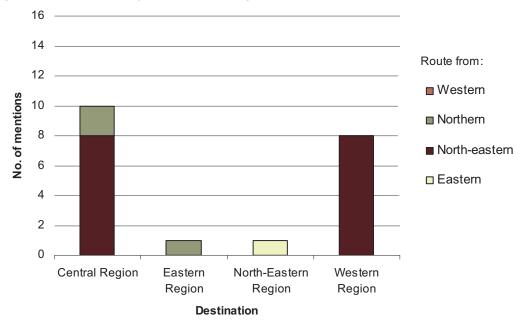


Figure 31: Reported risky routes within Afghanistan

The route with destination Iran was reported most often as a risky route. This confirms the impression that the Western route leading through Afghanistan's Western region to Iran is regarded as carrying a higher risk that other routes, notably the route to Pakistan. Pakistan is hardly mentioned as a risky destination.

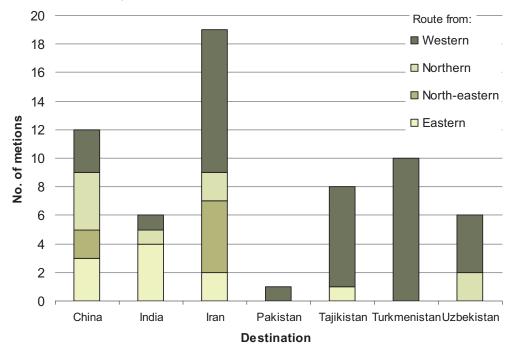


Figure 32: Reported risky export routes

Preferred routes

Assuming that traffickers would prefer a lucrative routes which carries low risk, trafficking to Pakistan would present an ideal route, according to the respondents assessment. Trafficking to Central Asia was associated with higher risks but as a lucrative operation. China appeared as a risky and not very lucrative destination. Iran was frequently assessed as a very risky destination, and less often as a lucrative one. This is confirmed by the fact that Iran seizes the largest amounts of opiates each year.

This pattern would suggest that heroin traffickers located in the Southern region, where most of the opium is produced and opium prices are low, would probably opt for the route to Pakistan rather than for other routes. An assessment of opium to heroin price ratios presented in the heroin price chapter of this report supports the assumption that converting opium to heroin in the Southern region and exporting it to Pakistan is indeed a lucrative option which may even have gained in profitability since 2007. One caveat is that it could not be assessed to what extend the reported routes to Pakistan lead onwards to Iran.

2.7 Opium farmers

In 2009, the annual village survey collected data on the number of households cultivating opium poppy in Afghanistan. At the national level, it was estimated that 245,200 households were involved in opium cultivation, compared to 366,500 in 2008 - a decrease of 33%. Based on an average of 6.5 members per household¹⁵, 245,200 households represent an estimated total of 1.6 million persons or 6.4% of Afghanistan's total population of 25.5 million¹⁶. 12.9% of the rural population was involved in opium cultivation, a decrease of 13% from 2008. The rural population is estimated at 18.5 million.

¹⁵ Food and Agriculture Organization (FAO) activities update in Afghanistan, N° 2, p. 2, January 2003.

¹⁶ Source: Afghanistan Central Statistical Office.

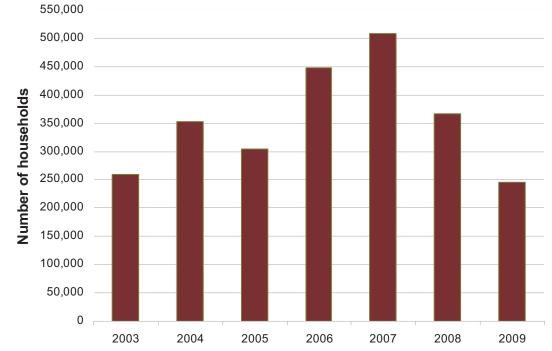


Figure 33: Number of households involved in opium cultivation in Afghanistan, 2003-2008

Table 32: Number of households involved	d in opium cultivation, 20	09
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Region	Opium cultivation (ha)	Total no. of households growing opium	Percentage of opium-growing households over total number of households	Average size of opium fields per household growing opium (ha)
Central	132	1,411	1%	0.09
Eastern	593	5,376	2%	0.11
North-eastern	557	2,772	1%	0.20
Northern	Poppy-free	Poppy-free	Poppy-free	Poppy-free
Southern	103,014	20,4597	83%	0.50
Western	18,800	30,738	13%	0.61
Total (rounded)	123,000	245,200	100%	0.50

The average area of land dedicated to opium cultivation per household in 2009 was 0.5 ha in comparison to 0.43 ha in 2008. In the main opium-producing regions (Southern and Western), the average area under opium cultivation per household was 0.50 ha and 0.61 ha respectively while in other regions it was much less (0.09-0.2 ha per household). The average area of land dedicated to opium cultivation per household has increased in Western region from 0.34 ha in 2008 to 0.61 ha in 2009.

Under normal conditions, three people can harvest 1 jerib (0.2 ha) of opium poppy in 21 days. If all of the harvesting took place at the same time, a total of 1.8 million people were needed to reap the entire opium harvest in Afghanistan in 2009. Hilmand province alone would require 1 million people for harvest. The number of skilled persons available in opium poppy-cultivating households (245,200) was not sufficient to harvest the total of 123,000 ha of crops cultivated. Extra labour was therefore needed for harvesting, especially in southern Afghanistan. Labourers, attracted by harvesting wages, travelled from all over Afghanistan to the Southern region for employment in lancing jobs. As a result of the increased demand for labourers for opium poppy-harvesting, average daily wage rates for lancing were US\$ 8.7 per day, much higher than for other

daily wage labour in the country. In the Southern region, the daily wage for lancing were US\$ 9.4 per day while in other regions it was (US\$ 5.8). The daily wage rate for lancing in 2008 was almost the same as in 2007 (US\$ 9.30 per day) and higher than the US\$ 7.70 in 2006.

Activity	Daily wage rate (US\$)
Labour (roads, construction, etc.)	3.6
Lancing /gum collection	8.7
Poppy weeding	3.6
Wheat harvesting	4.3

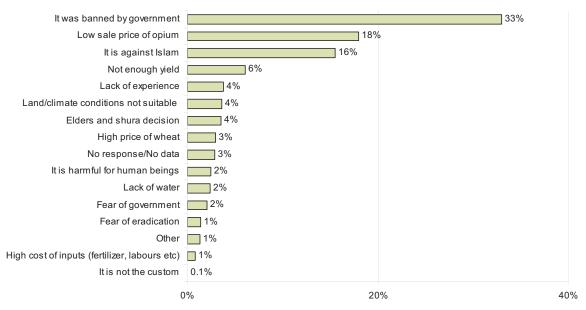
2.8 Reasons for opium cultivation

As part of the annual village survey, 4,781 farmers in 1,604 villages across Afghanistan were asked why they cultivated opium or, if applicable, why they had stopped cultivating.

Respect for the government ban (33%) was the reason most cited by farmers in all regions except the South and West. Farmers in the South and West also attached less importance to the decisions of the *shura* and religion than did farmers in other regions.

The low sale price of opium emerged in 2009 as one of the main reasons to stop cultivation (18% farmers), providing some evidence that reduction in opium cultivation is partly a response to market changes.





The situation in the Southern region is different from other regions. The low sale price of opium compared to other crops (27%) was the main reason cited by the farmers who stopped opium cultivation, followed by the Government ban (18%).

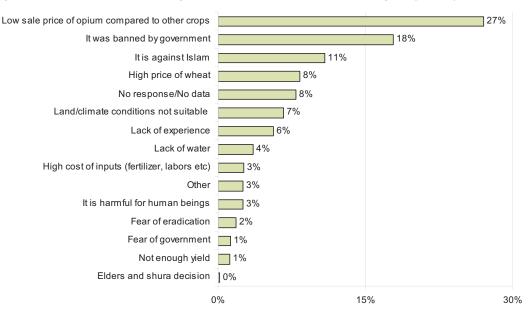
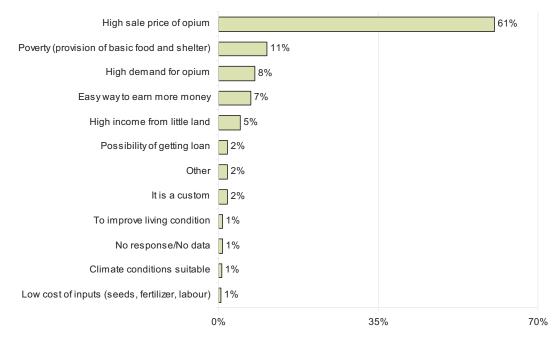


Figure 35: Reasons for stopping opium cultivation in Southern region (n=410)

A high sale price of opium was the most important reason cited by farmers (61%) for cultivating opium in 2009. Provision of basic food and shelter for the family, high demand for opium and the fact that it was an easy way to earn money were other important reasons. In Southern, Western and Eastern regions, high sale price and poverty alleviation were the dominant reasons for opium cultivation.





2.9 Loans

Outstanding loans

It is important to understand the financial status of farmers in order to understand the reasons for opium cultivation and the dynamics in Afghanistan. To that end, as part of the annual village survey, farmers were asked whether they had any outstanding loans.

43% of farmers reported having outstanding loans, an increase from to 38% reported last year. The average amount of outstanding loans per farmer was US\$ 910 in 2009, which is higher than the US\$ 713 in 2008. The average amount of outstanding loans was approximately 2.2 times the per capita GDP in Afghanistan (US\$ 426) as of August 2009.

On average, farmers who had never grown opium had higher outstanding loans (US\$ 965) than opium farmers. This average loan was a 40% increase compared to 2008 (US\$ 691). 45% of farmers who stopped opium cultivation, 45% had outstanding loans, with an average value of US\$ 911, a 17% increase compared to 2008 (US\$ 780).

		Non-opium gro	wing farmers
	Opium-growing farmers	Stopped opium cultivation	Never cultivated opium
Average loan (US\$/household)	599	911	965
Percentage of farmers with loan	30%	45%	45%

Table 34: Average outstanding loans held by farmers (n=4,781)

In 2009, 30% of opium-growing farmers had loans, compared to 27% in 2008. By region, the farmers in the South have an average of US\$ 686 loans while in other regions, farmers have an average loan of US\$ 951, 38.6% higher than in the Southern region.

Region	Percentage of farmers with outstanding loans
Central	49%
Eastern	49%
North-eastern	55%
Northern	69%
Southern	23%
Western	43%

Table 35: Average outstanding loans held by farmers, by region

2.10 Agricultural assistance

The village headmen were interviewed in each of the 1,604 villages included in the survey. According to the information provided, 33% of the villages received agricultural assistance. The type of assistance varied and included improved seeds/saplings (47% of receiving villages), fertilizers (48% of receiving villages) and irrigation facilities (1% of receiving villages). Only 2% received insecticide and 1% received agricultural tools.

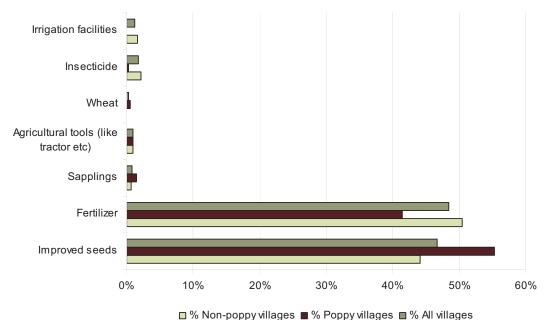


Figure 37: Type of agricultural assistance delivered to villages as reported by headmen

If receiving agricultural assistance was the only factor influencing opium cultivation, all opium growing villages would fall into the category of not having received agricultural assistance, while all non-growing villages would have received agricultural assistance. This is not the case. Many factors influence famers decisions as described above, and agricultural assistance did not feature prominently among the reasons reported by farmers to stop opium cultivation. Among the opium-growing villages, more fell into the group of villages that had not received agricultural assistance. However, the (statistical) association of growing opium and not having received agricultural assistance was weak.

The effect of fertilizer and wheat seed distribution programmes in the main opium cultivating province Hilmand (in the so-called food zone) could not be assessed with this question which was asked at the village and not at the household level. One remaining opium farmer in a village would be enough to qualify the village as an opium growing one, even if all other farmers had stopped as a result of the programme.

	Opium-gro		
Agricultural assistance	No	Yes	Total
No	48%	19%	67%
Yes	26%	7%	33%
Total	73%	26%	100%

Table 36: Agricultural assistance and opium status of villages as reported by headmen

2.11 Cash income of farming households

On average poppy growing households have a higher cash income that households that did not cultivate. Data from the annual village survey on household income earned in 2008 shows that the average annual cash income of opium growing households in 2008 was 43% higher than that of non-opium poppy-growing households. Differences between famers who grew opium and stopped and farmers who never grew opium were not significant.

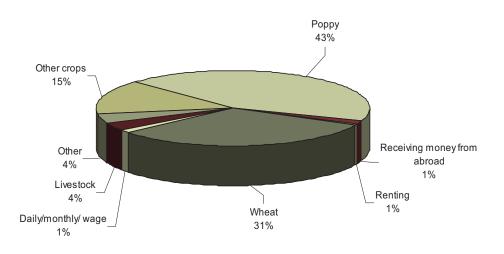
Cash income was highest in the South for both opium-growing and non-growing farmers. Nonopium-growing households in southern Afghanistan also reported higher incomes than those in other regions. The annual income of non-opium growing households was the lowest in the West.

		% household income difference between non-op farmers and opium farmer % of income of opium farm in 2008 (US\$)			een non-opium ium farmers as opium farmers
Region	Average annual household income of opium farmers in 2008 (US\$) 1	FarmersstoppedFarmersopiumnevercultivationcultivated(US\$)opium (US\$)23		Farmers stopped opium cultivation (US\$) (2-1)/1	Farmers never cultivated opium poppy (US\$) (3-1)/1
Eastern	2,155	2,202	1,868	2%	-13%
Southern	5,129	3,234	2,934	-37%	-43%
Western	2,366	1,620	1,699	-32%	-28%
National	4,480	2,562	2,399	-43%	-28%

Table 37: 2008 annual household cash income by region and households of opium growing and non-growing farmers $^{\rm 31}$

The Central, North-eastern and Northern regions were not analyzed separately because of a low number of opium-growing villages in these regions.

Figure 38: Contributions to 2008 cash income in opium-growing households by source (data collected in 2009)



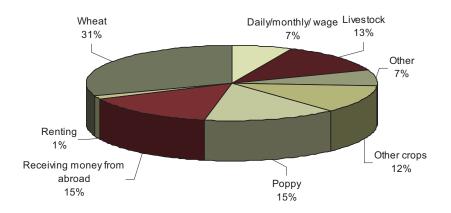
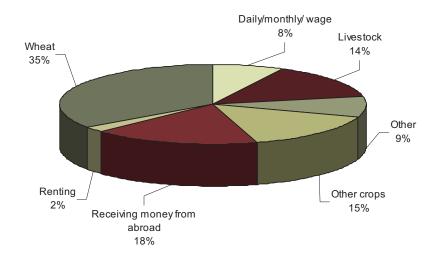


Figure 39: Contributions to 2008 cash income in non opium-growing (stopped opium cultivation) households by source (data collected in 2009)

Figure 40: Contributions to 2008 cash income in non opium-growing (never-grown farmers) households by source (data collected in 2009)



Region	Daily/monthly/ wage	Livestock	Wheat	Other crops	Opium	Remittan- ces	Renting	Other
Central	8%	13%	22%	7%	0.1%	35%	3%	11%
Eastern	14%	18%	32%	16%	5%	5%	1%	7%
Neastern	4%	12%	51%	21%	1%	5%	2%	6%
Northern	16%	21%	29%	14%	0.1%	14%	1%	4%
Southern	1%	6%	31%	16%	32%	6%	1%	7%
Western	6%	14%	46%	11%	8%	11%	1%	3%
National	6%	11%	32%	14%	15%	13%	2%	7%

 Table 38: Sources of 2008 cash income for all farmers, by region (reported in 2009)

In 2008, about 30% of farming households' cash income was derived from the cultivation of wheat. This was also true for each farming group individually, i.e. opium-growing households as well as non-growing households derived on average 30% of their cash income from wheat. Income from opium cultivation dominated the economy of households that grew poppy in 2009 representing close to half of their cash income. Non-opium growing households relayed on remittances more than growing households: about 15% of cash income of opium-growing farmers came from abroad compared to only 1% of the growing-households (about 15%) than for growing households (4%). For households that stopped opium cultivation data show that in 2008 they relied on opium for about 15% of their income. This may simply indicates that the interviewed farmers who stopped cultivation in 2009 had still cultivated opium in 2008.

2.12 Opium prices

In 2008 and before, the dry opium prices at harvest time were based on farmers responses collected through the Annual Opium Survey, which was conducted slightly before the opium harvest. In 2009, prices at harvest time for all regions with the exception of the Central region were derived from the opium price monitoring system and refer to the month when opium harvest actually took place in the different regions of the country. The Central region is not covered by the monthly opium price monitoring system.

Dry opium prices decreased in all regions. This decrease is due to the substantially high opium production that has taken place since 2007. Prices fell by 6% in the Central region, 14% in the Eastern region, 12% in the North-eastern region, 34% in the Northern region, 11% in the Southern region and 30% in the Western region. Dry opium prices fell by only 11% in the South, despite record production levels for three consecutive years. The highest dry opium prices were reported in the Central and Eastern regions (US\$ 160/kg and US\$ 90/kg, respectively). Overall, there is a 33% decrease in the price of dry opium at harvest time compared to 2008. In general, prices in the Northern and Southern regions are lower than in other regions.

Region	Average Dry Opium Price (US\$/kg) 2008	Average Dry Opium Price (US\$/kg) 2009	Change
Central*	171	160*	-6%
Eastern	105	90	-14%
North-eastern	85	75	-12%
Northern	97	Poppy-free	n.a.
Southern	70	62	-11%
Western	103	72	-30%
National average price weighted by production	95	64	-33%

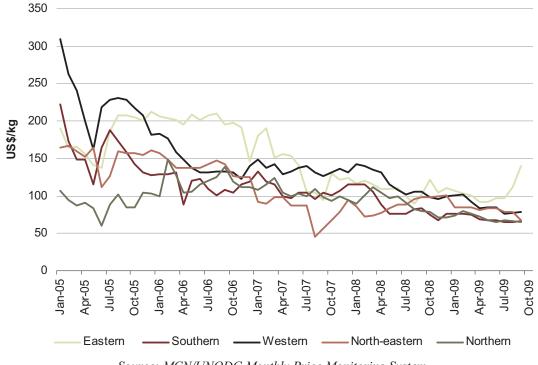
Table 39: Regional farm-gate prices of dry opium at harvest time collected from farmers (US\$/kg), 2008-2009

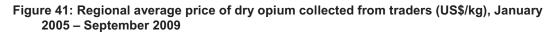
* Prices for the Central region were taken form the village survey as there is no monthly opium price monitoring in that region. All other prices stem from the monthly opium price monitoring system.

The Afghan Government (Ministry of Counter-Narcotics) and UNODC have monitored opium prices on a monthly basis in various provinces of Afghanistan since 1994. These monthly prices indicate a decreasing trend for farm-gate dry opium prices since 2004.¹⁷

Recent price increases in the Eastern region suggest an increased demand of opium in this region or a late effect of the decline in the cultivation over the past years. Since June 2007, prices in the Eastern and Western regions have been generally higher than in other regions. Increase in prices in the Eastern and Western regions can be attributed to their strategic positions in trafficking bordering Pakistan and Iran respectively. Prices in the Southern, Northern and North-eastern regions are generally lower than other regions over the last few years. Lower prices in the Southern region can be explained by the availability of opium stocks among farmers and drug dealers as a result of a large quantity of opium production in 2008 and 2009. There was little opium produced in the Northern and North-eastern regions in 2008 and 2009.

¹⁷ Monthly opium prices have been collected regularly by UNODC since 1997 in selected parts of Nangarhar (Eastern region) and Kandahar (Southern region) as part of the opium survey in Afghanistan. In recent years, prices also have been collected monthly in Badakhshan, Takhar, Farah, Nimroz, Badghis, Ghor, Hirat, Hilmand, Laghman, Kunar, Balkh, Faryab and Kunduz provinces, both from opium farmers and from local opium traders. Opium prices are currently collected in 15 provinces.





Source: MCN/UNODC Monthly Price Monitoring System

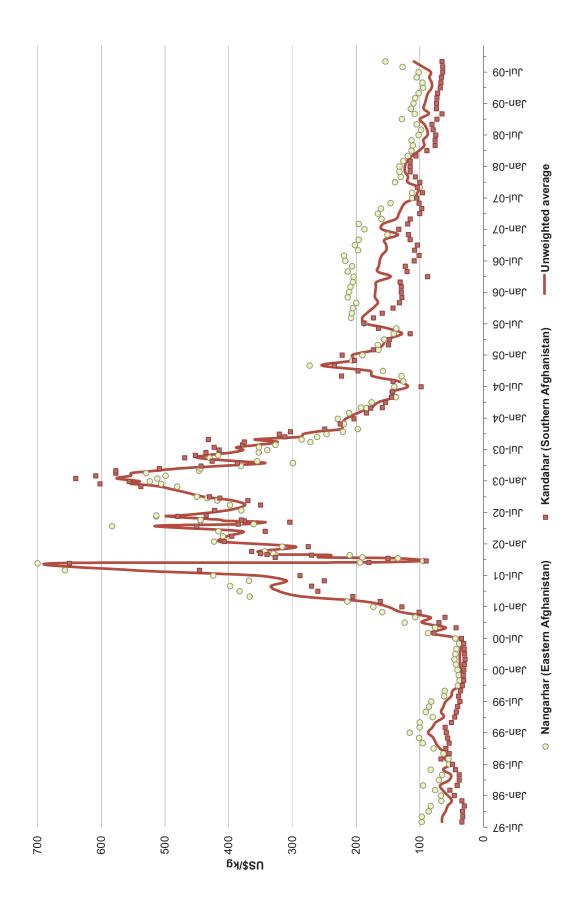
It could be argued that, given the production increases in 2006, 2007, 2008 and the still high production in 2009, prices have not fallen as much as expected. A possible explanation could be that after the sharp decrease in opium cultivation in Myanmar and Lao PDR in recent years, opium from Afghanistan appears to be increasingly trafficked to China, India and South-East Asia, areas which were traditionally supplied by opium from the Golden Triangle.

Overall, dry opium prices decreased by 11% between September 2008 and September 2009 at the trader level. A breakdown by region shows a general decreasing trend in opium prices compared to September 2008 except in the Eastern region.

Region	Regional average price (US\$/kg) / September 2008 Trader	Regional average price (US\$/kg) / September 2009 Trader	Change
Eastern (Kunar, Laghman, Nangarhar)	102	140	37%
Southern (Hilmand, Kandahar)	84	66	-21%
Western (Badghis, Farah, Ghor, Hirat, Nimroz)	106	79	-25%
North-eastern (Badakhshan, Takhar)	98	68	-31%
Northern (Balkh, Faryab, Kunduz)	80	65	-19%
Average	94	84	-11%

Table 40: Trader prices for dry opium (US\$/kg), September 2008 – September 2009

Source: MCN/UNODC Monthly Price Monitoring System



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2.13 Heroin prices and heroin to opium price ratios

The decline of opium prices in Afghanistan from a record height in 2001 to low levels not reached since the late 1990s is well-known. Reasons cited include the opium production increases in Afghanistan, and notably the unusually high opium production since 2006. By and large averaged national heroin prices followed the same falling trends despite the uncertainties arising from the unknown quality (purity and composition) and quantities sold.

Heroin prices fell from an average of about US\$ 3,000/kg in 2006 to US\$ 2,200/kg in 2009. Regional price differences have been pronounced throughout the observation period. Most, but not all regions, experienced a decline in heroin prices. The price of heroin in Kandahar in Southern Afghanistan dropped from about US\$ 4,000/kg in 2006/2007 to below US\$ 2,500/kg in 2008/2009. Although in general the decrease could be interpreted as a consequence of lower opium prices, the suddenness of the 2007 heroin price drop in the South is peculiar as opium prices decreased at a lower speed. The timing of this drop coincides with the opium harvest in the Southern region, which takes place around April, and a doubling of the opium production in that region compared to 2005. Badakhshan in northeast Afghanistan seems to be the only province where heroin prices stabilized since the second quarter of 2006.

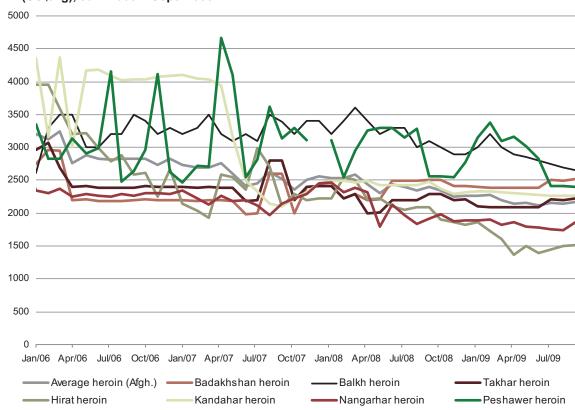


Figure 42: Monthly wholesale prices of heroin in Afghanistan by region and in Peshawar (US\$/kg), Jan. 2006 – Sept. 2009

* Prices of heroin of unknown purity

Since January 2006, heroin and opium data has been collected regularly in different regions of Afghanistan, which allows a systematic comparison. The ratio¹⁸ between heroin and opium prices has increased since the beginning of 2006. In 2006, heroin sold on average for 20 times more than

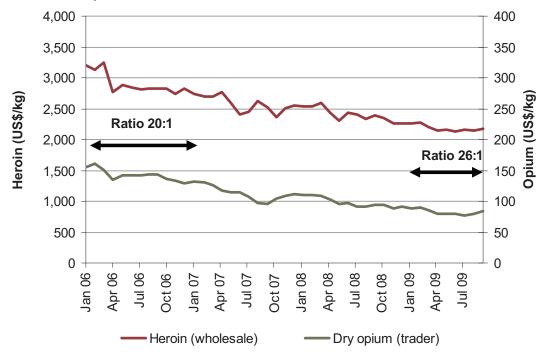
¹⁸ The ratio between heroin and opium prices expresses the potential profitability of transforming opium into heroin. Assuming that it takes about 7 kg of opium to produce 1 kg of heroin, and that there are other costs associated with heroin production e.g. for precursors and fuel, the heroin to opium price ratio should be significantly higher than 7:1. A higher ratio could indicate higher costs of heroin production, due to higher input costs and/or risk-related costs, or simply higher profits.

opium while in 2009 (January to September), the ratio increased to 26 times! This could indicate that:

- it is more profitable to produce and sell heroin in 2009 than it was in 2006, or
- increased precursors prices led to higher costs, which were (partly) compensated by paying less for opium as the market did not allow to increase heroin prices, or
- the quality of the opium (morphine content) is lower and more opium is needed to produce the same amount of heroin.

There is too little information available on the quality and costs of heroin produced in Afghanistan to determine with any degree of certainty whether higher heroin to opium price ratio reflects higher profitability or higher costs of heroin production.

Figure 43: Average wholesale prices of heroin and opium in Afghanistan (US\$/kg), Jan. 2006 to Sept. 2009



Strong regional differences in both opium and heroin prices and the respective ratios can be observed since 2006. The ratios were calculated between regional heroin and opium prices to simulate the potential value added if opium was purchased in one region and sold as heroin in another location after processing. For this purpose, the simple yearly average of the monthly opium and heroin prices respectively was used. The regional combinations used were those, which emerged from the 2009 drug flow survey as reported trading patterns.

Several caveats should be made: this is a hypothetical exercise and it is not known if similar flows and purchases actually take place and if so what the trading volume is. Neither the morphine content of the opium or other quality characteristics nor the purity and composition of the product sold as heroin is known. Still, the exercise can contribute to explaining potential preferences e.g. for certain trafficking routes and to develop hypotheses about where and why such preferences may have changed over time.

Overall, heroin to opium price ratios were high and/or showed increasing trends for heroin production in the Southern, Eastern and Northern region and less so in the Western and Northeastern regions. More information is necessary to better understand what these ratios represent and to what extend they reflect existing trafficking patterns and preferences.

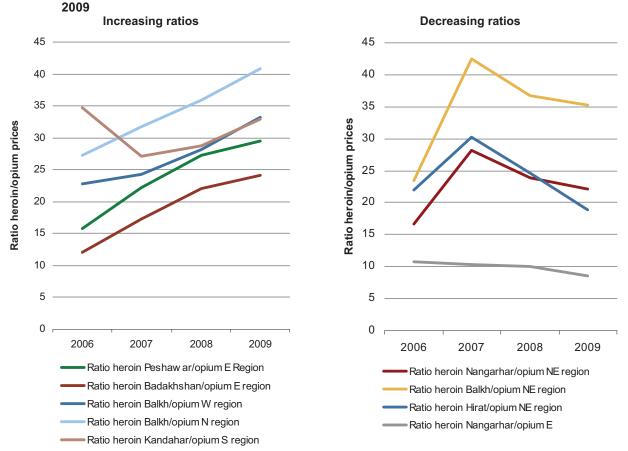


Figure 44: Comparison of increasing and decreasing heroin to opium price ratios, 2006-

Note: Figures for 2009 refer to January to August only.

When comparing ratios heroin to opium price that increased for at least the last two years with those that decreased in the last two years, the following trends emerge for the last three years:

The well-documented route from Eastern Afghanistan to Peshawar in Pakistan has potentially became more lucrative (from a ratio below average in 2006 to just about average ratio level in 2009), meaning that buying a kilogram of opium in the Eastern region, converting it to heroin and selling it in Peshawar yielded higher gross income in 2009 than in 2006.¹⁹ If all costs were equal, in 2009 it would be a much better business to sell heroin in Peshawar than it was in 2006.

Processing opium to heroin and selling it in the South of Afghanistan is also potentially more profitable than in other parts of the country. Since 2006, its values remained well above most other ratios, which could indicate that with low opium prices and about average heroin prices in the Southern region, heroin production in the same region is attractive.

Due to very high heroin prices in Balkh (Northern region), opium prices from the Western, Northern and North-eastern regions results in good price ratios. Overall, the best ratio was achieved with opium prices of the Northern region and heroin prices in Balkh (Northern region). The low opium prices in the Northern region are peculiar as the region was poppy-free in 2009, had low levels of poppy cultivation in 2008, and experienced significant opium production only in the years before 2008.

¹⁹ By comparison, selling the same kilogram of heroin in Nangarhar instead of in Peshawar would have resulted in a 11:1 ratio in 2006 and would have decreased to a ratio below 9:1 in 2009. Although in 2006, the gross revenue of opium bought in the Eastern region, converted into heroin and sold in Nangarhar (11:1) was lower than in Peshawar (16:1), taking into account the costs of transporting the drugs over the border the difference may not have been very large. In 2009, however, heroin price differences between these to location would result in a heroin to opium price ratio of 29:1 in Peshawar compared to 9:1 in Nangarhar, making it much more attractive to export heroin to Peshawar.

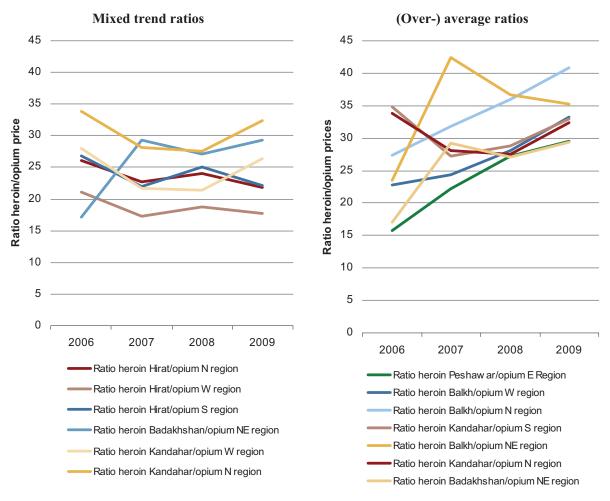


Figure 45: Mixed trends and (over-) average heroin to opium price ratios, 2006-2009

Note: Figures for 2009 refer to January to August only.

Wholesale morphine and heroin prices in eastern Iran seemed to be relatively stable in 2007 and 2008. This is in line with the ratio trends calculated with heroin prices in Hirat (Western region), which were mainly below average and showed a mixed pattern of decreases and increases.

Across Afghanistan's northern border, wholesale prices for "high quality" heroin in Khatlon and Goro-Badakhshan, two provinces of Tajikistan bordering Afghanistan, seemed to be higher in January 2009 than in January 2007 and 2008, although similar or lower than in 2006. With US\$ 4,460/kg for "high quality" heroin in 2008, the price in eastern border regions of Iran was in the range of prices in Tajikistan's border provinces (US\$ 3,000/kg and US\$ 5,000/kg in January 2009). In both locations, heroin prices were higher than in Pakistan (Peshawar) with an average price of US\$ 2,900/kg in the first nine months of 2009.

2.14 Farm-gate value of opium production and income from opium

Based on opium production estimates and reported opium prices, the farm-gate value of the harvest can be estimated at around US\$ 438 million (range US\$ 324 - US\$ 559 million). Farmers in the Southern region accounted for close to 85% of the total income from opium production – the highest such concentration ever encountered in Afghanistan. Farmers in Hilmand, the largest opium-producing province, earned around US\$ 253 million, equivalent to 58% of the total farm-gate value of opium in Afghanistan in 2009.

Given the decline in opium production in combination with falling prices - a consequence of surplus production - the overall farm-gate value of opium in 2009 was some 40% less than 2008

and 56% less than 2007. It is the lowest value since 2004 (US\$ 600 million). The total farm-gate value of Afghanistan's opium production in 2009 was equivalent to 4% of Afghanistan's licit GDP (10.7 million).²⁰

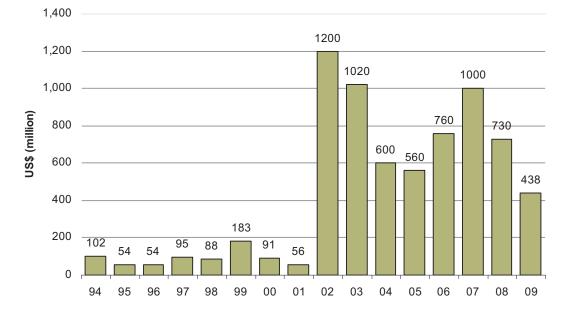


Figure 46: Farm-gate value of the opium production in Afghanistan (US\$), 1994-2009

Household income from opium

In the villages survey 2009, poppy farmers reported an average of 0.38 ha of poppy cultivation per household.²¹ At an average yield of 56.1 kg/ha, this corresponds to 21.32 kg of opium per household. At an average price for dry opium of US\$ 64/kg this would provide a gross income per household of US\$ 1,364 (rounded US\$ 1,400), assuming that all opium from the 2009 harvest would sell at that price. This gross income does not include possible additional income from the sale of poppy seeds, oil and poppy straw. Respondents might not always accurately report the amount of land cultivated with opium. Information from the headman interviewed in the surveyed villages indicates a higher average value for the average area of opium cultivation per household (0.50 ha per household).

The gross income from opium per household can also be estimated by dividing the farm-gate value of the opium production (US\$ 438 million) by the number of households cultivating poppy in 2009 (245,200). The estimated income based on these figures would be US\$ 1,786 per household, 28% more than the estimated amount based on farmers' responses. This is due to the fact that based on this calculation, the amount of land cultivated with poppy per household would be 0.50 ha (123,000 ha / 245,200 households). This is the same amount reported by the headman in the villages survey.

As indicated above, one possibility for this discrepancy could be underreporting of the amount of land cultivated with opium poppy by farmers. This would result in an under-estimation of the household income from opium. There could also be underreporting in the number of households cultivating poppy by the village headman, which would result in an over-estimation of the household income from opium based on the farm-gate value. Another factor could be that the population figures used for extrapolation do not reflect the true distribution and/or number of people. It was not possible to assess these factors and adjust for them.

²⁰ Source: Gov. of Afghanistan, Central Statistical Office. Nominal GDP value of Afghan fiscal year 2008/2009.

²¹ The average land cultivated with poppy is the average of the regional averages weighted by cultivation.

Multiplying the average size of land cultivated with poppy by the number of households growing poppy can serve as a simple check to determine whether indeed underreporting of poppy land or underestimation of the opium farming population could play a role. If 245,200 households grow on average 0.38 ha of poppy each, the total area under poppy cultivation would be 93,200 ha. This is lower than the mid-estimate of 123,000 ha from the remote sensing survey but still within the 95% confidence interval (92,665 ha - 155,449 ha).²² This low value indicates that underreporting of poppy land or number of opium-growing households could indeed have played a role. The fact that the value falls within the confidence interval of the area estimate from the remote sensing survey indicates that the method results in a plausible value for the household income. The two estimation methods are thought to be useful and could be used to establish a range of the potential household income from opium, which would be between US\$ 1,400 and US\$ 1,786 per household in 2009. However, for comparison with previous years, the figure calculated from the total farm-gate value is to be used (US\$ 1,800 per household).

	2003	2004	2005	2006	2007	2008	2009
Farm-gate value (US\$ million)	\$1,020	\$600	\$560	\$760	\$1,000	\$732	\$438
Estimated number of opium-growing households	264,000	356,000	309,000	448,000	509,000	366,500	245,200
Average annual income from opium per opium- growing household	\$3,864	\$1,685	\$1,813	\$1,696	\$1,965	\$1,997	\$1,786
Rounded	\$3,900	\$1,700	\$1,800	\$1,700	\$2,000	\$2,000	\$1,800

Table 41: Average household income of opium-growing households from opium, 2003-2009

In the 2009 survey, farmers reported an average income of US\$ 1,940 per household from opium in the past 12 months, i.e. the actual income from the 2008 opium harvest. This income does not include the potential income from the new harvest of 2009. The reported amount is very close to the potential gross income from opium per household of US\$ 1,997 estimated in 2008 based on the 2008 farm-gate value and number of opium-growing households.

Per hectare income from opium

Farmers were also asked, which expenditures they incurred per hectare of poppy, e.g. for ploughing, fertilizer and lancing. On average, farmers reported costs of US\$ 1,584/ha. Expenditure for lancing and fertilizer were the main cost factors.

The estimated gross income from opium based on farmers' reports was US\$ 1,364 from 0.38 ha of land or US\$ 3,589/ha. This does not include potential additional income from the sale of poppy seeds oil and poppy straw. The reported costs of US\$ 1,584/ha correspond to 44% of the reported gross income and would result in a net income of US\$ 2,027/ha. This proportion is close to the estimates from previous surveys (45% in 2008) and the experience of UNODC survey coordinators who assessed costs to be around 40% of the gross income.

The gross per hectare income can also be estimated by dividing the total farm-gate value of the opium production by the estimate area under poppy cultivation (123,000 ha). The estimated per hectare gross income of US\$ 3,561/ha calculated from the farm-gate value is very close to the per hectare income reported by farmers (US\$ 3,589/ha, rounded US\$ 3,600/ha). The gross income from one hectare of opium was 23% lower than in 2008 (US\$ 4,700), reflecting falling opium prices, and the lowest value since 2002.

One caveat has to be made. The average production cost for opium of around 44% of opium farmgate prices do not necessarily apply to small-scale farmers who typically cultivate 1 jerib (= 0.2 ha)

 $^{^{22}}$ If the same calculation was done with the average poppy land size per household based on information from the headman interviews (0.5 ha/household), 245,200 households would cultivate a total of 122,600 ha, which is almost exactly the value estimated from the remote sensing survey.

or less in Afghanistan. They can make use of -de-facto - 'free labour' of their household members for ploughing and weeding the fields and for lancing and collecting opium. In some provinces, notably those with a strong influence of insurgents, some or all farmers reported paying a 10% tax called 'ushr' on opium but also on other agricultural products. This further reduces their net income. Ushr was not considered in this calculation as it does not apply to all poppy farmers.

Comparison of income from opium and wheat

Comparing the per hectare income of wheat and opium poppy can provide an indication of the attractiveness of cultivating poppy, as in Afghanistan opium poppy and wheat are planted during the same season. As most of the poppy is grown on irrigated land, wheat yield on irrigated land is used for the comparison. The drastic price increase of wheat in Afghanistan and worldwide in 2008 helped narrow the gap between gross income from opium compared to wheat. In 2009, the ratio between gross income from opium and wheat was 3:1, similar to the ratio calculated in 2008, as both wheat and opium price decreased. This ratio is much lower than in the years before 2008. In 2003, for example, farmers earned 27 times more gross income per hectare of opium than per hectare of wheat.

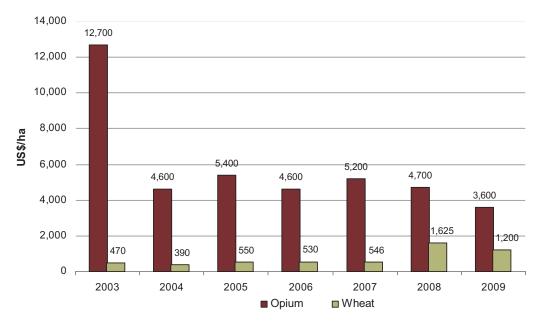


Figure 47: Gross income per hectare from opium and wheat (US\$/ha), 2003-2009

Sources: UNODC/Food and Agriculture Organization (FAO)/World Food Programme (WFP).

The per hectare income from wheat was estimated based on information from the village headman on yield and farm-gate price of wheat. The wheat price reported reflects the price level and expectations at the time of the survey (April – May 2009). Wheat prices have since decreased significantly. The average reported wheat price at the farm-gate was US\$ 0.47/kg, the average reported yield 2,521 kg/ha on irrigated land, which is US\$ 1,185/ha (rounded US\$ 1,200/ha).²³

The difference between net income from opium and wheat is even smaller as poppy cultivation is more cost intensive. Based on information from UNODC survey coordinators, costs for wheat were estimated to be 20% of the gross per hectare income of US\$ 1,200. For opium, costs of 44% of the gross income of US\$ 3,600/ha were used (see above). The ratio between the net income from opium (US\$ 2,000/ha) and wheat (US\$ 960/ha) was 2:1. The income comparison presented

²³ By comparison, FAO estimated the 2009 yield of irrigated wheat at 2,950 kg/ha, based on farmers interviews and a crop cut survey (Ministry of Agriculture, Irrigation and Livestock: Agriculture prospects report. Kabul, 8 Sept. 2009. http://coin.fao.org/cms/media/2/12542145091710/apr_sep_09.pdf)

here does not take into account income from other products of opium and wheat cultivation, such as poppy and wheat straw.

2.15 Potential value of the opiate economy

The calculation of the potential income from opium production for the Afghan economy is based on the value of opiate exports in the border areas of neighbouring countries. This approach is based on the observation that Afghan traffickers - far more than nationals of other countries - are heavily involved in shipping opiates across borders to neighbouring countries, notably Iran and Pakistan, and to a lesser extent, countries in Central Asia. From there, traffickers in neighbouring countries usually take over the drug shipments. Thus, the far larger funds generated in subsequent trafficking activities to Europe and various other overseas locations are not accrued by Afghanis or the Afghan economy. The financial gains made by criminal groups in Afghanistan only constitute a small proportion of the overall trafficking profits arising from Afghan opiates. The amounts are, however, still important if compared to the size of the Afghan economy.

Despite ongoing attempts to improve the estimates by means of additional information-gathering activities, it should be stressed that the calculations of the money made from the Afghan opium economy remain far less robust than the estimates of the area under cultivation, yield, opium production or the income made by Afghan opium farmers. These estimates are intended to provide reasonable orders of magnitude of the likely amounts of money made from this illegal trade to neighbouring countries and to provide rough trends and patterns.

The calculation of the value of the Afghan opium economy is based on the amount of opium production in Afghanistan, less domestic consumption and domestic seizures (expressed in opium equivalents), which gives the amount available for export. The proportions exported in the form of opium and morphine/heroin respectively were estimated based on information from the 2009 drug flow survey and information obtained via the analysis of opiate seizures. A transformation ratio of opium to morphine and heroin provides an estimate for the export of morphine and heroin. The opium and morphine/heroin flows to neighbouring countries were estimated from various sources of information. A detailed description of the estimation process can be found in the Methodology section of this report.

	Opium production (mt)	Opium exports (mt)	Heroin/ morphine exports (mt)
Opium production in 2009	6,892 (5,136 – 8,825)		
Less local consumption of opiates in opium equivalents	156		
Less seizures (in opium equivalents)	85		
Opiates available for export (in opium equivalents)	6,651 (4,895 - 8,584)		
Proportion		42%	58%
Opiates required (in opium equivalents)		2,814 (2,071 – 3,632)	3,837 (2,824 – 4,952)
Conversion (opium to morphine/heroin 7:1)			548 (403 - 707)

Table 42: Opiates available for export, 2009

By far the largest portion of opium produced in Afghanistan is destined for export. In 2009, an estimated 6,651 mt of opiates (range 4,895 – 8,584), expressed in opium equivalent, were available for export, out of which 58% were estimated to be exported as morphine or heroin, and the remainder as opium. This is about the same level as in 2008 and 2007. In absolute term, these proportions would correspond to about 548 mt of heroin (range 403 mt – 707 mt) and 2,814 mt of opium (range 2,071 mt – 3,632 mt).

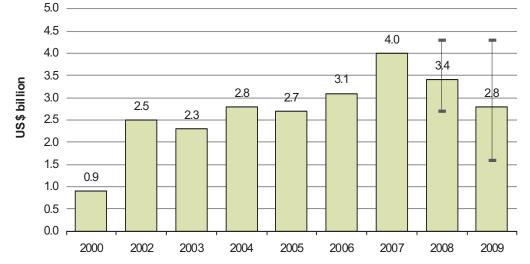


Figure 48: Potential gross value of opiate production (US\$), 2000-2009

Sources: UNODC(2003): The Opium Economy in Afghanistan; Afghanistan opium surveys 2003-2009.

Note: The bars indicate the upper and lower margins of the range of the estimated values of the last two years.

Multiplied with the corresponding price across the border, the gross wholesale value of the exported opium and morphine/heroin in neighbouring countries amounts to US\$ 2.8 billion (range US\$ 1.6 - 4.3 billion). The decline by 18% compared to 2008 was mainly due to lower production in Afghanistan and lower opium prices in neighbouring countries. The gross export value in 2009 amounted to 23% of the licit GDP²⁴, compared to 33% in 2008. This is due both to a decrease in the export value of opiates and an increase in the GDP of Afghanistan.

Net value

In 2009, the net export value of opiates amounted to US\$ 2.3 billion (range US\$ 1.0 billion to 4.1 billion). The best estimate of US\$ 2.3 billion is equivalent to 19% of the GDP.

In previous reports, the gross export value of Afghan opiates was compared with Afghanistan's GDP. However, in the calculation of GDP, imports are subtracted from gross exports to obtain net exports. Similarly, imports costs associated with the production of morphine and heroin can be deducted from gross export value of opiates to obtain the net export value. This net export value is considered to be more suitable for comparison with the GDP. The import costs for precursors constitute an important cost element of morphine and heroin production. Thus, the costs of the main precursors were deducted from the gross export value to approximate the net export value of Afghan opiates. There are other import costs associated with morphine and heroin production in Afghanistan, which could not be estimated.

The main (imported) precursors in terms of costs used in this estimation were:

- Ammonium chloride, for the extraction of morphine from opium
- Acetic anhydride, for the conversion of morphine base into brown heroin base

Acetic anhydride is a controlled substance. There is no known licit use of acetic anhydride in Afghanistan and no known production of the substance. The high price level of this precursor in Afghanistan indicates its scarcity. Ammonium chloride is not a controlled substance. Its easy availability and wide range of licit uses are reflected by a much lower price level. The information from the drug flow survey indicates that ammonium chloride used for heroin processing is imported.

²⁴ Based on nominal GDP estimates of US\$ 10.2 billion for 2008 and US\$ 12.1 billion for 2009. GDP refers to licit GDP without the drug economy. Sources: For 2008: (Afghan Fiscal year 2007/08): Gov. of Afghanistan, Central Statistical Office. For 2009: (Afghan Fiscal year 2008/09): International Monetary Fund, IMF Country Report No. 09/135, April 2009.

The net export value was calculated by:

- Multiplying the main precursors' cost per 1 kg of heroin with the total amount of exported heroin;
- Subtracting the total costs of two main precursors from the gross export value. Other import costs were neglected.

 Table 43: Prices and amounts of main precursors needed for the production of 1 kg of heroin, 2009

Туре	Price (US\$/unit)	Amount needed/kg heroin	Costs per kg of heroin (US\$)
Ammonium chloride	21.24	2.5 kg	53.10
(kg)	(18.99-23.55)	(2.0-3.0) kg	(37.98-70.65)
	376.07	2.4 1	896.93
Acetic anhydride (litre)	(351.30-396.23)	(0.77-4.0)1	(270.50-1,584.92)
Total			950.03 (308.48-1,655.57)

Table 44: Net export value (US\$), 2009

	Best estimate (US\$)	Lower limit (US\$)	Upper limit (US\$)
Gross export value	2,754,489,993	1,597,362,331	4,290,611,308
Gross export value (rounded)	2.8 billion	1.6 billion	4.3 billion
Precursor import costs	491,613,177	639,297,068	191,339,279
Net export value	2,261,456,294	958,065,263	4,099,272,029
Net export value (rounded)	2.3 billion	1 billion	4.1 billion

For the calculation of the lower estimate of the net value, it was assumed that traffickers would have to pay prices at the higher end for imported precursors, and for the calculation of the higher estimate, that they would pay prices at the lower end of the range. This method contributed to a wide range, which reflects the uncertainty associated with the estimate. In 2009, the net value of the opiate economy was estimated at US\$ 2.3 billion (range US\$ 1 billion – US\$ 4.1 billion). The best estimate of the net value is about 18% lower than the gross value. In other words, about 18% of the revenue made by Afghan traffickers flows back to other countries to cover the costs of imported precursors.

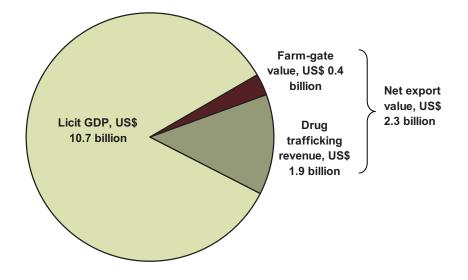
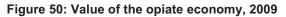
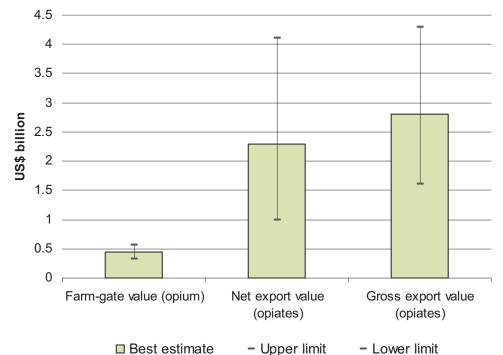


Figure 49: GDP and opiate industry in Afghanistan, 2009

Sources: Afghanistan Central Statistical Office and MCN/UNODC 2009

To further approximate the potential total revenue of drug traffickers, the costs of purchasing opium from farmers can be deducted from the net export value. The cost of opium would be at least the farm-gate value, i.e. the revenue of farmers. In reality, there would be additional costs, which were not considered. In 2009, the farm-value of the opium production was at US\$ 438 million (range US\$ 324 million – US\$ 559 million). The potential revenue to drug traffickers after deduction of costs of opium and precursors was estimated at US\$ 1.9 billion. This should not be taken as a net income or 'gain' as many costs factors were not taken into consideration due to a lack of information available to estimate them.





The wide range indicates not only the uncertainty of the estimate but also the variable revenue of traffickers. Traffickers who are able to obtain precursors at prices close to the lower margin and who have chemists who produce heroin with minimum amounts of precursors, can reduce costs considerably. In a "worst case" scenario, a trafficker would spend US\$ 1,656/kg of heroin on the two main precursors alone, whereas in a "best case" scenario described above, these costs would be reduced to just over US\$ 300/kg of heroin produced. With a kilogramme of heroin at about US\$ 3,000 in neighbouring countries, precursor costs could then constitute as little as 10% but also as much as 55% of the total heroin price.

A comparison of farm-gate value, net and gross export values reveals that by far the largest proportion of the revenue is made at the trafficking level, and farmers receive only a small portion of it.

3 METHODOLOGY

This chapter covers various methodological aspects such as estimations of the extent of opium cultivation, opium yield production, opium prices and eradication verification. It also covers socio-economic aspects such as the number of households involved in opium cultivation, reasons for cultivation/non-cultivation of opium poppy and the income from opium earned by farmers and traffickers. The survey methodology was based on a sampling approach that combined the use of satellite imagery and extensive field visits. The methodology used in the survey on opium eradication verification is also described in this chapter.

3.1 Opium cultivation

Remote sensing methodologies have been used by UNODC since 2002 to monitor the extent of opium cultivation in Afghanistan. The latest major changes in the location of opium poppy cultivation and the increased security difficulties to access the area under scrutiny required a reassessment of the latest sampling design applied up to now.²⁵

In recent years, the distribution of opium cultivation in Afghanistan became more and more concentrated in the South and West of the country, while large areas in the North and West became poppy-free or had only small pockets of opium cultivation. A decision was taken to use a sampling approach to cover those provinces where most of the poppy can be found, and a targeting approach in provinces with a low level of opium cultivation. Out of 34 provinces in Afghanistan, 12 were covered with a sampling approach and 5 with a target approach. The remaining provinces were poppy-free and not covered by the remote sensing survey.²⁶

Sampling approach

The area available for agriculture was updated based on Landsat 7 ETM images and DMC images. The total estimated agricultural area in Afghanistan in 2009 amounted to 77,216.94 km². The sampling frame was established by extracting the area of land potentially available for opium cultivation in 12 provinces. The arable land in the sampling frame covers irrigated and rain-fed areas. The total area of arable land in the 12 provinces was 18,395 km², which is equivalent to 24% of all potential agricultural land in Afghanistan. The potential land is referred to as all land available for cultivation and includes land that is currently fallow.

Opium fields were identified by interpreting high-resolution (10x10 km) IKONOS images. Locations for these images were selected based on stratification of potential agriculture land and systematic random selection from a 10x10 km grid that was overlaid on the map of arable land. The final sampling frame consisted of 1,498 cells in 12 provinces. Optimization of the sampling frame reduces the probability of selecting a cell containing marginal areas of arable land, which ensures optimal use of the high-resolution satellite images. For each selected cell, IKONOS images were acquired for the pre-harvest and the post-harvest periods, which facilitated discrimination of opium poppy from other crops.

In 2009, high-resolution satellite images were acquired for 126 sample locations covering 12 provinces in Afghanistan. This given 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.

Opium poppy fields were identified by interpreting the high-resolution (10 by 10 km) in the 126 IKONOS images. Locations for these images were randomly selected from a 10 by 10 km grid that was overlaid on the map of arable land.

²⁵ The revision of methodologies for the remote sensing and village survey was based on recommendations made by Graham Kalton in December 2008.

²⁶ Note that more than the remainder of 17 provinces turned out to be poppy-free as 3 provinces covered by the survey had less than 100 ha opium cultivation.

The final sampling frame consisted of 1,847 cells in 12 provinces. Optimization of the sampling frame reduces the probability of selecting cells containing marginal areas of arable land, which ensures optimal use of the high-resolution satellite images.

The first step to optimize the sampling frame is by stratification. In the 2009 survey, the total sampling frame was divided in two strata (groups of provinces):

- Stratum 1: It contains the cells of the provinces of Farah, Hilmand, Kandahar, Nimroz, and Uruzgan
- Stratum 2: It contains the cells of the provinces of Badghis, Day Kundi, Ghor, Kapisa, Kunar, Laghman, and Zabul

In the 2008 survey, the images that cut across provincial boundaries were excluded from the sampling frame used for sample selection. In the 2009 survey, the images cross cutting provincial boundaries were assigned to the province in which most of the potential agricultural land was located.

Also as it was the case in 2008 survey, images with less than 1% of potential agricultural land were excluded from the 2009 sampling frame in order to optimize the sample. However, the criteria was re-formulated as to be less than 1 square kilometer of potential agricultural land to deal with images that cut across the boundary of a sample and non-sampled province and the boundary of a sampled province and the national border. In total, the exclusions represented less than 2% of the total potential agricultural land in all but two of the sampled provinces (Farah and Ghor).

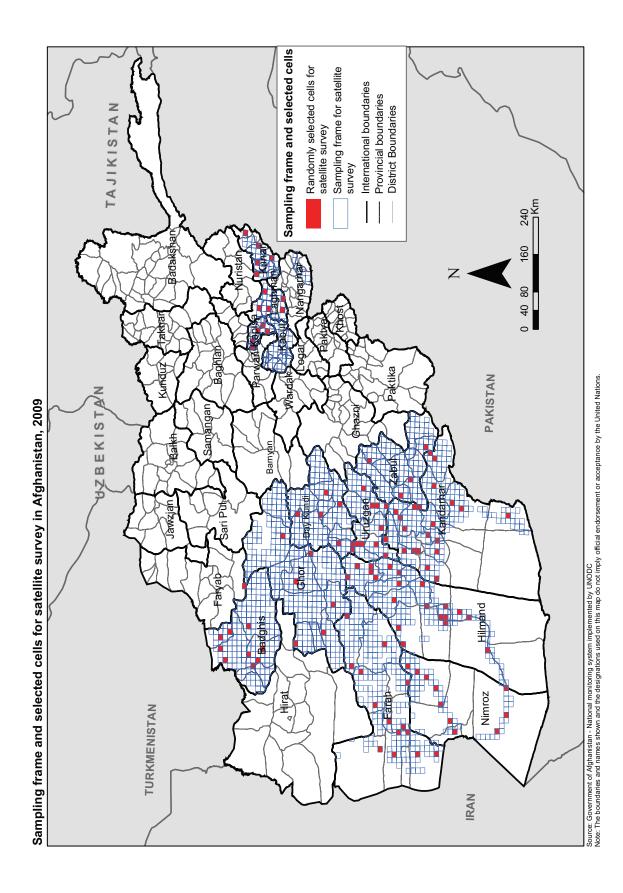
STRATUM 1	PAL 2009	PAL%	Cells	Sample
Farah	1,187	14.5	234	16
Hilmand	3,127	38.3	207	20
Kandahar	2,631	32.2	240	23
Nimroz	579	7.1	75	8
Uruzgan	650	8.0	105	12
STRATUM 2	PAL 2009	PAL%	Cells	Sample
Badghis	5,575	56.2	195	10
Day Kundi	888	9.0	182	7
Ghor	1,243	12.5	337	9
Kapisa	314	3.2	22	5
Kunar	248	2.5	35	5
Laghman	237	2.4	33	5
Zabul	1,414	14.3	182	6

Table 45: Sample allocation, 2009

PAL: Potential Agricultural Land suitable for opium cultivation

Within each of the strata, the sampled images were divided between provinces approximately in proportion to the square root of their amounts of potential agricultural land. This allocation methodology is one form of compromise between the appropriate allocation for producing national estimates and that for producing provincial estimates (Bankier, 1988).

For the 2009 sampling design, the images, which were sampled in 2008, were incorporated as a component of the 2009 new sample; this was done using a technique described by Kish and Scott (1971). The images that crossed provincial boundaries were added also to the 2008 sampling frame to create the 2009 sampling frame. However, since those images did not have any chance of selection in 2008 sampling, a separate sample of them was incorporated into the 2009 sample.



All provincial images were stratified by their amounts of potential agricultural land (two or three strata), and those in the strata with the larger amounts were sampled at higher rates in order to obtain more efficient sampled images in terms of potential agricultural land. Within the defined size strata, the images were listed in a geographical order by using their previously assigned image numbers. A systematic random sample of images was selected from the ordered list to give implicit geographical stratification.

Province	Total arable land(km ²)	Total # cells	Selected # cells	% of selected cells over total cells	Arable land in selected cells (km ²)	Sample size (% of arable land in selected cells)
Badghis	5,605	128	10	8%	404	7%
Day Kundi	897	158	6	4%	47	5%
Farah	1,233	186	14	8%	201	16%
Ghor	1,262	271	6	2%	55	4%
Hilmand	3,141	184	20	11%	572	18%
Kandahar	2,719	220	20	9%	501	18%
Kapisa	316	19	5	26%	171	54%
Kunar	297	33	5	15%	59	20%
Laghman	230	27	5	19%	68	30%
Nimroz	603	59	10	17%	75	12%
Uruzgan	661	78	10	13%	129	20%
Zabul	1,430	135	5	4%	88	6%
Total	18,395	1,498	116	8%	2,369	13%

Table 46: Agricultural land sampled, by province, 2009

Satellite image acquisition

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, namely the pre-harvest (capsule) 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. This is useful in 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 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 the 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 these 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. This is why two-dated images – pre-harvest and post-harvest – are collected for the same location.



Figure 51: Illustrations of opium poppy, wheat and clover growth cycles

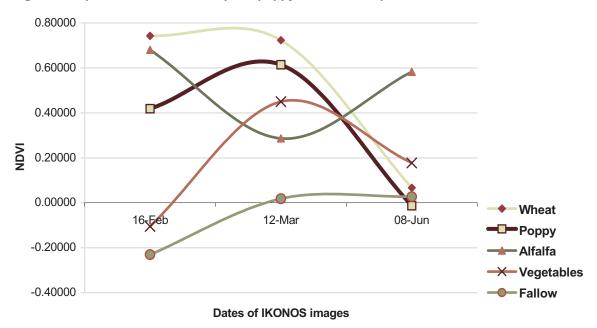
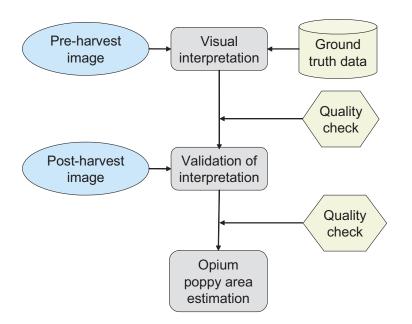


Figure 52: Spectral reflectance of opium poppy and other crops

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 below (field photographs of opium poppy, wheat and clover on different dates).

Figure 53: Image classification methodology for estimating opium cultivation area



Interpretation of opium cultivation from satellite images

First-dated images were acquired during the flowering or capsule stage and second-dated images 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 show in tones of pink. While 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 technique has been used to delineate opium poppy fields by interpreting IKONOS images covering a 10x10 km area. Ortho-rectified IKONOS images of 1 m resolution (PAN-sharpened) were used for this purpose. Opium poppy was initially identified using first-dated IKONOS 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. Poppy field boundaries were delineated by an on-screen digitization method.

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 (e.g. Hilmand and Kandahar) and in cases where images were obtained during the flowering and lancing stages of opium poppy. False-colour combination (infrared, 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.

Ground reference information

Ground reference data were collected from selected locations covering an area of 250x250 m within the extent of the satellite images. These locations are referred to as 'segments'. In areas where segment maps were unavailable, ground reference data was collected in locations marked by GPS (point data).

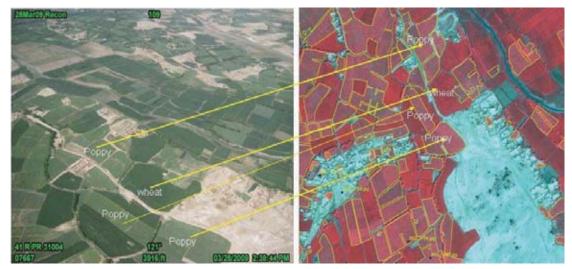
The segments were selected in the agricultural area in many of the image locations, giving preference to locations where interpretation of poppy is not easy. The surveyors visited these segments to collect detailed information for each agricultural field. This work was carried out by nine teams comprised of 18 surveyors trained by UNODC. Most of the surveyors trained and assigned to the segment survey already had the relevant experience from surveys conducted in previous years. Information collected during the segment survey included crop type, plant height, GPS coordinates and photographs.

Due to security constraints, only 61 of the planned 82 segments could be surveyed. Segment survey could not be carried out in parts of the southern and south-western regions. Each survey team was equipped with an orientation map to help locate segments within each satellite image, a detailed segment map showing individual land parcels and a manual containing instructions for ground data collection.

	Number of segments			
Province	Selected	Surveyed		
Badghis	4	0		
Day Kundi	10	5		
Farah	8	8		
Ghor	12	12		
Hilmand	3	0		
Kandahar	6	4		
Kapisa	8	5		
Kunar	13	12		
Laghman	8	8		
Nimroz	4	1		
Uruzgan	4	4		
Zabul	2	2		
Total	82	61		

Table 47: Total number of segments surveyed

Segment maps and GPS point data were superimposed over the satellite images to facilitate visual interpretation. Ground data is not always sufficient to identify the signature of opium poppy since segments may not necessarily contain opium fields. In such cases, opium poppy was identified on the basis of the analysts' experience and subsequently confirmed using the second-dated satellite images. Aerial photographs were also used wherever available to identify the poppy from other crops as shown below. The superimposition of GPS point data also posed difficulties, because the images of mountainous terrain were not perfectly ortho-rectified. This limits the use of GPS data as ground reference information, particularly in mountainous areas.



Aerial photoghraph (natural color)

Satellite image (normal FCC)

Advantage of two-dated images

Visual interpretation of single-dated very high resolution images was a relatively easy task in Hilmand, Kandahar, Uruzgan and Nangarhar provinces. This was due to larger field sizes and timely acquisition of the images. Interpretation of images in Badghis, Farah, Nimroz 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 provinces namely Kabul, Kandahar and Nangarhar particularly where the first date images were acquired late during 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 postharvest) is thus proven to be essential in such cases.

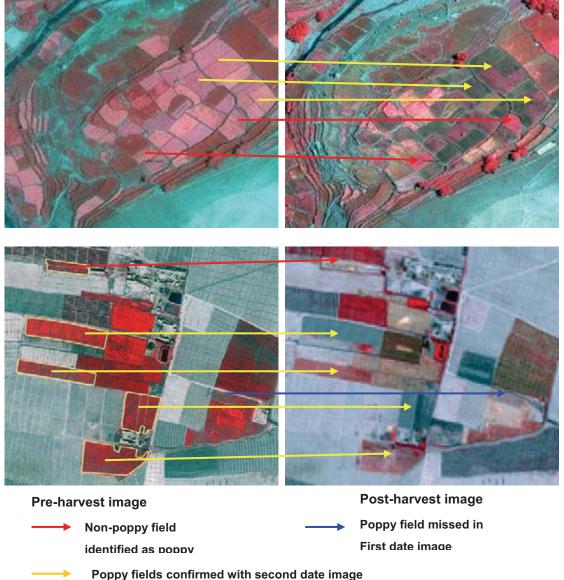


Figure 54: Advantage of two-dated images, Kabul and Kandahar, 2009

Quality control

A strict quality control mechanism was adopted. The interpretation carried out by each analyst was 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 interpretation of first-dated satellite imagery. These polygons were overlaid on the second-dated images for the purpose of confirmation. Each of the potential opium poppy fields identified using first-dated satellite data was validated with the help of second-dated satellite data. The corrections involved a few commissions and omissions.

Area estimation in sampled provinces

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

Let π_i denote the probability of including image *i* in a sample of size *n*. The inclusion probability, π_i , is connected with the probability P_i of selecting image *i* in one single extraction. To derive the relation between π_i and P_i it is preferable to use complementary probabilities. In this way, the probability, $1-\pi_i$, of not including image *i* in the sample of size *n* can be calculated as the probability of not selecting the image *i* in any of the *n* extractions, that is, $1-\pi_i = (1-P_i)^n$. Therefore the inclusion probability π_i will be:

$$\pi_i = 1 - (1 - P_i)^n$$

Let us now consider the probability, π_{ij} , that both image *i* and image *j* are included in a sample of size *n*. The probability of extracting either image *i* or image *j*, in one extraction, is $P_i + P_j$ and so the probability of neither extracting image *i* nor image *j*, will be 1- $(P_i + P_j)$.

In *n* independent extractions the probability of neither extracting image *i* nor image *j* will be $[1 - (P_i + P_j)]^n$. Therefore the probability of extracting either image *i* or image *j* in *n* extractions will be $1 - [1 - (P_i + P_j)]^n$. Alternatively, the same probability - that either image *i* or *j* be included in the sample, could also be expressed as the probability of including image *i* plus the probability of including image *j* minus the probability of including both *i* and *j*, that is, $(\pi_i + \pi_j) - \pi_{ij}$.

The two last expressions are different ways to refer to the same probability, thus:

$$\pi_i + \pi_j - \pi_{ij} = 1 - [1 - (P_i + P_j)]^n$$

Finally the inclusion probability, π_{ij} , can be calculated as:

$$\pi_{ij} = (\pi_i + \pi_j) - \{1 - [1 - (P_i + P_j)]^n\}$$

The Horvitz-Thompson estimator of the total value of the population is:

$$\hat{Y} = \sum_{j=1}^{n^{\star}} \frac{y_j}{\pi_j}$$

where y_i is the total value of the variable, in the distinct sampled image *i*; π_i is the probability of inclusion of the image *i* in the sample and *n* is the effective size of the sample, that is, the number of distinct image, in a sample of size *n*. Note that images sampled repeatedly are eliminated from the calculations.

The estimator is unbiased and its sampling variance can be written as:

$$V[\hat{Y}] = \sum_{j=1}^{N} \left(\frac{1}{\pi_{j}} - 1\right) Y_{j}^{2} + \sum_{j=1}^{N} \sum_{j \neq j} \left(\frac{\pi_{jj}}{\pi_{j}\pi_{j}} - 1\right) Y_{j} Y_{j}$$

An unbiased estimate of this variance is:

$$v[\hat{Y}] = \sum_{j=1}^{n*} \left(\frac{1}{\pi_j^2} - \frac{1}{\pi_j} \right) y_j^2 + 2 \sum_{j=1}^{n*} \sum_{j \neq j} \left(\frac{1}{\pi_j \pi_j} - \frac{1}{\pi_{ij}} \right) y_j y_j$$

Note that inclusion probabilities should be different from zero. The higher the probability of selection, πi , of a unit i to the sample, the less weight the corresponding response yi is given. In this way, the H-T estimator uses probability to weight the response in estimating the total.

The estimations for each province were refined using the bootstrap method with 100,000 iterations. The main reason for using this method was to calculate the standard error of the estimator. Since the sample items are of different sizes (the total area of agricultural land varies from cell to cell) it is appropriate to apply the bootstrap method. The bootstrap

technique does not have a significant effect on the estimation of the mean area under opium cultivation. It should be noted that the upper and lower estimates do not lie symmetrically around the mean estimate obtained for each province because of the use of the bootstrap method.²⁷

Bootstrapping with 100,000 iterations was run to calculate the confidence intervals and found a 95% probability that the area under opium cultivation (estimated from satellite imagery in the 12 provinces covered by the sampling approach) was between 100,275 ha and 135,891 ha.

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 Winter Assessment and the survey of village headmen. Fieldworkers visited the 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. In 2009, 5 provinces (Badakhshan, Baghlan, Hirat, Kabul and Nangarhar) were surveyed using this approach. This approach assumes that all poppy areas were identified and covered by imagery. The total poppy area of a target province is equal to the poppy area measured on the imagery without any further calculation.

Uncertainty (national level)

In order to express the uncertainty associated with the area estimation including the provinces covered with the targeting approach and take into account that for the final estimate, provinces with a mid-estimate of less than 100 ha 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. For practical reasons, the values of the upper and lower limits of the confidence interval of provinces, which had a mid-estimate below 100 ha (Kapisa and Ghor), were deducted from the corresponding national figures rather than recalculating the interval. The resulting range (rounded 102,000 ha to 137,000 ha) is not a confidence interval in the strict sense as it contains values from sampling and non-sampling approaches. However, considering that the contribution of the target provinces to the total poppy area was only 1%, this approach was regarded to express the uncertainty sufficiently well.

Uncertainty (provincial level)

The uncertainty around the estimates of the area under opium cultivation varies across provinces. In provinces where satellite images were targeted, the estimated area under opium cultivation is not affected by sampling errors, but they may be affected by the missing of areas with very little cultivation. The 2009 provincial estimates derived from the sample of satellite images have the following rounded standard error: Farah 2,400, Hilmand 5,200, Kandahar 3,000, Nimroz 100, Uruzgan 2,400, Badghis 1,700, Day Kundi 700, Ghor 20, Kunar 80, Kapisa 10, Laghman 60, and Zabul 400.

District level estimation

The methodology adopted for district level estimation is similar to province level estimation. However, in case of districts where the sample grids 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 sample grid was used also for the neighbouring district(s). For districts with isolated, non-contiguous agricultural area, the average poppy proportion of the province was applied. The methodology and sample was not designed to produce results at the district level. District level results are indicative only.

²⁷ References:

Bankier, M. (1988). Power allocations: Determining sample sizes for subnational areas. American Statistician, 42, 174-177. Cochran, W.G. (1977). Sampling Techniques. 3rd ed. Wiley, New York.

Kish, L. and Scott, A. (1971). Retaining units after changing strata and probabilities. Journal of the American Statistical Association, 66, 461-470.

Efron, B. (1989). Bootstrap Methods, Chapman and Halls, New York.

Accuracy assessment

Due to the difficult security situation in many parts of Afghanistan, which prevented surveyors from carrying GPS and mapping equipment, not enough ground segments could be visited to conduct a systematic accuracy assessment. To assess the correctness of the poppy interpretation on the satellite images, ground reference information in the form of GPS points of poppy fields was collected during other survey activities independently of the segment survey. Over 90% of the GPS position of poppy fields fell into interpreted poppy on the images.

Figure 55: Segment data collection, Kandahar



Wheat

3.2 Village survey methodology

Village survey activities (such as training, deployment and data collection) were carried out from March to July 2009 by 146 local field surveyors across all provinces. These activities were supervised jointly by MCN and UNODC. The surveyors were selected on the basis of their experience in opium poppy surveys, knowledge of local customs and their acceptance by local communities. Security was generally problematic for the surveyors, but selection of the surveyors from their respective regions helped to reduce security risks.

Sampling framework

A total of 1,604 villages in 368 districts were surveyed across all provinces. In 2009, the sampling frame for the village survey data was comprised of an updated list of 43,556 villages in Afghanistan based on information from the Central Statistical Office and UN databases (AIMS). The total sampling ratio was 4%. In addition to the sample villages, the surveyors, using their knowledge of the local situation, visited other areas in the province to complement their assessment of opium cultivation trends and the security situation throughout the province.

The following data were collected for all villages surveyed:

- Extent of cultivation of opium and other crops
- Total number of households/inhabitants living in the village
- Total number of households growing opium
- Farmer estimates of wheat and opium yield
- Wheat and opium prices
- Financial status of farmers
- Reasons for cultivation/non-cultivation of opium

The surveyors conducted structured interviews with 1,604 headmen and 4,781 farmers (three farmers per village – one opium-growing and two non-opium-growing (one who stopped opium cultivation and one who has never grown opium).

Surveyor training

Until 2007, all surveyors were provided with village survey training in Kabul. In order to prepare for the 2009 village survey and as part of a capacity-building exercise for national staff, regional survey coordinators and their assistants were trained in Kabul over a four-day period. They, in turn, trained surveyors in their respective regions. The extension of survey training sessions to the regional level is one of the milestones reached in building national capacity to conduct opium poppy surveys.

During the training period, a total of 146 surveyors and nine survey coordinators were trained in the use of the survey form and techniques by local UNODC staff in all regions. Surveyor training began in March 2008 and was conducted by the national staff of UNODC. MCN also participated in all training sessions. The training included practical (use of GPS, area calculation, etc.) and theoretical aspects (interviewing and dialogue with village headmen and farmers).

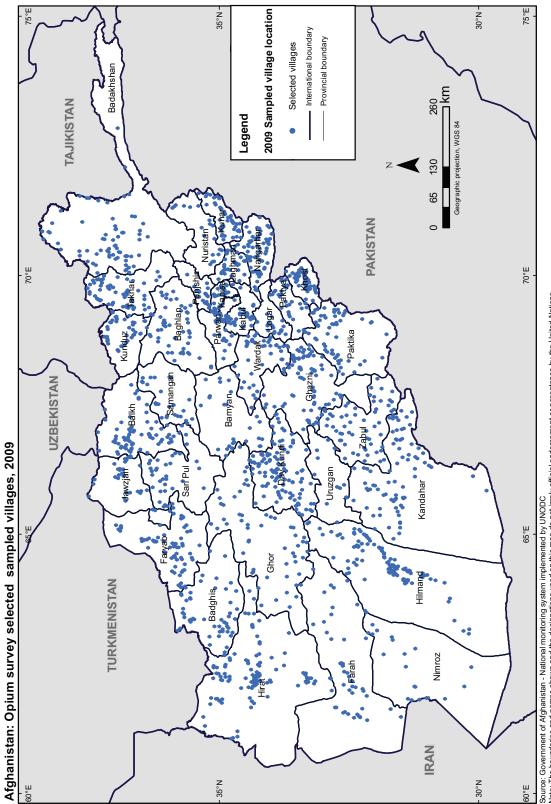
Data collection

Opium cultivation is illegal in Afghanistan and is considered to be forbidden under Islam. Given the sensitive nature of the issue, data collection is difficult and can be dangerous. Surveyors are selected from different regions of Afghanistan through a very careful process. UNODC and MCN regional offices and coordinators recruit surveyors according to survey specifications and the surveyors' skills. Most of the surveyors selected already have experience in conducting UNODC surveys.

Surveyors were trained in techniques for approaching local community members and conducting interviews. Following intensive theoretical and practical training, they were deployed to the field, where they interviewed headmen of villages and conducted other survey-related activities. UNODC and MCN coordinators closely monitored data quality and the progress of the survey. Fortunately, the surveyors did not encounter any security problems.

Debriefing

At the end, surveyors were debriefed by survey coordinators, reporting on their findings in the areas they had visited and providing an assessment, *inter alia*, of various factors thought to influence opium cultivation, including the security situation; pressure from the government concerning survey reports; difficulties encountered in conducting the survey; the level of control exercised by governors over their respective provinces; the presence of anti-government elements; corruption; and the levels of cannabis cultivation. Debriefing facilitates a greater understanding of opium cultivation and the socio-political and other factors that determine cultivation trends and provides useful guidance in analysing survey data.





3.3 Drug flow survey

The drug flow survey relies on information from key informants who are knowledgeable about drug production and trafficking. The key informants are selected non-randomly. The sample is not representative. The interviews are conducted by a group of specifically trained, experienced surveyors. In 2009, 47 key informants were interviewed in the Eastern (8, mainly from Nangarhar), North-eastern (9, mainly from Badakhshan), Northern (10), Southern (10, mainly from Hilmand) and Western regions (10). The Central region was not covered by the survey.

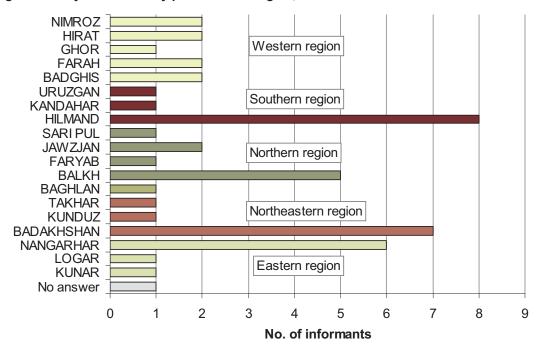


Figure 56: Key informants by province and region, 2009

One respondent from the Eastern region did not indicate his province.

The respondents were asked if they had expertise in one or several fields: opium trade, morphine/heroin trade, precursor trade, and/or morphine/heroin production. Out of 47 respondents, 18 reported to have expertise in only one field, 19 in two fields, 7 in three fields and 3 in all four fields. Many of those who reported to have expertise in opium trade also reported to have expertise in morphine/heroin trade (23 out of 37).

Region	Opium trade	Precursor trade	Morphine/heroin trade	Morphine/heroin production
Eastern	3	1	3	1
North-eastern	8	2	8	5
Northern	9		5	1
Southern	7	3	4	5
Western	10	2	10	2
Total	37	8	30	14

Table 48: Fields of expertise of respondents (n=47)

Note: Multiple answers possible.

3.4 Opium yield and production

Since 2000, UNODC has been developing an alternative objective yield assessment approach based on the measured volume of opium capsules and cultivation density²⁸. The relationship between capsule volume per square metre and dry opium yield was originally developed from data collected in Pakistan and Thailand. It takes the form of a non-rectangular hyperbola:

Non-rectangular hyperbola formula for predicting opium yield:

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

where

Y = Dry opium gum yield (kg/ha)

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

In 2009, capsule measurements were collected from 817 fields (568 in 2008) in 286 villages (190 in 2008) randomly selected. Poppy-free provinces were not included in the sampling frame. The yield survey requires the cooperation or at least agreement of the farmer to be able to take the necessary measurements. Surveyors were instructed to identify three fields of different quality in each village, a 'good', an 'average' and a 'poor' one, to avoid a possible bias of surveyors selecting fields of a certain quality.

A total of 27,211 capsules (17,541 in 2008) from 2,452 plots were measured. The work was carried out by 76 surveyors. A number of fields were excluded from the final calculation for not meeting the quality requirements (e.g. 3 plots per field measured, minimum of 30 capsule per field measured).

	2008	2009 (original)	2009 (final)
No. of villages	190	286	248
No. of fields (3 per village)	568	817	699
No. of plots (3 per field)	1,710	2,449	2,415
No. of capsules measured	17,541	27,211	26,901

Table 49: Yield survey, 2009

For the yield survey, the procedure established in the UNODC "Guidelines for Yield Assessment" was followed. An imaginary transect was drawn, along which three one-metre square plots were selected. From 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. With these data, the capsule volume per square metre was calculated 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.

²⁸" 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.

Region	Mid-point	Lower limit of 95% ci	Upper limit of 95% ci
Central*	n.a.	n.a.	n.a.
Eastern	36.2	33.8	38.6
North Eastern	34.3	31.3	37.3
Northern*	n.a.	n.a.	n.a.
Southern	58.5	57.6	59.4
Western	43.9	41.8	45.9

Table 50: Regional opium yield values with 95% confidence intervals (kg/ha), 2009

* For the Central region, no regional yield figure was calculated due to a low number of yield measurements in this region. The Northern region was poppy-free.

Over 26,900 capsules were measured in 2009. The average capsule volume was 36.4 cm3, the maximum 193.3 cm3 and the minimum 0.65 cm3 (about 13 mm x 7 mm). Typical capsules volumes were between 10 and 50 cm3. Over 360 capsules had volumes over 100 cm3. Volumes between 50 and 100 cm3 were not uncommon.

While big capsules seemed to be a feature of regions with good ecological conditions for poppy cultivation, the average capsule volume did not differ much across the six regions. The range of capsule volumes was rather wide in all regions including those where very big capsules were found. However, most values were rather close to the median including in the South. Very big capsules with over 100 cm3 were mainly found in the Central, Eastern, Southern and Western regions.

In a larger number of fields, one or more plots had plot volumes higher than the upper end of the range, for which the hyperbolic model was developed (2,000 cm3). Most of these fields were located in the Southern region. Capsule sizes and numbers observed in recent years in Afghanistan, mainly in the Southern region, are much higher than those observed in the yield experiments, which led to the development of the correlation between plot capsule volumes, and exceeded the range of values for which the correlation was established. It is uncertain how opium yield and capsule size and numbers correlate when these numbers are as high as those observed in Afghanistan during the last two years. Further research into opium yield is therefore necessary. The findings of this research may well lead to a revision of opium yield estimates in Afghanistan.

For the calculation of the 2009 opium yield, a decision was taken to leave plots with capsule volumes over 2,000 cm3 in the sample to maintain the integrity of the sample but to truncate the values at 2,000 cm3.

Summary of data cleaning for final calculation:

- Plots were deleted if the number of measured capsules was larger than the number of mature and yielding capsules
- Fields were excluded if less than 30 capsules were measured in all three plots together
- Capsule volumes of plot with more than 2,000 cm3 were truncated (plot volumes larger than 2,000 cm3 were set to 2,000 cm3)

Opium production

The opium production was calculated with the estimated regional area under opium cultivation multiplied by the corresponding regional opium yield. Upper and lower limits of the opium production range were calculated with the upper and lower limits of the 95% confidence intervals of the regional yield figures. In the absence of regional confidence intervals for the area estimation, the sum of the upper and lower limits respectively of the confidence intervals of all provinces in each region was used and multiplied with the corresponding regional yield values. The resulting range does not represent a confidence interval and should only be taken as an indication of the uncertainty associated with the estimation.

Region	Best estimate	Upper limit	Lower limit
Central*	n.a.	n.a.	n.a.
Eastern	21	35	11
North Eastern	19	21	17
Northern*	n.a.	n.a.	n.a.
Southern	6,026	7,511	4,653
Western	825	1,259	455
Total (rounded)	6,900	8,800	5,100

 Table 51: Opium production by region with range (mt), 2009

* For the Central region, no regional production figure was calculated due to a low number of yield measurements in this region. The Northern region was poppy-free.

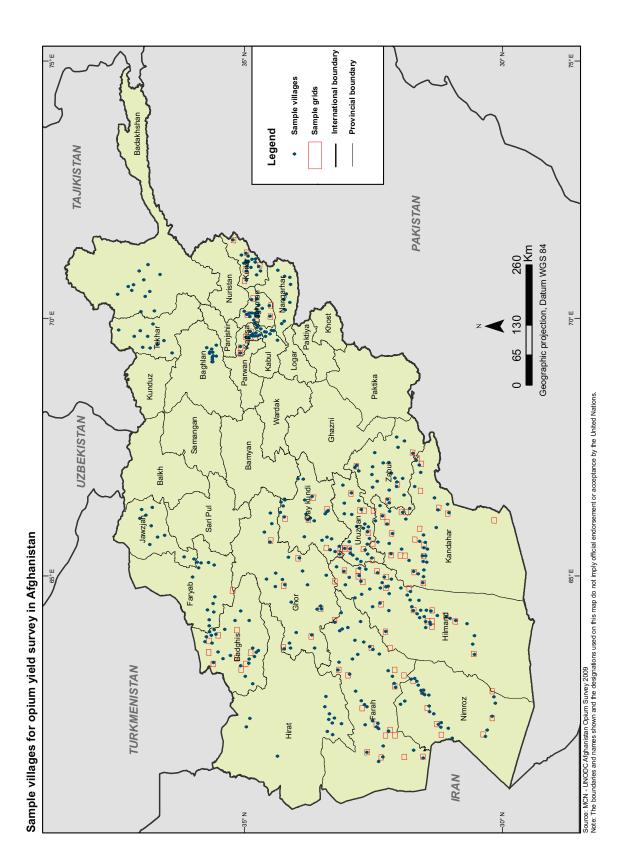


Yield survey training, 2009

3.5 Eradication verification methodology

Verification of eradication led by provincial governors (GLE)

In 2009, UNODC/MCN improved the field based verification activities by enhancing the control mechanism. The areas verified by the eradication verifiers were randomly checked by the verification inspectors for validation of the reported figures. A total of 58 eradication verifiers were trained on 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 beginning 1 December 2009.



Verification methodology for GLE:

- Eradication verifiers were part of the governor-led eradication teams.
- The verifiers took measurements of each eradicated field, collected its GPS coordinates and took photographs.
- The verifiers drew sketch maps of each field as a reference for area calculations done at a later stage in the Kabul office.
- The verification reporting officers in Kabul obtained the provisional data from the verifiers through 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 and regional verification coordinators at the regional level. Eradicated fields were revisited randomly by verification inspectors 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.
- MCN/UNODC published periodical reports 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.
- The updated area figure for each province was reported in the periodical reports, often on a weekly basis.

Verification of eradication led by Poppy Eradication Force (PEF)

Fifteen eradication verifiers were trained by UNODC/MCN to work with PEF international verifiers, who verified eradication using GPS data.

- PEF international verifiers used all terrain vehicles (ATVs) along eradicated field boundaries and digitized the shape of eradicated poppy field. Verifiers took photographs before and after eradication.
- UNODC/MCN verifiers accompanied PEF international verifiers to observe the eradication and verification done by PEF verifiers. They also carried out field measurements by the manual technique used in the governor-led eradication verification.
- The report prepared by the PEF international verifiers was integrated into the observations by UNODC/MCN verifiers and sent to MCN/UNODC-Kabul for further analysis.
- Further validation of the results will be done using data obtained through helicopter flights, as well as from satellite imagery, to calculate the final area of eradicated poppy fields.

3.6 Opium poppy-growing households

The number of households involved in opium cultivation in Afghanistan is based on information from the headman interview on the number of households cultivating opium and the total number of households in the village. The average proportion of households cultivating opium in the sample was calculated for each province and multiplied with the total number of rural households in that province, a figure provided by the Central Statistical Office.

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

In 2008, the dry opium prices at harvest time were based on farmers' responses collected through the Annual Opium Survey, which was conducted slightly before the opium harvest. In 2009, farmgate prices at harvest time were 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. This is thought to better reflect the opium prices at harvest time. 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 Northern region was poppy-free in 2009.

Region	Average Dry Opium Price (US\$/kg)
Central	160*
Eastern	90
North-eastern	75
Northern	Poppy-free
Southern	62
Western	72
National average price weighted by production	64

 Table 52: Regional farm-gate prices of dry opium at harvest time (US\$/kg), 2009

The farm-gate value of the opium production is the product of potential opium production at the national level with the weighted average farm-gate price of dry opium at harvest time. The upper and lower limits of the range were determined by using the upper and lower opium production estimate, respectively, which represent approximately the upper and lower limits of the 95% confidence intervals of cultivation and yield estimates.

Table 53: Farm-gate value of opium production (US\$), 2009

	Production of dry opium (rounded) (mt)	Farm-gate price of dry opium (US\$/kg)*	Farm-gate value (US\$ million)
Upper limit	8,800	64	559
Lower limit	5,100	64	324
Best estimate	6,900	64	438

* Average price at harvest time weighted by production.

In 2008, the upper and lower limits of the farm-gate value range were calculated by using the 90% confidence intervals of cultivation, yield and price estimates. Thus, the ranges of the 2008 and 2009 farm-gate value are not directly comparable. The mid-estimate, however, is comparable.

Prices for the Central region were taken from the annual village survey as there is no monthly opium price monitoring in that region.

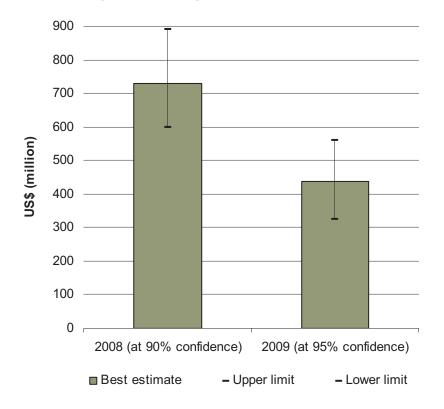


Figure 57: Estimation ranges of the farm-gate value 2008 and 2009

3.8 Value of Afghan Opiates in Neighbouring Countries

Two main assumptions are made in the calculation of the opium economy in Afghanistan:

- Total amount produced in Afghanistan in 2009 is either consumed internally or exported (no change in stock value inside Afghanistan).
- The value of the exported opium (partly transformed into morphine/heroin) is based on its value at border areas of neighbouring countries. Opiates are usually trafficked by Afghan traders to neighbouring countries. In general, Afghan traffickers are involved in shipping the opiates across the borders, from where traffickers from neighbouring countries take over the consignments. The value of the opium production in the border areas of neighbouring countries with Afghanistan is thus considered to be a good proxy for the overall gross income made by Afghan citizens from the opium sector.²⁹

Apart from some refinements, the overall approach taken to calculate such an income has remained largely unchanged as compared to previous years in order to ensure direct comparability of the results.

Assumptions

The model is based on the following assumptions:

 Afghan drug traffickers control drug trafficking from Afghanistan to neighbouring countries, where the merchandise is then handed over to other traffickers. The total gross value of the exported Afghan opium can be estimated by multiplying wholesale prices for

²⁹ There are, of course, also traders from neighbouring countries (notably from Pakistan, Iran and Tajikistan) purchasing opiates in Afghanistan and smuggling them across the border. Similarly, some Afghan traffickers are involved in shipping the opiates from Afghanistan to the main transhipment markets, located further inland in neighbouring countries. These effects are considered to offset each other.

opium and heroin in border regions of neighbouring countries with estimated amounts of drugs trafficked.

- Only exports to Afghanistan's direct neighbours are included in the model, i.e. to I. R. of Iran, Pakistan and Central Asia. There are indications that direct drug exports to China and India as well as to other countries by air or land take place. The amounts trafficked through these routes are thought to be comparatively small and they are not considered in this model.
- For the conversion of opium into morphine, a factor of 7:1 is used. For the conversion of morphine into heroin a factor of 1:1 is used. Morphine seizures in Pakistan and Iran bear evidence of morphine exports from Afghanistan to these countries. For the estimation of flows, no difference is made between morphine and heroin as the proportion of opiates exported as morphine is not known.
- For the purposes of this model, in most estimation steps, Central Asian countries are treated as one region.

Stocks

The calculation – for now - has not considered the impact of building up opium stocks (or producing heroin out of previously accumulated stocks). The issue of changes in opium stock did not play a major role when the calculation model was first developed in 2003. As long as previously accumulated stocks of opium are being used to produce morphine and heroin and similar amounts of new opium stocks are subsequently being made, the net results will not be influenced in a significant way.

In the meantime, however, there are indications that stocks have become important and could have a measurable impact on the final results. The drug flow survey of 2009, for example, showed no direct opium flows from the main producing area in the South to the Eastern region where nonetheless a substantial number of heroin processing laboratories were reported. At the same time, opium traders in the Eastern region reported that they source most of their opium from within the region. Thus, it can be assumed that part of the opium processed in the Eastern region comes from stocks. In the drug flow survey, all informants from the Eastern but also from other regions reported keeping consistent stocks of opium, although it is not known from which years these stocks originate. However, so far, UNODC does not have any solid evidence for estimating year on year changes in the stocks of opium and of morphine and heroin that can be used in the calculation of the opium economy.

Components

The estimation process of the opium economy includes the following steps:

- Estimation of the total exported opiates by subtracting the internal consumption to the total opium production in 2009,
- Within the total exported opiates, estimation of the amount of opiates exported as opium and the amount of opiates exported as heroin or morphine;
- For each total exported opium and total exported heroin, estimation of quantities going to neighbouring countries (Iran, Pakistan and Central Asia);
- Estimation of the gross value of the exported opium and heroin by multiplying quantities with prices in respective neighbouring countries;
- Estimation of the net value of the economy by subtracting the gross value of exported opiates with the costs of precursors used to produce the exported heroin.

This process requires three components:

- Conversion: This component determines the amount of opiates available for export and estimates the proportion converted into morphine and heroin within Afghanistan.
- Distribution: This component estimates the internal flows of opium and heroin within Afghanistan prior to export as well as the flows into neighbouring countries.
- Value: this component estimates the value of the opiate flows based on price ranges of opium and heroin at the wholesale level in neighbouring countries of Afghanistan.

Opiates available for export

In 2009, an estimated 6,900 mt of opium were produced in Afghanistan (range 5,100 mt to 8,800 mt). To estimate the opiates available for export, local consumption and seizures were deducted. Based on a drug use study undertaken by UNODC and the Ministry of Counter Narcotics in 2005³⁰, local consumption of opiates in Afghanistan is estimated at 156 mt. This figure has not been adjusted for population dynamics as too little is know about the drug use pattern among the population of Afghanistan.

According to the Counter Narcotic Police of Afghanistan (CNPA), 36,000 kg of opium and 7,000 kg of morphine and heroin were seized in Afghanistan in 2008 (reporting year April 2008 to March 2009) corresponding to 85 mt in opium equivalents. This figure was taken as a proxy for the seizures affecting the 2009 production. Information from the CNPA laboratory indicates that not all assumed seizures of heroin turn out to actually contain heroin or contain heroin in combination with various other substances.³¹ This is rather typical for seizures and not specific only to Afghanistan but the present level of information does not allow to correct the official seizure figures for purity or type of substance, nor for possible double reporting, which can happen when various agencies are involved in a seizure operation. However, since January 2009, ISAF has been engaged in counter narcotics operations in Afghanistan as well and has intensified seizure activities. Thus, the amount of opiates seized may be rather an under-estimation.

Accounting for local consumption and seizures, 6,651 mt of opium (range 4,895 – 8,584 mt) were available for export in 2009.

	Opium production (mt)	Opium exports (mt)	Heroin/morphine exports (mt)
Opium production in 2009	6,892 (5,136 – 8,825)		
Less local consumption of opiates in opium equivalents	156		
Less seizures (in opium equivalent)	85		
Opiates available for export	6,651 (4,895 - 8,584)		
Proportion		42%	58%
Opiates required (in opium equivalents)		2,814 (2,071 – 3,632)	3,837 (2,824 – 4,952)
Conversion (opium to morphine/heroin 7:1)			548 (403 - 707)

Table 54: Opiates available for export, 2009

Conversion of opium into morphine and heroin

The opium production figure refers to oven-dry opium, meaning opium dried under laboratory conditions to remove any moisture contained in the gum as opposed to air-dry opium, often simply called "dry opium" or fresh opium.³² The analysis of information from various sources over the past years indicated that about 7 kg of opium are needed to produce 1 kg of morphine (base) or

³⁰ UNODC/Ministry of Counter Narcotics (2005): Afghanistan Drug Use Survey 2005. Vienna. For a detailed discussion of the calculation of the local consumption figure see UNODC/Ministry of Counter Narcotics (2008): Afghanistan Opium Survey 2008. November 2008. Vienna, p. 154-155.

³¹ 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

³² The moisture content of fresh opium ranges between 30% and 50%. Opium after storage typically has a moisture content of 10% to 15%. Although usually referred to as 'dry' opium, opium after the natural drying process still contains residual water. Cf. 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.

brown heroin (base).³³ By and large, this 7:1 ratio has been confirmed in various key informant surveys in recent years and it is also used for this estimation. Theoretically, it would be possible to extract from 7 kg of opium gum all its morphine content and produce 1 kg of pure heroin, but considering local conditions, the conversion of 7:1 applies more realistically to a lower quality heroin. Thus, the heroin figures calculated here refer to brown heroin base. Information on heroin purity in Afghanistan indicates a wide range of purity. It is difficult to assess the typical laboratory purity of Afghan heroin as the seizures of heroin vary by location, trading level and sometime may already contain adulterants added to better commercialize the drug. Typical laboratory efficiencies can be assumed to be on the range of 50% to 80% ³⁴

For the production of 1 kg of high quality white heroin (HCl), more than 7 kg of opium is needed. However, export of such high-quality white heroin from Afghanistan appears to be very limited as compared to 'brown heroin'. Therefore, production and exports of white heroin was not considered in this estimation.

Proportion of opium converted into morphine and heroin

In order to correctly apply opium and heroin prices, there is the need to estimate the proportion of opium, which is exported (and sold) as opium, and the proportion of opium, which is exported (and sold) as heroin or morphine.

These proportions were derived from two sources:

- 1. A three-year average of seizures made in Afghanistan and neighbouring countries
- 2. Information from key informants collected in the 2009 drug flow survey.

The simple average of the percentages of opium and heroin found in these two sources was taken as an estimate of the proportion of opium to morphine/heroin.

Between 2006 and 2008, the proportion of opium among all opiate seizures increased considerably from 44% in 2006 to 62% in 2008. However, this trend may be an over-estimate of the overall proportion of opium exported from Afghanistan because it reflects a large increase of seizures in Iran where the majority of untransformed opium is traditionally exported and used.³⁵

Distribution	2006	2007	2008	Average 2006- 2008
% opium	44%	58%	62%	55%
% heroin/morphine	56%	42%	38%	45%

Table 55: Opiate seizures in Afghanistan and neighbouring countries (%), 2006-2008

³³ For a detailed discussion of the 7:1 ratio see UNODC/Ministry of Counter Narcotics (2008): Afghanistan Opium Survey 2008. November 2008. Vienna, p. 151-154.

³⁴ The simulation exercise conduction by the German Bundeskriminalamt found purities within that range (see Bulletin on Narcotics, vol. LVII, No. 1 and 2, 2005, p. 11-31). Out of 8 heroin base samples analysed by DEA in 2007 and 2008, 6 had purities between 54.9% and 79.6%. Two samples from 2008 had very low purities of 2.64% and 10.76% (the samples are not representative for heroin in Afghanistan) (communication from DEA, May 2009).

³⁵ The seizure rate of Afghan opiates in Afghanistan and neighbouring countries, calculated in opium equivalents against the potential opium production of the same year, changed little, from 14% in 2006 over 11% in 2007 (record opium harvest) to 13% in 2008. The increase in the proportion of opium among all opiates seized is mainly due to a strong increase in opium seizures in Iran (+81%) and Pakistan (+201%) between 2006 and 2008, while at the same time, morphine/heroin seizures declined in Pakistan and the increase in heroin/morphine seizures in Iran (+57%) was lower than the increase in opium seizures.

Opium (kg)	2006	2007	2008
Afghanistan	40,959	52,457	36,000
Pakistan	8,997	15,370	27,243
Iran	311,306	427,147	562,059
Kazakhstan	637	336	17
Kyrgyzstan	302	271	141
Tajikistan	1,387	2,542	1,745
Turkmenistan	2,656	2,284	1,503
Uzbekistan	759	731	1,062
Sub-total	367,003	501,138	629,770
Heroin and morphine (kg)			
Afghanistan	4,991	10,057	7,000
Pakistan	35,477	13,863	9,225
Iran	21,272	25,580	33,428
Kazakhstan	555	522	1,639
Kyrgyzstan	261	431	299
Tajikistan	2,097	1,550	1,636
Turkmenistan	201	326	245
Uzbekistan	537	501	1,472
Sub-total in heroin equivalent	65,391	52,830	54,944
Sub-total in opium equivalent	457,737	369,810	384,607
All opiates (in opium equivalent)	824,740	870,948	1,014,377

Table 56: Opiate seizures in Afghanistan and neighbouring countries (kg), 2006-2008

It has been argued that the over-proportionally high amount of seizures made in Iran is a consequence of the efficiency of its law enforcement agencies rather than because it is the main transit country. On average, between 2006 and 2008, 55% of all seizures in Afghanistan and neighbouring countries were made as opium and 45% as heroin or morphine.

Information collected from key informants in selected locations in Afghanistan shows that within Afghanistan around 70% of opium was processed into morphine and heroin. Using the average of the two estimates (based on seizures and information from the drug flow survey), UNODC estimated that 58% of the total opium was transformed into morphine or heroin in Afghanistan. Thus, it was assumed that 3,837 mt of opium equivalent (range 2,824 - 4,952 mt) was transformed into 548 mt of morphine/heroin (range 403 - 707 mt) to be exported into neighbouring countries, while 2,814 mt of opium (range 2,071 - 3,632) were exported untransformed.

Opium and heroin flows within Afghanistan

A large proportion of opium production in 2009 was concentrated in the Southern (87%) and Western (12%) of the country. The Northern region was free of poppy cultivation in 2009, and cultivation in the North-eastern and Eastern regions was at a very low level. However, information on location of opium markets and laboratories indicate that morphine/heroin production takes place in many different places across the country including in regions were opium production is minimal. This suggests the existence of internal flows of opium and morphine/heroin. An attempt was made to approximate these opium and heroin flows within Afghanistan as a first step to understand where and what amounts leave Afghanistan. The information on internal flows comes from the 2009 drug flow survey when key informants where asked which proportion of opium and/or morphine/heroin they sold to which region and from where they sourced opium and/or morphine/heroin in case they bought opiates. The question "where to" was used to establish a distribution pattern and the question "where from" to confirm the information. The analysis was

limited to opium and heroin, excluding morphine, to keep the complexity of the emerging pattern at a manageable level.

Some patterns were identified in the survey, although they should be interpreted with caution, as the number of respondents was very small:

- The Eastern regions received opium mainly from within the region, and partly from the Northeast.
- The North-eastern region, where very little opium production took place in 2009, traded opium and heroin to the Central, Eastern, Northern and Western regions but not to the Southern region.
- The Northern region, where practically no opium production took place in 2009, reported opium flows internally and to the Southern and Western regions. Some opium seemed to come from the Western region and some heroin from the North-eastern region.
- The Southern regions seemed to be practically self-sufficient. Its opium and heroin production goes partly to the Western region. None of the other regions reported the South as the origin of opium or heroin. Interestingly, not even the Eastern region where there is marginal opium cultivation in contrast to a still alive heroin production, seems to receive opium directly from the South.
- The Western region reported receiving small proportions of opium and heroin from the Northern and North-eastern region. The Southern region was the main source of its opiates. Some opium seemed to find its way from the Western region back into the South.

Region of origin	Central	Eastern	Northern	Southern	Western	Export	Total
Central	0	0	0	0	0	0	0
Eastern	0	67	0	0	0	23	100
North- eastern	13	4	16	0	3	67	100
Northern	1	0	2	42	4	51	100
Southern	0	0	0	0	14	86	100
Western	0	0	1	0	0	99	100

Table 57: Opium flows within Afghanistan based on the 2009 drug flow survey (as % of flows by region), 2009

It is not known which proportion of the estimated heroin destined for export is produced in which part of the country. In order to start the internal redistribution of opium and heroin based on the information obtained through the drug flow survey, the amounts of opium and morphine/heroin available for export were distributed among the regions proportionally to the production of opium in each region. First, the amount of opium leaving the region for other regions in Afghanistan were calculated by multiplying the average percentage reported by informants from that region with the opium available for export in that region. The amount of opium entering the region from other regions in Afghanistan was calculated similarly. The same procedure was followed for the calculation of the heroin entering and leaving the region.

		Destination region					
Region of origin	Central	Eastern	North- Eastern	Northern	Western	Export	Total
Central	0	0	0	0	0	0	0
Eastern	0	0	0	0	0	0	0
North-eastern	15	3	0	17	1	64	100
Northern	0	0	0	0	0	0	0
Southern	0	0	0	0	11	89	100
Western	0	0	0	0	1	99	100

Table 58: Heroin flows within Afghanistan based on the 2009 drug flow survey (as % of flows by region), 2009

Table 59: Opium flows within Afghanistan based on the 2009 drug flow survey (mt), 2009

Region	Opium production (mt)	Opium available for export (mt)	Out of region (mt)	Into region (mt)	Opium after redistribution (mt)
Central	n.a.	n.a.	n.a.	1	1
Eastern	21	9	0	0.3	9
North-eastern	19	8	3	0	5
Northern	0	0	0	3	3
Southern	6,026	2,461	352		2,109
Western	825	337	2	352	687
Total	6,891	2,814			2,814

Note: For the Central region, no specific regional production figure was calculated due to a low number of yield measurements in this region. Opium flows (mt) in this table are based on the midestimate for production.

Table 60: Heroin flows within Afghanistan based on the	2009 drug flow survey (mt), 2009
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Region	Heroin/ morphine available for export (in opium equiv.)(mt)	Heroin/ morphine available for export (in heroin equiv.) (mt)	Out of region (mt)	Into region (mt)	Heroin/ morphine after redistribution (mt)
Central	n.a.	n.a.	n.a.	0.2	0.2
Eastern	12	2	0	0	2
North-eastern	11	2	0.5	0	1
Northern	0	0	0	0.3	0.3
Southern	3,355	479	53	0	427
Western	459	66	0	53	118
Total	3,836	548			548

Note: For the Central region, no specific regional production figure was calculated due to a low number of yield measurements in this region. Heroin/morphine flows (mt) in this table are based on the mid-estimate for production.

Opium and heroin flows out of Afghanistan

The amounts of opium and heroin in each region after considering the internal redistribution were used as a starting point for the estimation of drug flows into neighbouring countries. As in

previous years, several sources of information were used to estimate the distribution of opiate flows out of Afghanistan to neighbouring countries. Neighbouring countries are grouped into Iran, Pakistan, and the Central Asian countries. There are indications of other direct drug exports, e.g. to China and India, but amounts are thought to be comparatively small and were not taken into account.

For the calculation of the <u>opium</u> flows, three sources of information were used:

- 1. Distribution of trade flows from the 2009 drug flow survey
- 2. Distribution of seizures in neighbouring countries (3-year average 2006-2008)
- 3. Distribution based on trafficking routes³⁶

A fourth source was considered for the calculation of <u>heroin</u> flows, based on the location of morphine and heroin laboratories obtained from the 2009 drug flow survey. The final proportional distribution was calculated as the simple average of distribution from the different sources.

Trade flow patterns

The tables below report the distribution of opiate exported to neighbouring countries.

The drug flow survey did not have informants in the Central region. Thus, the destination of the small amount of opiates destined for the Central region (much less than 1% of the total) remains could not be estimated.

Table 61: Opium flows to neighbouring countries based on the 2009 drug flow survey (as % of all exports)

	Destination (%)				Destination (mt)						
Region of origin	Redistri buted opium (mt)	Iran	Paki- stan	Cen- tral Asia	China	India	Iran	Paki- stan	Cen- tral Asia	China	India
Central	1	0%	0%	0%	0%	0%	0	0	0	0	0
Eastern	9	0%	100%	0%	0%	0%	0	8.9	0	0	0
Neastern	5	1%	7%	88%	4%	0%	0	0.3	4.4	0.2	0
Northern	3	19%	0%	81%	0%	0%	0.5	0.0	2.4	0	0
Southern	2,110	66%	19%	15%	0%	0%	1388.8	404.3	316.4	0	0
Western	687	61%	16%	23%	0%	0%	421.3	109.0	155.4	0.7	0.7
Total	2,814						1810.6	522.5	478.7	0.9	0.7
	·						64%	19%	17%	0%	0%

Note: Opium flows (mt) in this table are based on the mid-estimate for production. Using the lower and higher production estimates would change the quantities but not the proportional distribution.

³⁶ See UNODC (2009): Addiction, crime and insurgency: the transnational threat of Afghan opium. Vienna.

	Destination (%)				Destination (mt)						
Region of origin	Redistri- buted heroin (mt)	Iran	Paki- stan	Central Asia	Chin a	India	Iran	Pakistan	Cen- tral Asia	China	India
Central	0.2						0	0	0	0	0
Eastern	2	14%	53%	23%	4%	8%	0.2	0.9	0.4	0.1	0.1
Neastern	1	4%	9%	80%	8%	0%	0	0.1	0.8	0.1	0
Northern	0	20%	0%	74%	6%	0%	0.1	0	0.2	0	0
Southern	427	55%	16%	29%	0%	0%	234.9	67.1	124.6	0	0
Western	118	65%	20%	14%	1%	0%	77.2	23.6	16.8	0.7	0
Total	548	37%	18%	40%	3%	1%	312.4	91.7	142.8	0.9	0.1
			•		-		57%	17%	26%	0.2%	0.02%

Table 62: Morphine/heroin flows to neighbouring countries based on the 2009 drug flowsurvey (as % of exports by region)

Note: Heroin/morphine flows (mt) are based on the mid-estimate for production. Using the lower and higher production estimates would change the quantities but not the proportional distribution.

Seizures pattern

The distribution pattern of opium seizures changed little between 2006 and 2008. An overwhelming proportion of all opium seizures was made in Iran, while much smaller amounts were seized in Pakistan and Central Asia. However, the amount of opium seizures increased by 82% over 2006.

Table 63: Distribution o	f onium seizure	s in neighbouring	countries (%) 2006-2008
Table 03. Distribution 0	opium seizure	s in neighbouring	countries (<i>/0)</i> , 2000-2000

	2006	2007	2008	Weighted average
Iran	95%	95%	95%	95%
Pakistan	3%	3%	5%	4%
Central Asia	2%	1%	1%	1%
Total (kg)	326,044	448,681	593,770	100%

Note: Average weighted by amount of seizures. Percentages do not always add up to 100 because of rounding.

The year 2006 was the first of a series of high opium production years in Afghanistan, and high level of seizures of morphine and heroin in Pakistan and Iran. Between 2006, 2007 and 2008 the distribution of seizures between Iran and Pakistan changed. If in 2006 Pakistan seized a higher proportion of heroin/morphine, the trend was reversed in 2007 and 2008 when Iran made the great majority of the seizures. As discussed before, this change may not reflect a drastic change in heroin flow, but rather an increase in law enforcement activities in Iran.

Table 64: Distribution of morphine and heroin seizures in neighbouring countries, 2006-	
2008	

	2006	2007	2008	Weighted average
Iran	35%	60%	70%	53%
Pakistan	59%	32%	19%	39%
Central Asia	6%	8%	11%	8%
Total (kg)	60,400	42,773	47,944	100%

Note: Average weighted by amount of seizures.

Trafficking routes

Most approaches to estimate trafficking flows start at the source country where drug production takes place. In a recent publication, UNODC presented a different approach, which takes drug consumption as a starting point.³⁷ Trafficking flows are then estimated "backwards" by estimating the amounts reaching the countries of consumption via different routes, taking into account factors such as the origin of drug shipment seized.

	Proportion of opium by destination	Proportion of heroin by destination
Iran	77%	28%
Pakistan	9%	41%
Central Asia	13%	26%
Other	0%	5%
Total	100%	100%

Table 65: Opiates flows to neighbouring countries based on trafficking routes

Location of laboratories

In Afghanistan, many clandestine morphine and heroin processing laboratories are located close to the border. While other factors such as the proximity to opium production areas or the remoteness of many of Afghanistan's border areas may also play a role, this can be taken as one indication of the preferred exit point for the drugs produced. Laboratories located in the Eastern and Southern region would then preferably export to Pakistan (68%), those in the North-eastern and Northern region would export to Central Asia (13%) and those in the Western to Iran (19%).

Information received during the 2009 drug flow survey allows to calculate the regional distribution of clandestine heroin laboratories known to the informants. This approach has certain limitations. It does not take into account internal trafficking of heroin described above. Neither is there any information available on the production capacity of these laboratories so they are all assumed to have the same influence on trafficking flows. Many are mobile and could be moved across regions. It could also be argued that laboratories in the Western region export at least partly to Central Asia, especially those located in Badghis and the northern part of Hirat, as both provinces share a border with Turkmenistan. Still, it is reasonable to assume that the locations of laboratories reflect preferred exit points to a certain extent and can thus be used as one of the proxies to represent trafficking patterns and volumes.

Region	No. of heroin labs	% of labs	Assumed drug export destination	Proportion by destination
North-eastern	11	10%	Central Asia	13%
Northern	3	3%	Central Asia	1570
Eastern	21	19%	Pakistan	68%
Southern	52	48%	Pakistan	08%0
Western	21	19%	Iran	19%
Total	108	100%		100%

Table 66: Location of clandestine laboratories in Afghanistan by region, 2009

Distribution of flows

For the final calculation of the distribution of opium and morphine/heroin flows from Afghanistan to neighbouring countries, the simple average of all destinations was calculated. The minimum and maximum of the different approaches was used to calculate the lower and higher estimate of

³⁷ UNODC (2009): Addiction, crime and insurgency: the transnational threat of Afghan opium. Vienna.

the export value of the opium economy. This method is thought to reduce the biases and shortcomings that each individual approach has. The uncertainty is reflected in the width of the ranges.

Destination	Based on seizures (3-year average)	Based on opium flows	Based on trafficking routes	Average (range)
Iran	95%	64%	77%	79% (64%-95%)
Pakistan	4%	19%	9%	11% (4%-19%)
Central Asia	1%	17%	13%	10% (1%-17%)
Total	100%	100%	100%	

Table 67: Distribution of opium exports by approach

Table 68: Distribution of morphine/heroin exports by approach

Destination	Based on seizures (3- year average)	Based on morphine/ heroin flows	Based on trafficking routes	Based on lab. locations	Average (range)
Iran	53%	57%	28%	19%	39% (19%-57%)
Pakistan	39%	17%	40%	68%	41% (17%-68%)
Central Asia	8%	26%	27%	13%	18% (8%-27%)
Total	100%	100%	100%	100%	· · · · · · · · · · · · · · · · · · ·

Export value of the opium economy

The calculation of the value of the opium economy is limited by the fact that the drug products leaving the laboratories in Afghanistan may undergo further processing, e.g. adulterations, before reaching the assumed points of sale in neighbouring countries. Indeed, there is evidence that heroin is mixed with cutting agents already in Afghanistan. This is done to increase profitability but can also have other reasons such as tailoring the drug product for specific usages.³⁸ This not only alters the volume of the drug exported but also influences costs. These factors cannot be estimated at the moment. However, it is reasonable to assume that the use of cutting agents would increase the profitability of exporting opiates. Not taking them into account could thus lead to an under-estimation of the export value of the opium economy.

Prices

For Iran, only the typical wholesale price of opium in 2008 was available, so no lower and upper price margins could be calculated. The wholesale price of opium in 2008 in the eastern border provinces of Iran was US\$ 421/kg. For heroin, the average wholesale prices of lower and higher quality heroin in the eastern border provinces in 2008 were available. Low quality heroin was at US\$ 2,121/kg and high quality heroin at US\$ 4,460/kg.³⁹ These two prices were used as the lower and upper margin, and their simple average as the typical price.

³⁸ See UNODC (2009): World Drug Report 2009, p. 61, where evidence from the forensic laboratory of CNPA is presented confirming the use of various cutting agents in Afghanistan in 2008.

³⁹ Source of opium and heroin price information: Communication from the Iranian Drug Control Headquarters to the UNODC Country Office in Iran.

For Pakistan, the simple average of the monthly opium wholesale prices in Peshawar between January and August 2009 was used as the typical price, the lowest and highest monthly price in the period as the minimum and maximum price. Heroin prices were calculated similarly from the monthly wholesale prices of heroin in Peshawar between January and August 2009.

For Central Asia, wholesale prices of opium and mid- and high-quality heroin in January 2009 were available for the Tajik border provinces of Khatlon and Gorno-Badakhshan. ⁴⁰ Opium prices in Khatlon were US\$ 200 - 350/kg in Khatlon and US\$ 200 - 300/kg in Gorno-Badakhshan. The lowest value of this price range was used as the minimum (US\$ 200/kg), and the highest value as the maximum price (US\$ 350/kg). The typical price was calculated as the simple average of the minimum and maximum prices (US\$ 275/kg).

Heroin wholesale prices in January 2009 in Khatlon ranged from US\$ 1,500 - 2,000 for midquality and from US\$ 3,000 to US\$ 3,500/kg for high-quality heroin, and in Gorno-Badakhshan from US\$ 2,000/kg to US\$ 2,700/kg (mid-quality) to US\$ 4,000/kg to US\$ 5,000/kg (highquality). The lowest value of these two provinces was used as the minimum (US\$ 1,500/kg) and the highest value as the maximum price (US\$ 5,000/kg). The typical price was calculated as the simple average of the minimum and maximum prices (US\$ 3,250/kg).

It should be noted that price information obtained from all three countries has strong limitations and should be improved in order to enhance the reliability of the estimate.

Opium	Production (mt)	Average proportion (%)	Export volume (mt)	Price (US\$/kg)	Export value (US\$)
Iran		79%	2,220 (1,634-2,866)	421*	933,915,917 (687,286,308 - 1,205,266,479)
Pakistan		11%	298 (219-385)	145 (97-214)	43,246,666 (21,253,876 - 82,229,106)
Central Asia		10%	295 (217-381)	275 (200-350)	81,189,323 (43,453,638 - 133,355,083)
Total	2,814 (2,071-3,632)				1,058,351,906 (751,993,822 - 1,420,850,667)

Table 69: Gross export value of opium, 2009

* Lower and upper margins were not available.

Table 70: Gross export value of morphine/heroin, 2009

Heroin	Production (mt)	Proportion (%)	Export volume (mt)	Price (US\$/kg)	Export value (US\$)
Iran		39%	216 (212-220)	3,291 (2,121-4,460)	710,530,876 (337,047,914 - 1,242,885,781)
Pakistan		41%	224 (219-228)	2,933 (2,412-3,378)	655,471,051 (396,670,737 - 974,221,905)
Central Asia		18%	101 (99-103)	3,250 (1,500-5,000)	328,715,637 (111,649,859 - 652,652,954)
Total	548 (403-707)				1,694,717,565 (845,368,509 - 2,869,760,640)

⁴⁰ Source: Drug Control Agency of Tajikistan.

Gross export value

For the calculation of the gross export value, the volume of opium and heroin reaching neighbouring countries based on the estimated distribution was multiplied with the corresponding prices. Lower and upper margins of the export volume were calculated with the minimum, maximum and average export volumes and with the minimum, maximum and typical prices.

The total gross export value is the combined gross export value of the opium and heroin exports. As indicated above, morphine exports are not taken into consideration here as all processed opium exports are assumed to be in the form of heroin.

	Average (US\$)	Lower estimate (US\$)	Higher estimate (US\$)
Opium	1,058,351,906	751,993,822	1,420,850,667
Heroin	1,694,717,565	845,548,330	2,871998,072
Total	2,754,489,993	1,597,362,331	4,290,611,308
Total (rounded)	2.8 billion	1,6 billion	4,3 billion

Table 71: Gross export value of the opium economy (US\$), 2009

Net export value and GDP

In previous reports, the gross export value of Afghan opiates was compared with Afghanistan's GDP, usually with the most recent estimate of the GDP available. However, in the calculation of GDP, imports are subtracted from gross exports to obtain net exports. Similarly, imports costs can be deducted from gross export value of opiates to obtain the net export value. This net export value would be more suitable for comparison with the GDP. This is especially important in a situation when import costs e.g. for precursors constitute a significant cost factor for heroin production. This is indeed the case.

Costs of imported precursors

To make the export value of the opium economy comparable to the GDP, the main costs of precursors, which have to be imported for heroin processing into Afghanistan, were deducted.

The main (imported) precursors in terms of costs used in this estimation were:

- Ammonium chloride, for the extraction of morphine from opium
- Acetic anhydride, for the conversion of morphine base into brown heroin base

Acetic anhydride is a controlled substance. There is no known licit use of acetic anhydride in Afghanistan and no known production of the substance. The high price level of this precursor in Afghanistan indicates its scarcity. Ammonium chloride is not a controlled substance. Its easy availability and wide range of licit uses is reflected by a much lower price level. The information from the drug flow survey indicates that ammonium chloride used for heroin processing, more precisely in the morphine extraction process, is imported.

Based on data from the drug flow survey implemented in May 2009, the price of 1 kg of ammonium chloride ranged from US\$ 18.99 to US\$ 23.55, with a typical price of US\$ 21.24, and the price of 1 litre of acetic anhydride varied from US\$ 351.30 to US\$ 396.23, with a typical price of US\$ 376.07.

Information on the amount of precursors needed to produce 1 kg of heroin differs, depending on the source and the type and purity of the final product. Typical amounts quoted are 2 to 3 kg of ammonium chloride and between 0.77 and 4 litres of acetic anhydride.⁴¹ For the purpose of this

⁴¹The United States Department of Justice/Drug Enforcement Administration (DEA) in 2008 indicated the use of 2-3 kg of ammonium chloride and 1.5-2.5 litres of acetic anhydride per kg of heroin HCl (informal communication). The International Narcotics Control Board (INCB) indicated 100 to 400 litres of acetic anhydride for the manufacture of 100 kg of heroin HCl (E/INCB/2005/4, p. 69). During a authentic simulation exercise in Afghanistan done under local conditions, the Federal Criminal Police Office of Germany (Bundeskriminalamt) found that 0.29 kg of ammonium chloride were used to process 1 kg of opium.

estimation, the simple average between the lowest and the highest figure found in literature was used for the mid-estimate. The estimated average costs for precursors to produce 1 kg of heroin amount to US\$ 950, calculated on the basis of the two main precursors in terms of cost and importance. This seems to be reasonable taking into account the heroin price level of about US\$ 3,000/kg in neighbouring countries and the fact that other precursors are much less expensive and that the price of opium is rather low.

Table 72: Prices and amounts of two main precursors needed for production of 1 kg of	:
heroin	

Туре	Price (US\$/unit)	Amount needed/kg heroin	Costs per kg of heroin (US\$)
Ammonium chloride (kg)	21.24	2.5 kg	53.10
	(18.99-23.55)	(2.0-3.0) kg	(37.98-70.65)
Acetic anhydride (litre)	376.07	2.4 1	896.93
	(351.30-396.23)	(0.77-4.0) 1	(270.50-1584.92)
Total			950.03 (308.48-1,655.57)

The net export value was calculated by:

- Multiplying the main precursors' cost per 1 kg of heroin with the total amount of exported heroin
- Subtracting the total costs of two main precursors from the gross export value. Other import costs were neglected.

Table 73: Net export value (US\$), 2009

	Average (US\$)	Lower estimate (US\$)	Higher estimate (US\$)
Gross export value	2,754,489,993	1,597,362,331	4,290,611,308
Precursor import costs	491,613,177	639,297,068	191,339,279
Net export value	2,261,456,294	958,065,263	4,099,272,029
Net export value (rounded)	2.3 billion	1 billion	4.1 billion

However, in this trial, white heroin hydrochloride was produced as a final product, and the intermediate product brown heroin base was not weighted (published in Zerell, U., Ahrens B. and P. Gerz (2005): Documentation of a heroin manufacturing process in Afghanistan. In: Bulletin on Narcotics, vol. LVII, No. 1 and 2, 2005). Still, based on the list of chemicals used, it can be assumed that with a conversion factor 7:1 from opium to heroin, 2 kg of ammonium chloride would have been needed for 1 kg of brown heroin base (0.29 kg x 7). The same simulation found that 0.11 kg of acetic anhydride was used per kg of opium, corresponding to 0.77 kg of acetic anhydride based on the same 7:1 factor.

PROVINCE	2002	2003	2004	2005	2006	2007	2008	2009	Change 2008-2009	Change 2008-2009
De delde ek en	0.050	10.754	15.047	7 270	12.056	2.642			(ha) 357	(%) 179%
Badakhshan Dadatia	8,250	12,756	15,067	7,370	13,056	3,642	200	557		
Badghis Bartalan	26 152	170 597	614 2,444	2,967 2,563	3,205 2,742	4,219 671	587	5,411 Doministration	4,824	822%
Baghlan Balkh	217	1,108	2,444	10,837	7,232	0/1	475 Poppy free	Poppy free	Poppy free	Poppy free
	217	610	2,495	10,857	17	-	Poppy free	Poppy free Poppy free	Poppy free Poppy free	Poppy free Poppy free
Bamyan Day Kundi	-	2,445	3,715	2,581	7,044	3,346	2,273		729	32%
Farah	500	1,700	2,288	10,240	7,694	14,865		3,002 12,405	-2,605	-17%
Faryab	28	766	3,249	2,665	3,040	2,866	15,010 291	Poppy free	Poppy free	Poppy free
Ghazni	20	,00		2,005	5,040	2,000	Poppy free	Poppy free	Poppy free	Poppy free
Ghor	2,200	3,782	4,983	2,689	4,679	1,503		Poppy free	Poppy free	Poppy free
Hilmand	29,950	15,371	29,353	26,500	69,324	102,770	103,590	69,833	-33,757	-33%
Hirat	50	134	2,531	1,924	2,287	1,525	266	556	290	109%
Jawzjan	137	888	1,673	1,748	2,024	1,085		Poppy free	Poppy free	Poppy free
Kabul		237	282		80	500	310	132	-178	-57%
Kandahar	3,970	3,055	4,959	12,989	12,619	16,615		19,811	5,188	35%
Kapisa	207	326	522	115	282	835	436		Poppy free	Poppy free
Khost		375	838	2	133		Poppy free	Poppy free	Poppy free	Poppy free
Kunar	972	2,025	4,366	1,059	932	446	290	164	-126	-43%
Kunduz	16	49	224	275	102	_	Poppy free	Poppy free	Poppy free	Poppy free
Laghman	950	1,907	2,756	274	710	561	425	135	-290	-68%
Logar	-	-	0	-	-	-	Poppy free	Poppy free	Poppy free	Poppy free
Nangarhar	19,780	18,904	28,213	1,093	4,872	18,739	0	294	294	NA
Nimroz	300	26	115	1,690	1,955	6,507	6,203	428	-5,775	-93%
Nuristan	-	648	764	1,554	1,516	0	Poppy free	Poppy free	Poppy free	Poppy free
Paktika	-	-	-	-	-	-	Poppy free	Poppy free	Poppy free	Poppy free
Paktya	38	721	1,200	-	-	-	Poppy free	Poppy free	Poppy free	Poppy free
Panjshir	-	-	-	-	-	-	Poppy free	Poppy free	Poppy free	Poppy free
Parwan	-	-	1,310	-	124	-	Poppy free	Poppy free	Poppy free	Poppy free
Samangan	100	101	1,151	3,874	1,960	-	Poppy free	Poppy free	Poppy free	Poppy free
Sari Pul	57	1,428	1,974	3,227	2,252	260	Poppy free	Poppy free	Poppy free	Poppy free
Takhar	788	380	762	1,364	2,178	1,211	Poppy free	Poppy free	Poppy free	Poppy free
Uruzgan	5,100	4,698	7,365	2,024	9,703	9,204	9,939	9224	-715	-7%
Wardak	-	2,735	1,017	106	-	-	Poppy free	Poppy free	Poppy free	Poppy free
Zabul	200	2,541	2,977	2,053	3,210	1,611	2,335	1,144	-1,191	-51%
Total (rounded)	74,000	80,000	131,000	104,000	165,000	193,000	157,000	123,000	-34,000	-22%

ANNEX I: OPIUM POPPY CULTIVATION PER PROVINCE (HA), 2002-2009

ANNEX II: INDICATIVE DISTRICT LEVEL ESTIMATION OF OPIUM CULTIVATION, 1994-2009 (HA⁴²)

			<u> </u>	· · ·													
Province	District	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Badakhshan															54	0	
	Argo									100					210	60	203
	Baharak	111	64	116	9	202	23	86	345	180		5,544	1,635	710	0	14	2
	Darayim													0	682	43	145
	Darwaz-i Payin (mamay) Darwaz-i- Bala (nesay)													0	0	0	
	Faiz abad (Provincial Center)	77	2,344	1,592	1,634	1,282	906	1,073	868	2,370	3,109	2,362	3,111	7,154	83	64	11
	Eshkashim		2,544	1,592	1,054	1,202	900	1,075	000	2,570	5,109	2,302	5,111	/,154	0	04	11
-	Jurm	433	555	1,326	1,051	1,198	1,249	773	2,897	2,690	4,502	4,818	1,460	2,027	170	6	6
	Khash	433	555	1,520	1,051	1,190	1,249	115	2,097	2,090	4,502	4,010	1,400	2,027	999	7	6
	Khwahan													0	0	0	0
	Kishim	1,093	3	177	62	62	385	507	2,191	2,840	4,530	2,883	1,076	3,165	0	2	68
	Kohistan	-,	-						_,.,.	_,	.,	_,	-,	-,	0	0	
	Kuf Ab														0	0	
	Kiran wa Munjan												48	0	10	0	
	Raghistan			8	31	2	8							0	400	0	
	Shahri Buzurg					71	113	19	41	170	615		39	0	313	0	2
	Shighnan													0	0	0	
	Shiki														0	0	
	Shuhada														0	0	
	Tagab														93	0	
	Tashkan														136	0	57
	Wakhan													0	0	0	
	Wardooj														9	3	14
	Yaftal-i-Sufla														305	0	43
	Yamgan														10	0	
	Yawan														166	0	
	Zaybak		4	8	115									0	0	0	
Badakhshan	1	1,714	2,966	3,230	2,902	2,817	2,684	2,458	6,342	8,250	12,756	15,607	7,369	13,056	3,642	200	557
Badghis	Ab Kamari													127	0	11	161
	Ghormach							20		4	101		944	624	250	328	299
	Jawand											226	134	431	66	13	1,090
	Muqur										(0	2.45	1.000	220	149	7	102
	Bala Murghab							21		22	69	345	1,889	1,034	3,557	81	2,754
<u> </u>	Qadis											42		391	198	146	906
Badghis Tota	Qala-i-Now (Provincial Center)	0	0	0	0	0	0	41	0	26	170	43 614	2,967	378 3,205	0 4,219	0 587	99 5,411
Baghlan	Andarab	U	U	U	0	U	U	41	81	26 31	301	564	548	<u>3,205</u> 947	130	475	5,411
Daginan	Baghlan *							152	01	120	16	154	374	72	130	473	
	Baghlan-i-Jadeed							152		120	10	81	248	371	287	0	
	Burka											198	243	39	31	0	
	Dahana-i- Ghuri				328	929	967	27			37	200	242	35	0	0	
	Deh Salah				520	,2,	,01	27			57	200	21	55	14	0	
	Dushi											89	116	174	68	0	
	Firing Wa Gharu														0	0	
	Gozargah-i-Noor														30	0	
	Kahmard *	1	1	1								527	263	255		0	
	Khinjan										9	21	92	137	23	0	
	Khost Wa Firing										21	0	295	442	56	0	
	Khwajah Hijran (Jalgah)														10	0	
	Nahreen								1		63	276	35	36	0	0	
	Pul-i-Hisar														0	0	
	Pul-i-Khumri (Provincial Center)						38	20		1	37	173	224	81	21	0	
	Talah wa Barfak										113	161	102	153	0	0	
Baghlan Tota		0	0	0		929	1,005		82			2,444		2,742	671	475	p-f*
Balkh	Balkh				13	29	29		1	22	332	411	2,786	1,975			
	Chahar Bolak				165	530	2,600	53			68	877	2,701	799			
<u> </u>	Chahar Kent			1.07-			1					23	25	16			
	Chimtal			1,065	532	485	1,428	2,451		153	617	258	1,878	2,074			
	Dowlat abad								3	-		141	202	181			
	Dehdadi Kaldar (Shaharla i Unimtar)							22		8	35	16	990	307			
	Kaldar (Shahrak-i-Hairatan)											152	395	123			
				1	1					L		50	367	0			
	Khulm																
	Kishindeh											111	290	189			
	Kishindeh Marmul											3	18	12			
	Kishindeh Marmul Mazar-i-Sharif											3 50	18 119	12 78			
	Kishindeh Marmul Mazar-i-Sharif Nahr-i-Shahi							33		14	30	3 50 139	18 119 425	12 78 833			
	Kishindeh Marmul Mazar-i-Sharif Nahr-i-Shahi Sholgarah							33 28		14 19	30 28	3 50	18 119 425 543	12 78 833 245			
	Kishindeh Marmul Mazar-i-Sharif Nahr-i-Shahi											3 50 139	18 119 425	12 78 833			

⁴² District estimates may not be statistically significant as the sample size at the district level is not appropriate to produce estimate at such level.

Province	District	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Bamyan	Bamyan (Provincial Center)	1774	1775	1770	1777	1770	1777	2000	2001	2002	2003	93	19	17	2007	2000	2009
Sunjun	Panjab										250	31		0			
	Saighan																
	Shebar										36	492	107	0			
	Waras										191	64		0			
	Yakawlang										112	123		0			
Bamyan Tota	al										610	803	126	17	p-f*	p-f*	p-f*
Day Kundi	Day Kundi *								0	-	836	1,996		1,948			
	Gizab	1,476	16	8	0	0	0	0	0	-	776	1,109		1,243	1,054	665	810
L	Ishtarlay														535	214	239
ļ	Kajran								0	-	418	189		1,633	366	357	704
L	Khedir														531	289	160
 	Kiti														282	168	284
 	Mir Amor														512	281	703
	Nili (Provincial Center)														0	214	5
	Sang-i-Takht														2	1	68
	Shahristan								1	-	415	421		2,220	64	85	29
Day Kundi T		1,476	16	8	0	0	0	0	1	0	2,445	3,715	2,581	7,044	3,346	2,273	3,002
Farah	Anar Darah											91	1,828	143	16	239	79
l	Bakwah		1	13	129	31	129	259			51.0	39	390	1,093	3,458	3,090	3570
l	Bala Buluk		8	19	169	36	186	183			513	336	1,665	1,669	5,312	1,509	2705
l	Delaram			10	10	10	4.4	72				07	720	005	1.220	1.012	3011
	Farah (Provincial Center)			18 581	18 252	10 94	44 428	73 849			1,187	87 447	729	905 202	1,328	1,013	1,142 1,355
	Gulistan Khaki Safed			581	252	94	428	849			1,18/	44 / 84	163 432	537	1,132	4,756	232
	Khaki-Safed Lash-i-Juwayn										⊢ −	84 41	432	215	233	609 109	45
	Pur Chaman										⊢ −−1	41	1,568	363	1,549	1,046	45 96
	Pur Chaman PushtRod										⊢ −−1	409 554	293	1,709	1,349	1,046	46
	Qala-i-Kah											189	407	506	337	888	40
	Shib Koh											135	283	352	87	163	77
Farah Total	Sino Kon	0	9	631	568	171	787	1,364	0	500	1,700	2,289	10,240	7,694	14,865	15,010	12,405
Faryab	Almar	0	,	0.51	500	1/1	707	1,504	0	500	1,700	239	57	338	213	0	12,400
1 al yab	Andkhoy											15	13	31	0	0	
	Bil Chiragh							6		26	232	24		322	620	102	
	Dowlat abad											78	133	27	0	0	
	Gurziwan														101	0	
	Khani ChaharBagh											205	6	490	0	0	
	Khwajah Sabz Poshi Wali											129	451	375	238	0	
	Kohistan											640	50	84	152	10	
(Maimanah							1				248		218	66	10	
	Pashtun Kot							11		1	281	429	97	60	249	0	
	Qaram Qul											55	138	43	0	0	
	Qaisar							16			150	1,050	579	880	303	168	
1	Qurghan														0	0	
	Shirin Tagab							3			103	137	1,141	172	924	0	
Faryab Total	1	0	0	0	0	0	0	36	0	28	766	3,249	2,665	3,040	2,866	291	p-f*
Ghazni	Ab Band													0			
L	Ajristan	313								-		62		0			
L	Andar													0			
	Bahram-e Shahid (Jaghatu)												9	0			
	Deh Yak													0			
	Gelan													0			
L	Ghazni (Provincial Center)													0			
	Giro													0			
 	Jaghatu *													0			
	Jaghuri													0			
 	Khwajah Omari													0			
I	Malistan													0			
 	Muqur													0			
I	Nawa													0			
	Nawur													0			
	Qara Bagh													0			
۱ <u> </u>			1	L										0			
	Rashidan													0			
	Waghaz																
	Waghaz Wali Muhammad Shadid Khugyani													0			
	Waghaz Wali Muhammad Shadid Khugyani Zanakhan													0			
Ghazni Total	Waghaz Wali Muhammad Shadid Khugyani Zanakhan I	313	0	0	0	0	0	0	0		0	62 872	9	0	p-f *	p-f*	p-f*
Ghazni Total Ghor	Waghaz Wali Muhammad Shadid Khugyani Zanakhan I Chaghcharan (Provincial Center)	313	0	0	0	0	0	0	0	0 700	0 1,189	62 872	9 1,149	0	910	p-f*	p-f*
	Waghaz Wali Muhammad Shadid Khugyani Zanakhan Chaghcharan (Provincial Center) Chahar Sadah	313	0	0	0	0	0	0	0				~	0	910 41	p-f*	p-f*
	Waghaz Wali Muhammad Shadid Khugyani Zanakhan Chaghcharan (Provincial Center) Chahar Sadah Dowlatyar	313	0	0	0	0	0	0	0				~	0	910 41 132	p-f*	p-f*
	Waghaz Wali Muhammad Shadid Khugyani Zanakhan Chaghcharan (Provincial Center) Chahar Sadah Dowlatyar Do Lainah	313	0	0	0	0	0	0	0			872	1,149	0 0 1,233	910 41 132 131	p-f*	p-f*
	Waghaz Wali Muhammad Shadid Khugyani Zanakhan Chaghcharan (Provincial Center) Chahar Sadah Dowlatyar Do Lainah Lal Wa Sarjangal	313	0	0	0	0	0	0	0	700	1,189	872	718	0 0 1,233 771	910 41 132 131 200	p-f*	p-f*
	Waghaz Wali Muhammad Shadid Khugyani Zanakhan Chaghcharan (Provincial Center) Chahar Sadah Dowlatyar Do Lainah Lal Wa Sarjangal Pasaband	313	0	0	0	0	0	0	0	700	1,189	872 1,055 175	1,149 718 48	0 0 1,233 771 241	910 41 132 131 200 17	p-f*	p-f*
	Waghaz Wali Muhammad Shadid Khugyani Zanakhan Chaghcharan (Provincial Center) Chahar Sadah Dowlatyar Do Lainah Lal Wa Sarjangal Pasaband Saghar	313	0	0	0	0	0	0	0	700	1,189 805 256	872 1,055 175 340	1,149 1,149 718 48 120	0 1,233 771 241 283	910 41 132 131 200 17 18	p-f*	p-f*
	Waghaz Wali Muhammad Shadid Khugyani Zanakhan Chaghcharan (Provincial Center) Chahar Sadah Dowlatyar Do Lainah Lal Wa Sarjangal Pasaband Saghar Shahrak	313		0	0	0	0	0	0	700 700 300	1,189 805 256 640	872 1,055 175 340 902	1,149 718 48 120 18	0 1,233 771 241 283 1,398	910 41 132 131 200 17 18 0	p-f*	p-f*
	Waghaz Wali Muhammad Shadid Khugyani Zanakhan Chaghcharan (Provincial Center) Chahar Sadah Dowlatyar Do Lainah Lal Wa Sarjangal Pasaband Saghar	313		0	0	0	0	0		700	1,189 805 256	872 1,055 175 340	1,149 1,149 718 48 120	0 1,233 771 241 283	910 41 132 131 200 17 18	p-f*	p-f*

n :	D' () (1004	1005	1007	1007	1000	1000	2000	2001	2002	2002	2004	2005	2007	2007	2000	2000
Province	District	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Hilmand	Baghran		2,519	1,267	2,754	2,910	2,794	2,653		1,800	2,309	2,232	2,507	2,890	4,287	4,279	3343
-	Dishu	70/	705	0.42	1.002	1.205	2 (42	2.765		-	4/2	369	911	851	1,160	688	475
	Garm Ser	786	725	942	1,993	1,205	2,643	2,765		2,020	462	1,922	1,912	6,168	6,523	8,000	5789
	Kajaki	979	4,087	2,814	3,904	3,959	5,746	4,625		2,640	1,392	1,676	1,639	6,760	5,807	6,240	3696 4379
	Lashkargah (Provincial Center)	2,256	885	1,054	1,325	1,869	2,528	3,145		1,140	605	1,380	1,332	4,008	6,320	7,857	
	Musa Qala Nad Ali	1,154 12,529	5,137 5,983	3,924 4,035	4,360 5,102	5,574 5,156	7,013	8,323		5,880	2,455 870	2,404 4,177	1,664 2,356	6,371 11,652	8,854 20,045	20,824	8603
	Naher-i-Saraj	590	4,716	4,035	4,807	2,426	4,041	4,378		1,850	1,575	-	2,556	10,386	20,043	13,270	17063 9598
											3,096	6,486 1,051	3,737				6473
	Nowzad	2,345	2,799	3,596 505	1,585 722	3,605	4,424	5,085 3,246		2,650	1,240	3,506		2,707	6,192	3,863	64/3 4416
	Nawa-i-Barukzai	6,074	1,254	505	122	1,150	2,581	3,246		2,730	1,240		2,552	10,168	6,314	13,978	
	Reg-i-Khan Nishin	2.000	072	1.000	1.071	1.72.4	2.646			2,810	222	1,893 1,365	2,772	3,765	8,484	4,720	2056 2754
	Sangin Qala	2,866	973	1,909	1,971	1,734	2,646	1,711			777	-		2,862	5,150		
1111 LT (Washer	20.570	676	555	877	1,084	1,469	1,014	0	800	590	892	386	735	865	1,653	1188
Hilmand Tota	1	29,579	29,754	24,910	29,400	30,672	44,552	42,853	0	29,950	15,371	29,353	26,500	69,323	102,770	103,590	69,833
Hirat	Adraskan											133	9	99	196	22	1
	Chiisht-i-Sharif										124	166	42	42	0	0	
	Fersi										134	28	110	111	0	0	
	Ghoryan											60	238	204	302	0	
	Gulran											240	33	32	0	0	
	Guzara											88	231	233	0	0	
	Hirat											0	16	16	0	0	
	Enjil	├			├ ── 							41	394	382	0	0	
<u>├</u>	Karrukh	├			├ ── 							265	124	121	0	0	
	Kohsan											4	72	73	146	0	
L	Kushk (Rabat-i-Sangi)							<u> </u>				73	64	50	367	43	
	Kusk-i-Kohnah							<u> </u>				3	15	15	0	0	
	Obe				25							842	144	131	0	0	
	Pashtun Zarghun				38			38				154	249	242	0	0	
	Shindand							146				427	54	408	516	201	555
	Zendah Jan		-	-		-						7	128	129	0	0	
Hirat Total	I	0	0	0	38	0	0	184	0	50	134	2,531	1,924	2,288	1,526	266	556
Jawzjan	Aqchah						532	208		47	171	247	631	30	0		
	Darzab											625	272	16	803		
	Faizabad						43	105		24	280	218	112	473	21		
	Khamyab							6		30	51	40	68	2	0		
	Khanaqa														0		
	Khwajah DuKoh											19	15	271	0		
	Mardyan						43	111		4	228	174	21	348	62		
	Mingajik						1,789	141		7	64	101	77	38	0		
	Qarqin						186	10		24	58	151	43	17	0		
	Qush Tepah														43		
	Sheberghan (Provincial Center)							19		1	36	98	508	828	156		
Jawzjan Tota		0	0	0	0	0	2,593	600	0	137	888	1,673	1,748	2,023	1,086	p-f*	p-f*
Kabul	Bagrami													0	0	0	
	Chahar Asyab													0	0	0	
	DehSabz													0		0	
	Farzah													_	0	0	
	Gulara													0	0	0	
	Estalef						-							0	0	0	
	Kabul							<u> </u>						0	0	0	
L	Kalakan							<u> </u>						0	0	0	
	Khak-i-Jabar							<u> </u>						0	0	0	
	Mir Bacha Kot													0	0	0	
	Musahi							<u> </u>						0	0	0	
	Paghman													0	0	0	
	Qara Bagh							<u> </u>						0	0	0	
	Shakar Dara							<u> </u>						0	0	0	
	Surubi					_	132	340	29	58	237	282		80	500	310	132
Kabul Total	L	0	0		0	0	132	340		58	237	282	0	80	500	310	132
Kandahar	Arghandab	211	87	331	561	399	750			330	139	261	287	735	1,016	57	158
	Arghistan						38	_		80	14	651	2,449	784	310	28	43
	Daman						110			190	_	895	775	183	375	19	119
L	Ghorak	347	803	692	1,503	1,126	1,109	574	L	380	166	241	233	336	1,445	232	628
L	Kandahar (Provincial Center)	320	53	234	21	73	227	156	L	640	293		0	1,367	1,220	590	425
	Khakrez	362	274	627	286	518	632	320		560	312	145	185	217	132	1,224	1474
	Maruf	30	16	1		3	5	17		-	63	117	150	464	914	182	36
	Maiwand	256	333	618	1,278	2,497	2,022	995		1,090	353	514	1,281	1,362	2,878	3,375	6524
	Miya Neshin														322	1,603	158
	Nesh														432	3,284	1717
	Panjwayee	250	357	266	255	134	132	184		150	482	864	4,687	4,714			1564
	Reg							<u> </u>				0	327		4	0	
L	Shah Wali Kot	678	97	94	127	162	236	238	L	260	489	923	2,379	1,593	1,258	560	911
	Shorabak							-			111	45	19	409	308	4	
	Spin Boldak	1,170	107	194	91	317	261	26		290	277	303	218	454	768	541	650
	Zhire			-		_									5,232	2,923	5405
Kandahar To	nai	3,624	2,127	3,057	4,122	5,229	5,522	3,034	0	3,970	3,055	4,959	12,990	12,618	16,615	14,623	19,811

Kapisa			1										0.0	0	2/7	0	
	AlaSai											77	82	0	367	0	
	Hisah-i-Awal Kohistan														Ű	Ű	
	Hisah-i-Duwumi Kohistan Koh Band											111	22	0	0	0	
												111	33	0	0	0	
	Kohistan *	Ļ										116		0	0	0	
	Mahmood-i-Raqi (Provincial Center	r)										10		0	0	0	
	Nijrab											92		0	0	0	
	Tagab						5	104	0		326	116		282	468	436	
Kapisa Total		0	0	0	0	0	5	104	0	207	326	522	115	282	835	436	p-f*
Khost	Bak											0		14			
	Gurbuz											47		10			
	Jaji Maidan											8		16			
	Khost Matun (Provincial Center)											0		0			
	Manduzay (Ismyel Khel)											125		0			
	Musa Khel (Mangal)											86		0			
	NadirShah Kot											75		0			
	Qalandar											39		0			
	Sabari (Yaqubi)											0		0			
	Shamul (Dzadran)																
	Spera										118	0		5			
	Tanay								6		257	458	2	88			
	Terayzai (Ali Sher)											0		0			
Khost Total	• • • • • • • • • • • • • • • • • • • •	0	0	0	0	0	0	0	6	0	375	838	2	133	p-f*	p-f*	p-f*
Kunar	Asad Abad (Provincial center)						73	239	1	140	396	841	270	356	42	252	4
	Bar Kunar (Asmar)						47	72	31	40	163	52	14	10	111	7	9
	Chapa Dara	l	 					12	51		105	535	147	23	0	0	,
	Dangam		 						4	49		44	22	9	90	0	0
	Dara-i-Pech	l	 							263	310	585	76	183	0	0	1
	Ghazi Abad	-							11	203	510	505	70	105	5	0	1
	Khas Kunar	75	82	10		12	50	173		70		298	41	18	8	1	
		/3	62	10		12		1/3		/0	345	298	41	33	8	0	0.4
	Mara warah Narang wa Padil		1.7	1		10	27	0.4	1.0	100	_						84
	Narang wa Badil		15	1		13	27	84	10	100	173	425	55	25	57	0	4
	Nari			-		~		~ ~	1		60	0	19	0	80	15	1
L	Noor Gal	27	19	5		8	28	98	9		353	460	58	88	7	0	4
L	Sar Kani		25	2		34	54	71	8	100	141	385	50	75	11	6	1
	Shigal wa Sheltan			ļ			ļ								5	0	36
	Sawkai	13	11			8	9	50	8	140	83	571	284	111	19	9	4
	Watapoor														3	0	6
Kunar Total		102	141	18	0	67	279	736	74	832	1,942	3,795	775	820	446	290	163
Kunduz	Ali Abad						5	51		3	5	41		0			
	Dashti-i-Archi											9		102			
	Chahar Darah						8	30		6	15	37		0			
	Hazrati Imam Sahib						3					28		0			
	Khanabad						2	36			11	70		0			
	Kunduz (Provincial Center)						9	51		2	9	32		0			
										5			275				
Kunduz Tota	Qala-i-Zal	0	0	0	0	0	11	321	0	5	8	7	275	0	n-f*	n-f*	n_f*
Kunduz Tota	Qala-i-Zal	0	0	0	0	0	11 38	321 489	0		8 49	7 224	275	0 102	p-f *	p-f *	p-f *
<mark>Kunduz Tota</mark> Laghman	Qala-i-Zal Alingar	0	0	0	0	0 2 3	11 38 71	321 489 131	3	146	8 49 354	7 224 593	275 107	0 102 259	23	13	p-f*
	Qala-i-Zal I Alingar Alisheng	0	0	0	0		11 38	321 489	3	146	8 49 354 148	7 224 593 597	275 107 69	0 102 259 192	23 237	13 370	p-f* 1 1
	Qala-i-Zal Alingar Alisheng Dowlat Shah	0	0	0	0	2	11 38 71 26	321 489 131 88	3	146 104	8 49 354 148 571	7 224 593 597 233	275 107 69 44	0 102 259 192 118	23 237 124	13 370 3	1
	Qala-i-Zal Alingar Alisheng Dowlat Shah Mehterlam (Provincial Center)	0	0	0	0	2 3	11 38 71 26 72	321 489 131 88 190	3 0 12	146 104 - 240	8 49 354 148 571 366	7 224 593 597 233 580	275 107 69 44 25	0 102 259 192 118 0	23 237 124 0	13 370 3 16	1 1 43
Laghman	Qala-i-Zal Alingar Alisheng Dowlat Shah Mehterlam (Provincial Center) Qarghayee					2 3 14 58	11 38 71 26 72 128	321 489 131 88 190 298	3 0 12 0	146 104 	8 49 354 148 571 366 468	7 224 593 597 233 580 753	275 107 69 44 25 30	0 102 259 192 118 0 140	23 237 124 0 177	13 370 3 16 23	1 1 43 90
Laghman Laghman To	Qala-i-Zal Alingar Alisheng Dowlat Shah Mehterlam (Provincial Center) Qarghayee tal	0			0	2 3	11 38 71 26 72	321 489 131 88 190	3 0 12	146 104 - 240	8 49 354 148 571 366	7 224 593 597 233 580	275 107 69 44 25	0 102 259 192 118 0	23 237 124 0	13 370 3 16	1 1 43
Laghman	Qala-i-Zal Alingar Alisheng Dowlat Shah Mehterlam (Provincial Center) Qarghayee tal Azra					2 3 14 58	11 38 71 26 72 128	321 489 131 88 190 298	3 0 12 0	146 104 	8 49 354 148 571 366 468	7 224 593 597 233 580 753	275 107 69 44 25 30	0 102 259 192 118 0 140 709	23 237 124 0 177	13 370 3 16 23	1 1 43 90
Laghman Laghman To	Qala-i-Zal Alingar Alisheng Dowlat Shah Mehterlam (Provincial Center) Qarghayee tal Azra Baraki Barak					2 3 14 58	11 38 71 26 72 128	321 489 131 88 190 298	3 0 12 0	146 104 	8 49 354 148 571 366 468	7 224 593 597 233 580 753	275 107 69 44 25 30	0 102 259 192 118 0 140 709 0	23 237 124 0 177	13 370 3 16 23	1 1 43 90
Laghman Laghman To	Qala-i-Zal Alingar Alisheng Dowlat Shah Mehterlam (Provincial Center) Qarghayee tal Azra Baraki Barak Charkh					2 3 14 58	11 38 71 26 72 128	321 489 131 88 190 298	3 0 12 0	146 104 	8 49 354 148 571 366 468	7 224 593 597 233 580 753	275 107 69 44 25 30	0 102 259 192 118 0 140 709	23 237 124 0 177	13 370 3 16 23	1 1 43 90
Laghman Laghman To	Qala-i-Zal Alingar Alisheng Dowlat Shah Mehterlam (Provincial Center) Qarghayee tal Azra Baraki Barak Charkh Kharwar					2 3 14 58	11 38 71 26 72 128	321 489 131 88 190 298	3 0 12 0	146 104 	8 49 354 148 571 366 468	7 224 593 597 233 580 753	275 107 69 44 25 30	0 102 259 192 118 0 140 709 0 0 0	23 237 124 0 177	13 370 3 16 23	1 1 43 90
Laghman Laghman To	Qala-i-Zal Alingar Alisheng Dowlat Shah Mehterlam (Provincial Center) Qarghayee tal Azra Baraki Barak Charkh Kharwar Khoshi					2 3 14 58	11 38 71 26 72 128	321 489 131 88 190 298	3 0 12 0	146 104 	8 49 354 148 571 366 468	7 224 593 597 233 580 753	275 107 69 44 25 30	0 102 259 192 118 0 140 709 0 0 0 0 0 0	23 237 124 0 177	13 370 3 16 23	1 1 43 90
Laghman Laghman To	Qala-i-Zal Alingar Alisheng Dowlat Shah Mehterlam (Provincial Center) Qarghayee tal Azra Baraki Barak Charkh Kharwar Khoshi Muhammad Aghah					2 3 14 58	11 38 71 26 72 128	321 489 131 88 190 298	3 0 12 0	146 104 	8 49 354 148 571 366 468	7 224 593 597 233 580 753	275 107 69 44 25 30	0 102 259 192 118 0 140 709 0 0 0 0 0 0 0 0 0 0 0 0 0	23 237 124 0 177	13 370 3 16 23	1 1 43 90
Laghman Laghman To	Qala-i-Zal Alingar Alisheng Dowlat Shah Mehterlam (Provincial Center) Qarghayee tal Azra Baraki Barak Charkh Kharwar Khoshi					2 3 14 58	11 38 71 26 72 128	321 489 131 88 190 298	3 0 12 0	146 104 	8 49 354 148 571 366 468	7 224 593 597 233 580 753	275 107 69 44 25 30	0 102 259 192 118 0 140 709 0 0 0 0 0 0	23 237 124 0 177	13 370 3 16 23	1 1 43 90
Laghman Laghman To	Qala-i-Zal Alingar Alisheng Dowlat Shah Mehterlam (Provincial Center) Qarghayee tal Azra Baraki Barak Charkh Kharwar Khoshi Muhammad Aghah			0		2 3 14 58	11 38 71 26 72 128	321 489 131 88 190 298 707	3 0 12 0	146 104 - 240 460 950	8 49 354 148 571 366 468	7 224 593 597 233 580 753	275 107 69 44 25 30	0 102 259 192 118 0 140 709 0 0 0 0 0 0 0 0 0 0 0 0 0	23 237 124 0 177	13 370 3 16 23	1 1 43 90
Laghman Laghman To Logar	Qala-i-Zal Alingar Alisheng Dowlat Shah Mehterlam (Provincial Center) Qarghayee tal Azra Baraki Barak Charkh Kharwar Khoshi Muhammad Aghah		0	0	0	2 3 14 58 77	11 38 71 26 72 128 297	321 489 131 88 190 298 707	3 0 12 0 15	146 104 - 240 460 950	8 49 354 148 571 366 468	7 224 593 597 233 580 753 2,756	275 107 69 44 25 30 274	0 102 259 192 118 0 140 709 0 0 0 0 0 0 0 0 0 0 0 0 0	23 237 124 0 177 561	13 370 3 16 23 425	1 1 43 90 135
Laghman Laghman To Logar Logar Total	Qala-i-Zal Alingar Alisheng Dowlat Shah Mehterlam (Provincial Center) Qarghayee tal Azra Baraki Barak Charkh Kharwar Khoshi Muhammad Aghah Pul-i-Alam	0	0	0	0	2 3 14 58 77 0	11 11 38 71 26 72 128 297 0	321 489 131 88 707 298 707	3 0 12 0 15	146 104 - 240 460 950	88 49 354 148 571 366 468 1,907	7 224 593 597 233 580 753 2,756 	275 107 69 44 25 30 274 274	0 102 259 192 118 0 140 709 0 0 0 0 0 0 0 0 0 0 0 0 0	23 237 124 0 177 561	13 370 3 16 23 425	1 1 90 135
Laghman Laghman To Logar Logar Total	Qala-i-Zal Alingar Alisheng Dowlat Shah Mehterlam (Provincial Center) Qarghayee tal Azra Baraki Barak Charkh Kharwar Khoshi Muhammad Aghah Pul-i-Alam	0	0 2,187	0 0 2,315	0 0 1,640	2 3 14 58 77 0 1,693	111 388 711 266 72 128 297 297	321 489 131 88 707 298 707	3 0 12 0 15	146 104 - 240 460 950 950 950 950	88 49 354 148 571 366 468 1,907	7 224 593 597 233 580 753 2,756 0 1,907	275 107 69 44 25 30 274 274 0 198	0 102 259 192 118 0 140 0 0 0 0 0 0 0 0 0 0 0 0 0	23 237 124 0 177 561 9-f* 1,797	13 370 3 16 23 425	1 1 90 135
Laghman Laghman To Logar Logar Total	Qala-i-Zal Alingar Alisheng Dowlat Shah Mehterlam (Provincial Center) Qarghayee tal Azra Baraki Barak Charkh Kharwar Khoshi Muhammad Aghah Pul-i-Alam Achin Bati Kot	0	0 2,187	0 0 2,315	0 0 1,640	2 3 14 58 77 0 1,693	111 388 711 266 72 128 297 297	321 489 131 88 707 298 707	3 0 12 0 15	146 104 - 240 460 950 950 950 950	8 49 354 148 571 366 468 1,907 0 2,131	7 224 593 597 233 580 753 2,756 0 1,907	275 107 69 44 25 30 274 274 0 198	0 102 259 192 118 0 140 0 0 0 0 0 0 0 0 0 0 0 0 0	23 237 124 0 177 561 9-f* 1,797	13 370 3 16 23 425	1 1 43 90 135
Laghman Laghman To Logar Logar Total	Qala-i-Zal Alingar Alisheng Dowlat Shah Mehterlam (Provincial Center) Qarghayee tal Azra Baraki Barak Charkh Kharkh Kharwar Khoshi Muhammad Aghah Pul-i-Alam Achin Bati Kot Behsud	0 5,354 3,797	0 2,187 529	0 2,315 392	0 1,640 1,013	2 3 14 58 77 0 1,693 2,034	111 38 71 26 72 128 297 2297 2,209 603	321 489 131 88 707 298 707 0 1,317 535	3 0 12 0 15	146 104 - 240 460 950 	8 49 354 148 571 366 468 1,907 0 2,131 1,994	7 224 593 597 233 580 753 2,756 0 1,907 4,683	275 107 69 44 25 30 274 274 274 274 274 274	0 102 259 192 118 0 140 709 0 0 0 0 0 0 0 0 0 0 0 0 0	23 237 124 0 177 561 	13 370 3 16 23 425	1 1 90 135
Laghman Laghman To Logar Logar Total	Qala-i-Zal Alingar Alisheng Dowlat Shah Mehterlam (Provincial Center) Qarghayee tal Azra Baraki Barak Charkh Kharwar Khoshi Muhammad Aghah Pul-i-Alam Achin Bati Kot Behsud Chaparhar	0 5,354 3,797	0 0 2,187 529 1,377	0 2,315 392 1,750	0 1,640 1,234	2 3 14 58 77 0 1,693 2,034 1,365	111 38 71 26 72 128 297 297 297 297 603 603 977	321 489 131 88 707 0 1,317 535 832	3 0 12 0 15	146 104 - 240 460 950 - 	8 49 354 148 571 366 468 1,907 0 2,131 1,994 1,169	7 224 593 597 233 580 753 2,756 0 1,907 4,683 1,818	275 107 69 44 25 300 274 274 0 198 166 20	0 102 259 192 118 0 140 709 0 0 0 0 0 0 0 0 0 0 0 0 0	23 237 124 0 1777 561 p-f* 1,797 1,797 1,797 1,797 0 878	13 370 3 16 23 425	1 1 43 90 135
Laghman Laghman To Logar Logar Total	Qala-i-Zal Alingar Alisheng Dowlat Shah Mehterlam (Provincial Center) Qarghayee tal Azra Baraki Barak Charkh Kharwar Khoshi Muhammad Aghah Pul-i-Alam Achin Bati Kot Behsud Chaparhar Darah-i- Noor	0 5,354 3,797 1,089 1,302	0 2,187 529 1,377 392	0 2,315 392 1,750 199	0 0 1,640 1,013 1,234 73	2 3 14 58 77 0 1,693 2,034 1,365 199	11 11 38 71 26 72 128 297 297 0 2,209 603 977 734	321 489 131 88 707 298 707 0 1,317 535 832 421	3 0 12 0 15 0 15 0 1 1 2	146 104 - 240 460 950 - 950 - 940 2,390 - 990 380	8 49 354 148 571 366 468 1,907 2,131 1,994 1,169 24	7 224 593 597 233 580 753 2,756 0 1,907 4,683 1,818 472	275 107 69 44 25 30 274 0 198 166 20 20 2	0 102 259 192 118 0 140 709 0 0 0 0 0 0 0 0 0 0 0 0 0	23 237 124 0 177 561 9-f* 1,797 1,774 0 0 878 322	13 370 3 16 23 425	1 1 43 90 135
Laghman Laghman To Logar Logar Total	Qala-i-Zal Alingar Alisheng Dowlat Shah Mehterlam (Provincial Center) Qarghayee tal Azra Baraki Barak Charkh Kharwar Khoshi Muhammad Aghah Pul-i-Alam Vachin Bati Kot Behsud Chaparhar Darah-i- Noor Deh Bala	0 5,354 3,797 1,089 1,302 307	0 2,187 529 1,377 392 646	0 2,315 392 1,750 199 354	0 1,640 1,013 1,234 73 569 39	2 3 14 58 77 0 1,693 2,034 1,365 199 511	111 38 71 26 297 22 128 297 209 603 2,209 603 977 734 468	321 489 131 88 707 298 707 0 1,317 535 832 421 439	3 0 12 0 15 0 15 0 1 1 2	146 104 - 240 950 950 950 940 2,390 2,390 380 650	8 49 354 148 571 366 468 1,907 0 2,131 1,994 1,169 24 927	7 224 593 597 233 580 753 2,756 0 0 1,907 4,683 0 1,818 472 358	275 107 69 44 25 30 274 0 198 166 200 2 17	0 102 259 192 118 0 140 709 0 0 0 0 0 0 0 0 0 0 0 0 0	23 237 124 0 0 1777 561 	13 370 3 16 23 425	1 1 90 135
Laghman Laghman To Logar Logar Total	Qala-i-Zal Alingar Alisheng Dowlat Shah Mehterlam (Provincial Center) Qarghayee tal Azra Baraki Barak Charkh Kharwar Khoshi Muhammad Aghah Pul-i-Alam Achin Bati Kot Bati Kot Bati Kot Bati Kot Darah-i- Noor Deh Bala Dur Baba Goshta	0 5,354 3,797 1,089 1,302 307 29	0 2,187 529 1,377 392 646 788 467	0 2,315 392 1,750 199 354 38	0 1,640 1,013 1,234 73 569 77	2 3 14 58 77 0 1,693 2,034 1,365 199 511 56	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	321 489 131 88 707 707 0 1,317 535 832 421 439 33	3 0 12 0 15 15 0 0 1 1 1 2 2 11	146 104 	8 8 499 3554 571 3666 468 468 1,907 2,131 1,994 1,169 244 927 311 133	7 224 593 597 233 580 753 2,756 0 0 1,907 4,683 1,818 472 358 999 217	275 107 69 44 25 30 274 198 166 20 22 177 5	0 102 259 192 118 0 140 709 0 0 0 0 0 0 0 0 0 0 0 0 0	23 237 124 0 0 1777 561 1,777 1,774 1,777 1,774 0 878 322 1,075 36	13 370 3 16 23 425	1 43 90 135
Laghman Laghman To Logar Logar Total	Qala-i-Zal Alingar Alisheng Dowlat Shah Mehterlam (Provincial Center) Qarghayee tal Azra Baraki Barak Charkh Kharwar Khoshi Muhammad Aghah Pul-i-Alam Achin Bati Kot Behsud Chaparhar Darah-i- Noor Deh Bala Dur Baba Goshta Hesarak	0 5,354 3,797 1,089 1,302 307 29 1,249 202	0 2,187 529 1,377 392 646 78 467 453	0 2,315 392 1,750 199 354 38 116 253	0 1,640 1,013 1,234 73 569 39 39 370	2 2 3 3 4 144 58 777 777 1,693 2,034 1,365 199 911 511 56 6 2,22 4366 1,222 4366 1,222 4366 1,222 1,	111 388 71 126 722 128 297 724 297 0 0 2,209 603 0 0 2,209 603 603 603 603 603 603 603 604 604 604 604 604 604 604 604	321 489 131 88 707 707 707 707 707 707 707 707 707	3 0 12 0 15 0 15 0 1 1 2 2 11 11 99	146 104 	8 49 354 148 571 366 468 1,907 0 2,131 1,994 1,169 24 9277 31	7 224 593 597 233 580 753 2,756 0 1,907 4,683 0 1,818 472 358 99 217 1,392	275 107 69 44 25 30 274 0 198 166 20 20 2 17 5 10 0 64	0 102 259 192 118 0 140 709 0 0 0 0 0 0 0 0 0 0 0 0 0	23 237 124 0 177 561 1,777 1,774 0 878 322 1,075 366 109	13 370 3 16 23 425	1 1 90 135
Laghman Laghman To Logar Logar Total	Qala-i-Zal Alingar Alisheng Dowlat Shah Mehterlam (Provincial Center) Qarghayee tal Azra Baraki Barak Charkh Kharwar Khoshi Muhammad Aghah Pul-i-Alam V Achin Bati Kot Behsud Chaparhar Darah-i- Noor Deh Bala Dur Baba Goshta Hesarak Jalalabad	0 5,354 3,797 1,089 1,302 307 299 1,249	0 2,187 529 1,377 392 646 78 467 453 31	0 2,315 392 1,750 199 354 388 116	0 1,640 1,013 1,234 73 569 77	2 2 3 3 3 144 588 777 777 1,693 2,034 1,365 511 566 122 436 3977	0 0 2,209 0 0 2,209 0 0 0 2,209 0 0 0 0 2,209 0 0 0 0 0 2,209 0 0 0 0 2,209 0 0 0 0 0 1 2,409 0 0 0 0 1 1 1 1 1 1 1 1 1 1 1 1 2 6 6 1 2 6 1 2 8 1 2 8 1 1 1 1 2 6 6 1 2 8 1 2 8 1 1 1 1 2 8 1 1 2 8 1 2 8 1 2 9 7 2 2 9 7 2 2 9 7 7 2 8 1 8 1 8 1 9 7 1 2 8 1 8 1 8 1 8 1 9 7 1 2 8 1 8 1 8 1 8 1 8 1 8 1 8 1 8 1 1 8 1 8 1 1 8 1 1 8 1 8 1 8 1 8 1 1 8 1 1 8 1	321 489 131 298 707 707 707 707 707 707 707 707 707 70	3 0 12 0 15 0 15 0 1 1 2 2 11 11 99	1466 1044 	8 49 354 148 571 366 468 408 408 408 408 408 408 408 40	7 224 593 597 233 580 753 2,756 0 1,907 4,683 0 1,818 472 358 99 217 1,392 1,658	275 107 69 44 25 30 274 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	0 102 259 192 118 0 140 709 0 0 0 0 0 0 0 0 0 0 0 0 0	23 237 124 0 177 561 1,777 1,777 1,777 1,774 1,774 322 1,075 366 109 295	13 370 3 16 23 425	1 43 90 135
Laghman Laghman To Logar Logar Total	Qala-i-Zal Alingar Alisheng Dowlat Shah Mehterlam (Provincial Center) Qarghayee tal Azra Baraki Barak Charkh Kharwar Khoshi Muhammad Aghah Pul-i-Alam Aul-i-Alam Achin Bati Kot Behsud Chaparhar Darah-i-Noor Deh Bala Dur Baba Goshta Hesarak Jalalabad	0 5,354 3,797 1,302 307 29 1,249 202 458	0 2,187 529 1,377 3922 646 78 467 453 311	0 2,315 392 1,7500 199 354 4 388 116 2533 51	0 0 1,640 1,013 1,234 73 569 9 9 77 7370 123	2 2 3 3 3 14 4 58 777 77 77 77 77 77 77 77 77 77 77 77 7	111 388 711 226 227 228 297 228 297 2,209 00 2,209 00 2,209 00 2,209 00 2,209 00 30 1,208 1,20	321 489 131 88 707 707 707 707 707 707 707 707 707	3 0 12 0 15 0 15 0 1 1 2 2 11 11 99	1466 104 	8 49 354 49 354 49 354 40 40 40 40 40 40 40 40 40 4	7 224 593 597 233 580 753 2,756 0 1,907 1,907 4,683 0 1,818 472 358 99 217 1,392 1,658 1,898	275 107 69 44 25 30 274 0 198 166 20 20 21 17 5 10 64 777 82	0 102 259 192 118 0 140 709 0 0 0 0 0 0 0 0 0 0 0 0 0	23 237 124 0 177 561 878 878 322 1,075 366 109 295 360 0 0	13 370 3 16 23 425	1 1 43 90 135 p-f* 14
Laghman Laghman To Logar Logar Total	Qala-i-Zal Alingar Alingar Jowlat Shah Mehterlam (Provincial Center) Qarghayee tal Azra Baraki Barak Charkh Kharki Kharki Khashi Muhammad Aghah Pul-i-Alam Achin Bati Kot Bati Kot Bati Kot Bati Kot Bati Kot Darah-i-Noor Deh Bala Dur Baba Goshta Hesarak Jalalabad Kama	0 5,354 3,797 1,089 1,302 307 29 1,249 202	0 2,187 529 1,377 392 646 78 467 453 31	0 2,315 392 1,750 199 354 38 116 253	0 1,640 1,013 1,234 73 569 39 39 370	2 2 3 3 3 144 588 777 777 1,693 2,034 1,365 511 566 122 436 3977	0 0 2,209 0 0 2,209 0 0 0 2,209 0 0 0 0 2,209 0 0 0 0 0 2,209 0 0 0 0 2,209 0 0 0 0 0 1 2,409 0 0 0 0 1 1 1 1 1 1 1 1 1 1 1 1 2 6 6 1 2 6 1 2 8 1 2 8 1 1 1 1 2 6 6 1 2 8 1 2 8 1 1 1 1 2 8 1 1 2 8 1 2 8 1 2 9 7 2 2 9 7 2 2 9 7 7 2 8 1 8 1 8 1 9 7 1 2 8 1 8 1 8 1 8 1 9 7 1 2 8 1 8 1 8 1 8 1 8 1 8 1 8 1 8 1 1 8 1 8 1 1 8 1 1 8 1 8 1 8 1 8 1 1 8 1 1 8 1	321 489 131 298 707 707 707 707 707 707 707 707 707 70	3 0 12 0 15 0 15 0 1 1 2 2 11 11 99	1466 1044 	8 49 354 148 571 366 468 408 408 408 408 408 408 408 40	7 224 593 597 233 580 753 2,756 0 1,907 4,683 0 1,818 472 358 99 217 1,392 1,658	275 107 69 44 25 30 274 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	0 102 259 192 118 0 140 709 0 0 0 0 0 0 0 0 0 0 0 0 0	23 237 124 0 177 561 777 561 777 1,774 1,797 1,797 1,797 1,797 1,797 1,797 1,797 1,797 1,797 1,797 1,797 1,797 0 878 322 1,095 366 109 295 0 0 0 0 0 0 3,253	13 370 3 16 23 425	1 43 90 135
Laghman Laghman To Logar Logar Total	Qala-i-Zal Alingar Alisheng Dowlat Shah Mehterlam (Provincial Center) Qarghayee Kal Azra Baraki Barak Charkh Kharwar Khoshi Muhammad Aghah Pul-i-Alam Achin Bati Kot Behsud Chaparhar Darah-i- Noor Deh Bala Dur Baba Goshta Hesarak Jalalabad Kama	0 5,354 3,797 1,089 1,302 202 458 4,347	0 2,187 529 1,377 392 646 467 453 31 18 2,577	0 2,315 3922 1,750 1999 3544 388 1166 2533 511 2,628	0 1,640 1,013 1,234 73 569 99 77 7370 123 3,385	2 2 3 3 144 588 777 1,693 2,0344 1,365 50 199 511 1556 6 3977 198 3,808	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	321 489 131 298 707 707 1,317 535 421 439 33 238 541 1,021 589 4,913	3 0 12 0 15 0 15 0 1 1 2 2 11 11 99	1466 1044 4600 9500 9500 9500 9500 9500 9500 9500 9	8 8 49 354 49 354 49 571 366 468 468 408 408 408 408 408 408 408 40	7 224 593 597 233 580 753 2,756 0 1,907 4,683 0 1,907 4,683 0 1,818 472 358 99 217 1,392 1,658 1,898 2,269	275 107 69 44 25 30 274 0 198 166 20 20 22 17 5 5 10 64 77 82 117	0 102 259 192 118 0 140 709 0 0 0 0 0 0 0 0 0 0 0 0 0	23 237 124 0 177 561 1,797 1,774 1,797 1,774 1,774 322 1,075 366 109 295 0 0 0 0 3,253 0 0	13 370 3 16 23 425	1 1 43 90 135 p-f* 14
Laghman Laghman To Logar Logar Total	Qala-i-Zal Alingar Alisheng Dowlat Shah Mehterlam (Provincial Center) Qarghayee tal Azra Baraki Barak Charkh Kharwar Khoshi Muhammad Aghah Pul-i-Alam Vachin Bati Kot Behsud Chaparhar Darah-i- Noor Deh Bala Dur Baba Goshta Hesarak Jalalabad Kama Khugyani Kot	0 5,354 3,797 1,0899 1,302 307 202 202 458 4,347 203	0 2,187 529 1,377 392 646 78 467 453 31 18 2,577 233	0 2,315 392 1,750 199 354 388 116 253 51 2,628	0 1,640 1,013 1,234 73 3,569 39 77 77 370 123 3,385 15	2 2 3 3 3 144 588 777 0 0 1,693 2,034 1,365 199 5111 566 3977 1988 3,808 1055	0 0 2,209 0 0 2,209 0 0 0 2,209 0 0 0 0 2,209 0 0 0 0 0 2,209 0 0 0 2,209 0 0 0 2,209 0 0 3,50 0 0 0 2,209 7 2 2 5 5 3,50 1 1 1 1 1 1 2 6 6 1 2 9 7 2 1 2 8 8 8 9 7 7 2 1 2 8 8 8 9 7 7 2 9 7 7 2 9 7 7 2 9 7 7 2 9 7 7 2 9 7 7 2 9 7 7 9 7 7 2 9 7 7 2 9 7 7 2 9 7 7 2 9 7 7 9 7 7 2 9 7 7 7 9 7 7 7 9 7 7 7 9 7 7 3 4 4 8 8 9 7 7 7 9 7 7 7 4 4 8 8 9 7 7 7 9 7 7 7 8 9 7 7 9 7 7 7 4 8 9 7 7 7 8 9 7 7 9 7 7 7 8 9 7 7 9 7 7 8 9 7 7 9 7 7 8 9 7 7 9 7 7 8 9 7 7 8 9 7 7 9 7 7 8 9 7 7 9 7 7 8 9 7 7 9 7 7 8 9 7 7 9 7 7 9 7 7 8 9 7 9 7	321 489 131 298 707 707 0 1,317 535 832 421 439 33 238 541 1,021 589 4,913	3300 122 00 15 00 15 2 2 2 11 11 22 33	1466 1044 460 950 950 940 940 2,390 990 380 650 90 90 1,120 2,640 500	8 49 354 49 354 49 354 40 40 40 40 40 40 40 40 40 4	7 224 593 597 233 580 753 2,756 0 1,907 4,683 0 1,907 4,683 1,818 472 358 99 217 1,392 1,658 1,898 2,269 801	275 107 69 44 25 30 274 0 198 166 200 200 217 5 100 64 477 82 117 37	0 102 259 192 118 0 140 709 0 0 0 0 0 0 0 0 0 0 0 0 0	23 237 124 0 177 561 177 561 1,777 1,774 1,774 1,774 1,774 0 0 878 322 1,075 366 109 295 0 0 0 3,253 0 0 153	13 370 3 16 23 425	1 1 43 90 135 p-f* 14
Laghman Laghman To Logar Logar Total	Qala-i-Zal Alingar Alisheng Dowlat Shah Mehterlam (Provincial Center) Qarghayee tal Baraki Barak Charkh Kharwar Khoshi Muhammad Aghah Pul-i-Alam Achin Bati Kot Behsud Chaparhar Darah-i-Noor Deh Bala Dur Baba Goshta Hesarak Jalalabad Kot Kuzkunar Lalpoor	0 0 5,354 3,797 1,302 307 2,99 1,249 202 307 4,347 4,347 293 302	0 2,187 529 1,377 392 646 467 453 31 18 2,577	0 0 2,315 392 1,750 199 3544 388 116 2,628 511 2,628 799	0 1,640 1,013 1,234 73 3569 39 77 7370 123 3,385 3,385 566	2 2 3 3 3 144 588 777 777 1,693 2,034 1,3655 1397 198 3,808 1055 1377	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	321 489 131 88 707 707 707 1,317 535 832 421 439 333 238 541 1,021 589 4,913 	3 0 12 0 15 0 15 0 1 1 2 2 11 11 99	1466 1044 4600 9500 2,390 9900 2,390 400 1500 5000 1,120 2,640	8 499 354 148 571 366 468 468 408 408 408 408 408 408 408 40	7 224 593 597 233 580 753 2,756 0 0 1,907 4,683 0 1,818 472 358 99 217 1,392 1,658 1,898 2,269 0 801 362	275 107 69 44 25 30 274 0 198 166 20 20 21 17 5 10 64 777 82 117 37 17	0 102 259 192 118 0 140 709 0 0 0 0 0 0 0 0 0 0 0 0 0	23 237 124 0 177 561 561 561 561 561 561 561 561 561 561	13 370 3 16 23 425	1 1 43 90 135 p-f* 14
Laghman Laghman To Logar Logar Total	Qala-i-Zal Alingar Alisheng Dowlat Shah Mehterlam (Provincial Center) Qarghayee tal Azra Baraki Barak Charkh Khoshi Muhammad Aghah Pul-i-Alam Achin Bati Kot Behsud Charkh Darah-i-Noor Deh Bala Dur Baba Goshta Hesarak Khugyani Kot Kuunar Lalpoor Mohmand Dara	0 0 5,354 3,797 1,089 1,302 1,249 202 4,588 4,347 	0 2,187 529 1,377 392 646 788 467 453 31 188 2,577 233 267	0 0 2,315 392 1,750 199 9 354 4 2,628 2,628 	0 1,640 1,013 1,234 73 39 777 370 123 3,385 3,385 1.55 666 83	2 2 3 3 3 144 588 587 587 587 587 587 587 587 587 587	000 2,209 97772 288 2977 228 2977 238 2977 734 468 500 2400 7714 468 500 2400 7411 9799 9389 5,338	321 489 131 88 707 707 0 1,317 535 832 421 439 33 238 541 1,021 589 4,913 399 248 255	3300 122 00 15 00 15 2 2 2 11 11 22 33	1466 1044 4600 9500 9500 9500 9500 9500 9500 9500 9	8 8 49 354 49 571 366 468 468 408 408 408 408 408 408 408 40	7 224 593 597 233 580 753 2,756 0 0 1,907 4,683 0 1,818 4,722 358 99 217 1,392 1,658 1,898 2,269 801 362 1,170	275 107 69 44 25 30 274 0 198 166 200 20 20 20 20 20 17 5 10 64 77 77 82 117 54	0 102 259 192 118 0 140 709 0 0 0 0 0 0 0 0 0 0 0 0 0	23 237 124 0 177 561 177 561 1,797 1,774 0 878 322 1,075 366 109 2955 366 109 2955 0 0 0 3,253 0 0 3,253 0 0 1535 3556	13 370 3 16 23 425	1 1 43 90 135 p-f* 14
Laghman Laghman To Logar Logar Total	Qala-i-Zal Alingar Alisheng Dowlat Shah Mehterlam (Provincial Center) Qarghayee tal Azra Baraki Barak Charkh Kharwar Khoshi Muhammad Aghah Pul-i-Alam Charkh Achin Bati Kot Behsud Chaparhar Darah-i- Noor Deh Bala Dur Baba Goshta Hesarak Jalalabad Kama Katuan Kot Kuzkunar Kot Kuzkunar Lalpoor Mohmand Dara Nazyan	0 5,354 3,797 1,089 1,302 307 7,249 4,347 4,347 4,347 4,347 3002 3,630 3,433	0 2,187 529 1,377 392 646 78 467 453 31 18 2,577 233 267 233 267	0 2,315 3922 1,750 1999 3544 2,628 3 8 116 2,53 51 115 2,628 2,512 115 2,628	0 1,640 1,013 1,234 73 3,699 39 9 9 77 7370 123 3,385 6 6 6 6 8 3 3 111	2 2 3 3 3 4 4 4 5 8 8 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	0 0 0 2,209 603 9777 7344 468 50 240 741 741 979 9 389 5,338 2366 2700 240 240 240 240 240 240 240 240 240 2	321 489 131 888 707 707 707 707 707 707 707 707 707	3300 122 00 15 00 15 2 2 2 11 11 22 33	1466 1044 4600 9500 9500 9500 9500 9900 3808 6500 400 400 900 1,120 2,640 900 2,640 5000 2,500 5000 2,500 5000 2,500 5000 5,5000 5,500 5,500 5,5000 5,5000 5,5000 5,5000 5,500	8 8 499 354 498 571 366 468 458 1,907 0 0 2,131 1,994 1,169 924 4,169 924 4,558 2,986 1,016 4,558 1,016 4,558 2,986 1,017 1,016 1,017 1,016 1,017 1,016 1,017 1,016 1,017 1,016 1,017 1,017 1,016 1,017 1,017 1,016 1,017 1,	7 224 593 597 233 580 753 2,756 0 1,907 4,683 0 1,907 4,683 0 1,907 4,683 0 1,907 1,392 1,658 1,898 2,269 801 362 1,170 168	275 107 69 44 25 30 274 0 198 166 200 20 20 20 17 5 100 64 77 82 117 77 54 88	0 102 259 192 118 0 140 709 0 0 0 0 0 0 0 0 0 0 0 0 0	23 237 124 0 177 561 	13 370 3 16 23 425	1 1 43 90 135 p-f* 14
Laghman Laghman To Logar Logar Total	Qala-i-Zal Alingar Alingar Jowlat Shah Mehterlam (Provincial Center) Qarghayee tal Azra Baraki Barak Charkh Kharwar Khoshi Muhammad Aghah Pul-i-Alam V Achin Bati Kot Behsud Chaparhar Darah-i- Noor Deh Bala Dur Baba Goshta Hesarak Jalalabad Kasma Khugyani Kot Kuzkunar Lalpoor Mohmand Dara Nazyan Pachir wagam	0 5,354 3,797 1,089 1,302 307 299 1,249 202 458 4,347 293 302 293 302 293 302 293 302 293 302 293 302 293 302 293 302 293 302 293 303 293 293 293 293 293 293 293 293 293 29	0 2,187 529 1,377 392 646 78 467 453 31 18 2,577 233 267 233 267 138	0 2,315 3922 1,750 1999 354 4 2628 2,628 115 51 2,628 115 51 2,628 681	0 1,640 1,013 1,234 73 3,569 39 377 77 370 123 3,385 5,66 66 83 3 111 111 400	2 2 3 3 3 14 58 77 77 1,693 2,034 1,365 199 5111 566 3977 198 3,808 1055 1377 1255 2552 4888	0 0 2,209 603 0 2,209 603 0 2,209 603 0 2,209 603 0 2,209 603 0 2,209 603 0 2,209 603 0 2,209 603 0 2,209 603 0 2,209 772 2,209 773 4 4 688 5,50 2,209 772 2,209 772 2,209 7772 7,34 4 688 5,50 2,209 7772 7,34 4 688 5,50 2,209 7773 4 4 688 5,50 2,209 7774 4 688 5,50 2,209 7774 4 688 5,50 2,209 7774 4 688 5,50 2,209 7774 4 688 5,50 2,209 7754 4 741 774 744 774 774 774 774 774 774	321 489 131 298 707 707 707 707 707 707 707 707 707 70	3 3 0 12 12 0 15 15 2 15 11 11 999 2 2 3 3	1466 1044 	8 8 49 3544 48 571 3666 468 468 468 468 408 408 408 408 408 408 408 40	7 224 593 597 233 580 753 2,756 0 1,907 4,683 0 1,907 4,683 0 1,907 4,683 1,818 472 358 99 217 1,392 1,658 1,898 2,269 801 3,62 1,170 1688 1,091	275 107 69 44 25 30 274 9 9 198 166 20 20 20 17 5 10 64 4 77 82 117 5 107 64 77 82 117 54 83 37 117 117 117 117 117 117 117	0 102 259 192 118 0 140 709 709 0 0 0 0 0 0 0 0 0 0 0 0 0	23 237 124 0 177 561 1,777 1,774 1,774 1,774 1,774 322 1,075 360 0 0 0 3,253 00 0 0 3,253 356 995 2266 594	13 370 3 16 23 425	1 1 43 90 135 p-f* 14
Laghman Laghman To Logar Logar Total	Qala-i-Zal Alingar Alisheng Dowlat Shah Mehterlam (Provincial Center) Qarghayee tal Azra Baraki Barak Charkh Kharwar Khoshi Muhammad Aghah Pul-i-Alam Achin Bati Kot Behsud Chaparhar Darah-i- Noor Deh Bala Mur Baba Goshta Hesarak Jalalabad Kama Kutzunar Lalpoor Mohmand Dara Nazyan Pachir wagam Rodat	0 5,354 3,797 1,089 1,302 4,307 4,347 4,347 4,347 293 302 4,58 4,347 293 302 4,58 4,347	0 2,187 529 1,377 392 646 78 467 453 31 18 2,577 233 267 138 571 2,038	0 0 2,315 392 1,750 199 354 388 116 253 511 2,628 115 79 156 251 166 251 1,959	0 1,640 1,013 1,234 73 3,569 39 9 777 7370 123 3,385 566 83 3,385 566 83 111 1400 1,583	2 2 3 3 4 144 588 777 0 0 1,693 2,034 1,365 122 511 566 397 1988 3,808 1055 1377 1255 2,525 2,252 2,254 488 2,147 488 2,147 488 2,147 488 2,147 488 2,147 488 488 2,147 488 488 488 488 488 488 488 4	000 000 000 000 000 000 000 000	321 489 131 88 707 707 707 707 707 707 707 707 707	3 3 0 12 12 0 15 15 2 15 11 11 999 2 2 3 3	1466 1044 	8 49 354 49 354 49 571 366 408 408 408 408 408 408 408 408	7 224 593 597 233 580 753 2,756 0 0 1,907 4,683 0 1,907 4,683 1,818 472 358 99 217 1,392 1,658 1,898 2,269 0 1,907 1,392 1,658 1,898 2,269 0 1,970 1,392 1,658 1,898 1,898 2,269 0 1,970 1,392 1,658 1,898 1,807 1,997 1,392 1,658 1,898 1,898 1,898 1,807 1,392 1,658 1,898 1,807 1,392 1,658 1,898 1,807 1,392 1,658 1,898 1,898 1,807 1,392 1,658 1,170 1,362 1,170 1,362 1,170 1,362 1,170 1,362 1,170 1,362 1,170 1,362 1,170 1,362 1,170 1,362 1,170 1,362 1,170 1,362 1,170 1,363 1,033 1,033 1,033 1,033 1,033 1,033 1,033 1,033 1,033 1,033 1,033 1,035 1,055 1,	275 107 69 44 25 30 274 0 198 166 20 20 22 177 55 10 64 777 82 117 55 10 64 777 82 117 55 50 55 50 55 50	0 102 259 192 118 0 140 709 0 0 0 0 0 0 0 0 0 0 0 0 0	23 237 124 0 177 561 777 561 878 878 322 1,075 36 109 295 0 0 0 3,253 356 995 266 995 2664 3,755	13 370 3 16 23 425	1 43 90 135 p-f* 14 18 108 5 5
Laghman Laghman To Logar Logar Total	Qala-i-Zal Alingar Alisheng Dowlat Shah Mehterlam (Provincial Center) Qarghayee tal Azra Baraki Barak Charkh Kharwar Khoshi Muhammad Aghah Pul-i-Alam Achin Bati Kot Behsud Charkh Qarghayee Jalabad Karma Khugyani Kot Kuzkunar Lalpoor Mohmand Dara Nazyan Pachir wagam Rodat Sherzad Sherzad	0 5,354 3,797 1,089 1,302 202 4,588 4,347 203 302 1,630 343 302 1,630 343	0 2,187 529 1,377 392 646 788 467 453 31 188 2,577 233 267 138 571 2,038 2,351	0 0 2,315 392 1,750 199 354 4 388 116 2,628 115 2,628 2,628 115 2,628 115 2,628 115 2,628 1,959 1,646 6 8 1,959 1,646 1,959 1,646 1,959 1,959 1,646 1,959 1,959 1,646 1,959	0 0 1,640 1,013 1,234 73 3,99 77 3,700 123 3,385 1,55 666 833 1,111 4000 1,583 1,58	2 2 3 3 3 4 4 4 5 8 5 7 7 7 7 1 4 5 8 5 7 7 7 7 1 5 7 7 1 5 7 7 1 5 7 7 1 5 7 7 1 5 7 7 1 5 7 7 7 1 5 7 7 1 5 7 7 7 1 5 7 7 1 5 7 7 7 1 5 7 7 1 1 1 1	000 000 000 000 000 000 000 000	321 489 131 88 707 707 707 707 707 707 707 707 707	3 3 0 12 12 0 15 15 2 15 11 11 999 2 2 3 3	1466 1044 4600 9500 9500 9404 2,3900 9900 3808 6500 9900 3808 6500 900 2,6400 7200 1,120 2,6400 7200 1,500 7200 1,120 7200 1,120 7200 7200 7200 7200 7200 7200 7200 7	8 8 49 334 148 571 366 468 468 408 408 408 408 408 408 408 40	7 224 593 597 233 580 753 2,756 0 1,907 4,683 0 1,907 4,683 0 1,907 4,683 0 1,907 1,928 1,658 99 217 1,392 1,658 99 217 1,392 1,658 0 1,818 4,818 1,817 1,927 1,658 1,818 1,229 1,658 1,170 1,229 1,658 1,229	275 107 69 44 25 30 274 0 198 166 200 20 20 20 20 217 51 10 64 77 82 117 54 8 35 50 57	0 102 259 192 118 0 140 709 0 0 0 0 0 0 0 0 0 0 0 0 0	23 237 124 0 177 561 777 561 878 322 1,075 366 109 2955 0 0 0 3,253 0 0 0 3,253 0 0 0 3,253 0 0 0 3,253 5 6 6 995 2666 594 3,755 2666	13 370 3 16 23 425	1 1 43 90 135 p-f* 14
Laghman Laghman To Logar Logar Total	Qala-i-Zal Alingar Alisheng Dowlat Shah Mehterlam (Provincial Center) Qarghayee tal Azra Baraki Barak Charkh Kharwar Khoshi Muhammad Aghah Pul-i-Alam V Oarah-i- Noor Deh Bala Dur Baba Goshta Hesarak Jalalabad Kot Kuzguni Kot Suzunar Lalpoor Mohmand Dara Nazyan Pachir wagam Rodat Sherzad Shinwar	0 5,354 3,797 1,089 1,302 307 202 458 4,347 4,347 203 302 293 302 293 303 343 343 343 3,768 1,054 3,884	0 2,187 529 1,377 392 646 788 467 453 31 18 2,577 20 33 267 138 571 2,038 2,351 1,265	0 2,315 392 1,750 199 354 384 2,628 3115 2,628 2,628 2,628 4,155 2,628 115 1,556 2,511 1,550 1,7	0 1.640 1.013 1.234 73 3.70 1.23 1.5 66 83 3.111 4000 1.583 1.689 1.478	2 2 3 3 3 144 588 777 77 77 77 77 77 77 77 77 77 77 77	111 38 711 38 712 26 72 28 297 72 28 297 72 28 297 72 28 297 72 28 297 72 28 297 72 297 209 603 977 734 46 85 50 240 72 240 977 72 240 977 72 297 297 209 603 240 240 240 240 240 240 240 240	321 489 131 88 190 298 707 707 707 707 707 707 707 70	3300 122 0015 15 0011 11 111 111 111 111 111 111	1466 1044 1044 1049 104 1049 1	8 8 49 354 49 571 366 468 468 408 408 408 408 408 408 408 40	7 224 593 597 233 580 753 2,756 0 1,907 4,683 0 1,907 4,683 0 1,907 4,683 0 1,907 4,683 0 1,907 4,683 0 1,907 1,392 1,658 1,898 2,269 801 362 1,170 1688 1,091 3,633 1,229 1,759	275 107 69 44 25 30 274 0 198 166 20 20 20 20 20 10 64 77 82 117 54 8 35 50 57 79	0 102 259 192 118 0 140 709 0 0 0 0 0 0 0 0 0 0 0 0 0	23 237 124 0 177 561 1,797 1,774 0 878 322 1,075 366 109 2955 0 0 0 3,253 0 0 3,253 0 0 1553 3,555 2666 594 3,755 8644 2,218	13 370 3 16 23 425	1 43 90 135 p-f* 14 18 108 5 5
Laghman Laghman To Logar Logar Total Nangarhar	Qala-i-Zal Alingar Alisheng Dowlat Shah Mehterlam (Provincial Center) Qarghayee tal Azra Baraki Barak Charkh Kharwar Khoshi Muhammad Aghah Pul-i-Alam V Achin Bati Kot Behsud Chaparhar Darah-i- Noor Deh Bala Dur Baba Goshta Hesarak Jalalabad Kama Khugyani Kot Kuzkunar Lalpoor Mohmand Dara Nazyan Pachir wagam Rodat Sherzad Shinwar Surkh Rud	0 5,354 3,797 1,089 1,302 307 7,29 9 202 458 4,347 203 302 202 458 4,347 203 303 202 458 4,347 768 4,347 768 4,348 4,347 768 4,338 4,337 6 8 4,337 6 8 4,347 767 767 767 767 767 767 767 767 767 7	0 2,187 529 1,377 392 646 78 467 453 31 18 2,577 233 267 233 267 138 571 2,038 2,351 1,265 106	0 2,315 3922 1,750 1999 354 2,628 2,628 115 2,628 211 681 1,959 251 1,646 681 1,959 587 7	0 1,640 1,013 1,234 73 569 379 77 370 123 3,385 66 68 33 3,385 66 83 3,111 400 1,583 1,689 9 1,1478 619	2 2 3 3 3 4 14 4 58 8 777 77 77 77 77 77 77 77 77 77 77 77	0 0 2,209 603 0 2,209 603 0 2,209 603 0 2,209 603 0 2,209 603 0 2,209 603 0 2,209 603 0 2,209 603 0 2,209 603 0 2,209 707 2,344 8 8 5,338 5,338 2,364 9,777 2,346 2,346 2,346 2,467	321 489 131 888 190 298 707 707 707 707 707 707 707 70	3300 122 15 00 15 00 11 11 11 11 11 11 11 11 11 11 11 11	1466 1044 	8 8 49 3544 148 571 366 468 468 468 468 408 408 408 408 408 408 408 40	7 224 593 597 233 580 753 2,756 0 1,907 4,683 0 1,907 4,683 0 1,907 4,683 1,818 472 358 99 217 1,392 1,658 1,898 2,269 217 1,392 1,658 1,898 2,269 801 3,662 1,170 1,658 1,091 3,633 1,229 1,759 1,229 1,759 1,229 1,759 1,229 1,759 1,229 1,759 1,229 1,759 1,229 1,759 1,229 1,759 1,229 1,759 1,229 1,759 1,229 1	275 107 69 44 25 30 274 0 198 166 200 20 20 20 20 20 175 100 64 777 82 117 510 64 777 82 510 64 774 82 510 64 774 82 510 64 774 82 510 64 774 82 510 64 775 107 107 107 107 107 107 107 107	0 102 259 192 118 0 140 709 0 0 0 0 0 0 0 0 0 0 0 0 0	23 237 124 0 0 177 561 1,777 1,774 1,774 1,774 1,774 1,774 0 0 878 322 1,075 366 109 295 0 0 0 3,255 366 995 266 6 594 3,755 8664 2,218 864 2,218	13 370 3 16 23 425 	1 1 1 43 90 135 148
Laghman Laghman To Logar Logar Total	Qala-i-Zal Alingar Alisheng Dowlat Shah Mehterlam (Provincial Center) Qarghayee Ial Azra Baraki Barak Charkh Kharwar Khoshi Muhammad Aghah Pul-i-Alam Vertice Achin Bati Kot Behsud Chaparhar Darah-i- Noor Deh Bala Dur Baba Goshta Hesarak Jalalabad Kama Khugyani Kot Kuzkunar Lalpoor Mohmand Dara Nazyan Pachir wagam Rodat Shirka Rud Shirka Rud	0 0 5,354 3,797 1,089 1,302 307 202 4,347 203 307 203 307 203 307 203 307 203 307 203 307 203 307 203 307 203 307 203 307 203 307 203 307 203 307 203 307 203 203 203 203 203 203 203 203	0 2,187 529 1,377 392 646 788 467 453 31 18 2,577 20 33 267 138 571 2,038 2,351 1,265	0 2,315 392 1,750 199 354 384 2,628 3115 2,628 2,628 2,628 4,750 2,628 115 1,550 2,511 1,550 2,515 1,750 1,7	0 1.640 1.013 1.234 73 3.70 1.23 1.5 6.6 8.3 1.11 4000 1.583 1.689 1.478	2 2 3 3 3 144 588 777 77 77 77 77 77 77 77 77 77 77 77	111 38 711 38 712 26 72 28 297 72 28 297 72 28 297 72 28 297 72 28 297 72 28 297 72 297 209 603 977 734 46 85 50 240 72 240 977 72 297 297 297 297 297 297	321 489 131 88 190 298 707 707 707 707 707 707 707 70	3300 122 0015 15 0011 11 111 111 111 111 111 111	1466 1044 	8 8 49 354 49 571 366 468 468 408 408 408 408 408 408 408 40	7 224 593 597 233 580 753 2,756 0 0 1,907 4,683 0 1,907 4,683 1,818 472 358 99 217 1,392 1,658 1,898 2,269 217 1,392 1,658 1,898 2,269 0 1,907 1,392 1,658 1,898 2,269 1,170 1,658 1,898 2,269 2,1759 1,392 2,759 2,750 1,977 1,392 1,750 1,977 1,392 1,597 1,392 1,597 1,392 1,598 1,598 1,597 1,392 1,598 1,598 1,598 1,598 1,598 1,598 1,598 1,598 1,598 1,597 1,392 1,598 1,599 1,598 1,2299 1,2299 2,8213 1,598 1,229 2,8213 1,598 1,229 1,221 1,229 1,229 1,221 1,229 1,221 1,229 1,229 1,221 1,229 1,221 1,229 1,221 1,229 1,221 1,229 1,221 1,229	275 107 69 44 25 30 274 0 198 106 20 22 177 55 100 64 777 82 117 55 100 64 777 82 117 55 107 64 777 82 1177 1177 82 1177 1	0 102 259 192 118 0 140 709 0 0 0 0 0 0 0 0 0 0 0 0 0	23 237 124 0 177 561 777 561 878 878 322 1,075 36 109 295 0 0 0 3,253 36 109 295 0 0 0 3,253 356 995 266 3,355 864 2,218 3,755 864 2,218	13 370 3 16 23 425	1 43 90 135 p-f* 14 18 108 5 5 1 148 294
Laghman Laghman To Logar Logar Total Nangarhar	Qala-i-Zal Alingar Alisheng Dowlat Shah Mehterlam (Provincial Center) Qarghayee tal Azra Baraki Barak Charkh Kharwar Khoshi Muhammad Aghah Pul-i-Alam V Achin Bati Kot Behsud Chaparhar Darah-i- Noor Deh Bala Dur Baba Goshta Hesarak Jalalabad Kama Khugyani Kot Kuzkunar Lalpoor Mohmand Dara Nazyan Pachir wagam Rodat Sherzad Shinwar Surkh Rud	0 5,354 3,797 1,089 1,302 307 7,29 9 202 458 4,347 203 302 202 458 4,347 203 303 202 458 4,347 768 4,347 768 4,348 4,347 768 4,338 4,337 6 8 4,337 6 8 4,347 7 6 7 6 7 6 7 7 7 7 7 7 7 7 7 7 7 7 7	0 2,187 529 1,377 392 646 78 467 453 31 18 2,577 233 267 233 267 138 571 2,038 2,351 1,265 106	0 2,315 3922 1,750 1999 354 2,628 2,628 115 2,628 211 681 1,959 251 1,646 681 1,959 587 7	0 1,640 1,013 1,234 73 569 379 77 370 123 3,385 66 68 3 3,385 5 66 83 3 111 400 1,583 1,689 9 1,1478 619	2 2 3 3 3 4 14 4 58 8 777 77 77 77 77 77 77 77 77 77 77 77	0 0 2,209 603 0 2,209 603 0 2,209 603 0 2,209 603 0 2,209 603 0 2,209 603 0 2,209 603 0 2,209 603 0 2,209 603 0 2,209 707 2,344 8 8 5,338 5,338 2,364 9,777 2,346 2,346 2,346 2,467	321 489 131 888 190 298 707 707 707 707 707 707 707 70	3300 122 15 00 15 00 11 11 11 11 11 11 11 11 11 11 11 11	1466 1044 	8 8 49 3544 148 571 366 468 468 468 468 408 408 408 408 408 408 408 40	7 224 593 597 233 580 753 2,756 0 1,907 4,683 0 1,907 4,683 0 1,907 4,683 1,818 472 358 99 217 1,392 1,658 1,898 2,269 217 1,392 1,658 1,898 2,269 801 3,662 1,170 1,658 1,091 3,633 1,229 1,759 1,229 1,759 1,229 1,759 1,229 1,759 1,229 1,759 1,229 1,759 1,229 1,759 1,229 1,759 1,229 1,759 1,229 1,759 1,229 1	275 107 69 44 25 30 274 0 198 166 200 20 20 20 20 20 175 100 64 777 82 117 510 64 777 82 510 64 774 82 510 64 774 82 510 64 774 82 510 64 774 82 510 64 774 82 510 777 777 777 777 777 777 777 7	0 102 259 192 118 0 140 709 0 0 0 0 0 0 0 0 0 0 0 0 0	23 237 124 0 0 177 561 1,777 1,774 1,774 1,774 1,774 1,774 0 0 878 322 1,075 366 109 295 0 0 0 3,255 366 995 266 6 594 3,755 8664 2,218 864 2,218	13 370 3 16 23 425 	1 1 43 90 135
Laghman Laghman To Logar Logar Total Nangarhar	Qala-i-Zal Alingar Alisheng Dowlat Shah Mehterlam (Provincial Center) Qarghayee Ial Azra Baraki Barak Charkh Kharwar Khoshi Muhammad Aghah Pul-i-Alam Vertice Achin Bati Kot Behsud Chaparhar Darah-i- Noor Deh Bala Dur Baba Goshta Hesarak Jalalabad Kama Khugyani Kot Kuzkunar Lalpoor Mohmand Dara Nazyan Pachir wagam Rodat Shirka Rud Shirka Rud	0 5,354 3,797 1,089 1,302 307 7,29 9 202 458 4,347 203 302 202 458 4,347 203 303 202 458 4,347 768 4,347 768 4,348 4,347 768 4,338 4,337 6 8 4,337 6 8 4,347 7 6 7 6 7 6 7 7 7 7 7 7 7 7 7 7 7 7 7	0 2,187 529 1,377 392 646 78 467 453 31 18 2,577 233 267 233 267 138 571 2,038 2,351 1,265 106	0 2,315 3922 1,750 1999 354 2,628 2,628 115 2,628 211 681 1,959 251 1,646 681 1,959 587 7	0 1,640 1,013 1,234 73 569 379 77 370 123 3,385 66 68 3 3,385 5 66 83 3 111 400 1,583 1,689 9 1,1478 619	2 2 3 3 3 4 14 4 58 8 777 77 77 77 77 77 77 77 77 77 77 77	0 0 2,209 603 0 2,209 603 0 2,209 603 0 2,209 603 0 2,209 603 0 2,209 603 0 2,209 603 0 2,209 603 0 2,209 603 0 2,209 707 2,344 8 8 5,338 5,338 2,364 9,777 2,346 2,346 2,346 2,467	321 489 131 888 190 298 707 707 707 707 707 707 707 70	3300 122 15 00 15 00 11 11 11 11 11 11 11 11 11 11 11 11	1466 1044 	8 8 49 3544 148 571 366 468 468 468 468 408 408 408 408 408 408 408 40	7 224 593 597 233 580 753 2,756 0 0 1,907 4,683 0 1,907 4,683 1,818 472 358 99 217 1,392 1,658 1,898 2,269 217 1,392 1,658 1,898 2,269 0 1,907 1,392 1,658 1,898 2,269 1,170 1,658 1,898 2,269 2,1759 1,392 2,759 2,750 1,977 1,392 1,750 1,977 1,392 1,597 1,392 1,597 1,392 1,598 1,598 1,597 1,392 1,598 1,598 1,598 1,598 1,598 1,598 1,598 1,598 1,598 1,597 1,392 1,598 1,599 1,598 1,2299 1,2299 2,8213 1,598 1,229 2,8213 1,598 1,229 1,221 1,229 1,229 1,221 1,229 1,221 1,229 1,229 1,221 1,229 1,221 1,229 1,221 1,229 1,221 1,229 1,221 1,229	275 107 69 44 25 30 274 0 198 106 20 22 177 55 100 64 777 82 117 55 100 64 777 82 117 55 107 64 777 82 1177 1177 82 1177 1	0 102 259 192 118 0 140 709 0 0 0 0 0 0 0 0 0 0 0 0 0	23 237 124 0 177 561 777 561 878 878 322 1,075 36 109 295 0 0 0 3,253 36 109 295 0 0 0 3,253 356 995 266 3,355 864 2,218 3,755 864 2,218	13 370 3 16 23 425 	1 1 43 90 135
Laghman Laghman To Logar Logar Total Nangarhar	Qala-i-Zal Alingar Alisheng Dowlat Shah Mehterlam (Provincial Center) Qarghayee tal Baraki Barak Charkh Khoshi Muhammad Aghah Pul-i-Alam Achin Bati Kot Behsud Chaparhar Darah-i-Noor Deh Bala Dur Baba Goshta Hesarak Jalalabad Kuzkunar Lalpoor Mohmand Dara Nazyan Pachir wagam Rodat Shinwar Sturkh Rud Ortal Chahar Burjak	0 5,354 3,797 1,089 1,302 307 7,29 9 202 458 4,347 203 302 202 458 4,347 203 303 202 458 4,347 768 4,347 768 4,348 4,347 768 4,338 4,337 6 8 4,337 6 8 4,347 7 6 7 6 7 6 7 7 7 7 7 7 7 7 7 7 7 7 7	0 2,187 529 1,377 392 646 78 467 453 31 18 2,577 233 267 233 267 138 571 2,038 2,351 1,265 106	0 2,315 3922 1,750 1999 354 2,628 2,628 115 2,628 211 681 1,959 251 1,646 681 1,959 587 7	0 1,640 1,013 1,234 73 569 379 77 370 123 3,385 66 68 3 3,385 5 66 83 3 111 400 1,583 1,689 9 1,1478 619	2 2 3 3 3 4 14 4 58 8 777 77 77 77 77 77 77 77 77 77 77 77	0 0 2,209 603 0 2,209 603 0 2,209 603 0 2,209 603 0 2,209 603 0 2,209 603 0 2,209 603 0 2,209 603 0 2,209 603 0 2,209 707 2,344 8 8 5,338 5,338 2,364 9,777 2,346 2,346 2,346 2,467	321 489 131 888 190 298 707 707 707 707 707 707 707 70	3300 122 15 00 15 00 11 11 11 11 11 11 11 11 11 11 11 11	1466 1044 	8 8 49 3544 148 571 366 468 468 468 468 408 408 408 408 408 408 408 40	7 224 593 597 233 580 753 2,756 0 0 1,907 4,683 0 1,818 472 358 99 217 1,392 1,658 1,898 2,269 0 1,229 1,229 1,229 28,213 65	275 107 69 44 25 30 274 0 198 106 20 22 177 55 100 64 777 82 117 55 100 64 777 82 117 55 107 64 777 82 1177 1177 82 1177 1	0 102 259 192 118 0 140 709 0 0 0 0 0 0 0 0 0 0 0 0 0	23 237 124 0 177 561 577 1,774 1,774 1,774 0 878 322 1,075 366 109 295 0 0 3,253 0 0 3,253 0 0 3,253 0 0 3,253 0 0 3,253 5 94 3,355 2,266 594 3,375 2,266 594 3,375 2,864 2,218 0 0 18,339 87	13 370 3 16 23 425 	1 1 43 90 135
Laghman Laghman To Logar Logar Total Nangarhar	Qala-i-Zal Alingar Alisheng Dowlat Shah Mehterlam (Provincial Center) Qarghayee tal Azra Baraki Barak Charkh Kharwar Khoshi Muhammad Aghah Pul-i-Alam Achin Bati Kot Behsud Chaparhar Darah-i-Noor Deh Bala Dur Baba Goshta Hesarak Jalalabad Kauna Khugyani Kot Mohmand Dara Nazyan Pachir wagam Rodat Shinwar Surkh Rud Ortal Chahar Burjak Asl-i-Chakhansur	0 5,354 3,797 1,089 1,302 202 4,58 4,347 4,347 293 302 303 343 3768 6,303 4,343 768 6,343 768 6,343 768 6,343 747 747 747 747 747 747 747 747 747	0 2,187 529 1,377 392 646 78 467 453 31 18 2,577 233 267 233 267 138 571 2,038 2,351 1,265 106	0 0 2,315 392 1,750 199 9 354 4 2,628 1155 2,628 2,628 2,628 2,628 1155 511 1,550 2,515 1,750 1,750 2,515 3,15 2,515 3,1	0 1,640 1,013 1,234 73 3,385 777 3,700 123 3,385 1,553 1,689 1,478 619 14,567 14,567	2 2 3 3 3 144 588 777 77 145 588 777 77 145 588 777 145 588 777 145 588 777 145 588 777 145 588 777 145 588 777 145 588 777 145 588 777 145 588 777 145 588 777 145 588 777 145 588 778 778 778 778 778 778 778 778 77	0 0 2,209 603 0 2,209 603 0 2,209 603 0 2,209 603 0 2,209 603 0 2,209 603 0 2,209 603 0 2,209 603 0 2,209 603 0 2,209 707 2,344 8 8 5,338 5,338 2,364 9,777 2,346 2,346 2,346 2,467	321 489 131 888 190 298 707 707 707 707 707 707 707 70	3300 122 15 00 15 00 11 11 11 11 11 11 11 11 11 11 11 11	1466 1044 	8 8 49 3544 148 571 366 468 468 468 468 408 408 408 408 408 408 408 40	7 224 593 597 233 580 753 2,756 0 1,907 4,683 0 1,907 4,683 1,818 472 3588 99 217 1,392 1,658 1,898 2,269 801 362 1,170 1688 1,991 3,633 1,229 1,759 1,229 1,229 1,259 0 0 0 1,207 1,209 1,229 1,259 1,	275 107 69 44 25 30 274 0 198 106 20 22 177 55 100 64 777 82 117 55 100 64 777 82 117 55 107 64 777 82 1177 1177 82 1177 1	0 102 259 192 118 0 140 709 0 0 0 0 0 0 0 0 0 0 0 0 0	23 237 124 0 177 561 777 561 8 1,797 1,774 0 878 322 1,075 366 109 2955 0 0 0 3,253 0 0 0 3,253 3566 995 2666 594 3,755 2667 594 507 267 507 507 507 507 507 507 507 507 507 50	13 370 3 16 23 425 	1 1 43 90 135
Laghman Laghman To Logar Logar Total Nangarhar	Qala-i-Zal Alingar Alisheng Dowlat Shah Mehterlam (Provincial Center) Qarghayee tal Azra Baraki Barak Charkh Kharwar Khoshi Muhammad Aghah Pul-i-Alam V Achin Bati Kot Behsud Chaparhar Darah-i- Noor Deh Bala Dur Baba Goshta Hesarak Jalalabad Kama Khugyani Kot Kuzkunar Lalpoor Mohmand Dara Nazyan Pachir wagam Rodat Sherzad Shinwar Surkh Rud Vatal Chahar Burjak Asl-i-Chakhansur Kang	0 5,354 3,797 1,089 1,302 307 7,29 4,347 202 458 4,347 203 302 202 458 4,347 203 343 3768 4,347 29,33 302 202 4,58 4,347 203 343 768 4,347 768 4,347 777 29,081 1026 1026 1026 1026 1026 1026 1026 102	0 2,187 529 1,377 392 646 78 467 453 31 18 2,577 233 267 138 571 2,038 2,351 1,265 106 15,724	0 2,315 3922315 3922315 3922331 1999 3344 2,533 511 2,628 2,628 2,628 2,628 115 55 2,511 681 1,959 587 79 9 1,645 2,511 5,545 587 7 15,645	0 1,640 1,013 1,234 73 569 379 77 370 123 3,385 66 68 33 111 400 1,583 1,478 619 14,567	2 2 3 3 3 4 14 4 58 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	0 0 2,209 603 0 2,209 603 0 2,209 603 0 2,209 603 0 2,209 603 0 2,209 603 0 2,209 603 0 2,209 603 0 2,209 7,72 2,209 2,200 2,200 2,200 2,200 2,200 2,200 2,200 2,200 2,200 2,200 2,200 2,2	321 489 131 888 190 298 707 707 707 707 707 707 707 70	3300 122 15 00 15 00 11 11 11 11 11 11 11 11 11 11 11 11	1466 1044 	8 8 49 354 49 354 49 354 148 571 366 468 408 40 4 571 0 0 0 2,131 1,994 1,169 24 927 31 133 1,34 1,169 24 927 11 13 1,64 11 1 1,169 11 1 1,169 11 1 1 1,169 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	7 224 593 597 233 580 753 2,756 0 1,907 4,683 0 1,907 4,683 0 1,907 4,683 1,818 472 358 99 217 1,392 1,658 1,898 2,269 217 1,392 1,658 1,898 2,269 217 1,392 1,658 1,898 2,269 217 1,392 1,658 1,898 2,269 217 1,392 1,658 1,898 2,269 217 1,392 1,658 1,898 2,269 217 1,392 1,658 1,898 2,269 217 1,392 1,658 1,898 2,269 217 1,392 1,658 1,898 2,269 217 1,392 1,658 1,898 2,269 217 1,392 1,658 1,898 2,269 217 1,392 1,658 1,898 2,269 217 1,392 1,658 1,898 2,269 2,170 1,658 1,898 2,269 2,170 1,658 1,898 2,269 2,170 1,658 1,898 2,269 2,170 1,658 1,898 2,269 2,170 1,658 1,091 3,633 1,229	275 107 69 44 25 30 274 0 198 166 20 20 20 20 20 10 64 77 82 117 17 17 54 83 55 50 577 79 0 1,093 526	0 102 259 192 118 0 140 709 0 0 0 0 0 0 0 0 0 0 0 0 0	23 237 124 0 177 561 	13 370 3 16 23 425 	1 1 43 90 135

Province	District	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Nuristan	Barg-i-Matal											2	535	522			
	Du Ab		L	 			ļ		L								
	Kamdesh										210	307	269	262			
	Mandol											0	731	713			
	Noor Gram																
	Nuristan Paroon (Provincial Center)									438	185	19	19			
	Wama											66		0			
	Waygal											205		0			
Nuristan Tot	tal										648	765	1,554	1,516	p-f*	p-f*	p-f*
Paktika	Barmal													0			
	Dilah wa Khwoshamand													0			
	Giyan													0			
	Gomal													0			
	Jani Khel																
	Mata Khan													0			
	Nika													0			
	Omna													0			
	Sar Rowza													0			
	Sharan (Provincial Center)													0			
L														0			
	Surubi		<u> </u>	<u> </u>										0			
	Turwo		l	I													
ļ	Urgun	<u> </u>	I	<u> </u>			L							0			
	Wazahkhwah		 	I					L					0			
<u> </u>	Wor Mamay		L	L										0			
L	Yahya Khel		L	L	L		L										
	Yosuf Khel																
	Zarghun Shahr													0			
	Ziruk													0			
Paktika Tota	1	0	0	0	0	0	0		0	0	0	0	0	0	p-f*	p-f*	p-f*
Paktya	Azra *					4	29	46	1	38	419	603		0			
	Ahmadabad *																
	Samkani		1	1		1		1	0	-	76	275		0			
	Dand Patan											175		0			
<u> </u>	Gardez (Provincial Center)											175		0			
	Woza Jadran											0		0			
	Jaji				-				0		185	11		0			
	Jani Khel								0		105	11		0			
												18		0			
	Laja Ahmad Khel		<u> </u>						0			110		0			
L	Lija Mangal								0			118		0			
	Sayyid Karam								0	-	41	0		0			
	Shamul *											0		0			
	Shwak											0		0			
	Zurmat											0		0			
Paktya Total	l	0	0	0	0	4	29	46	1	38	721	1,200	0	0	p-f*	p-f*	p-f*
Panjshir	Bazarak (Provincial Center)																
	Darah																
	Hissa-i-Awal(Khinj)											0		0			
	Hisa-i-Duwumi				1							0		0			
	Panjshir											0		0			
	Paryan																
	Rukhah																
	Shutul																
	Unaba																
Danish T															- 64	- 64	- 64
Panjsher Tot												0		0	p-f*	p-f*	p-f*
Parwan	Bagram		<u> </u>	<u> </u>								274		0			
	Charikar (Provincial Center)									<u> </u>		181		0			
	Syahgird (Ghorband)	<u> </u>	I	I	ļ							141		0			
	Jabalussaraj		 	I			ļ		L			21		0			
L	Koh-i-Safi		L	L	ļ							41		124			
	Salang		L	L								0		0			
	Sayyid Khel																
	Shaykh Ali											263		0			
	Shinwari											389		0			
	Surkh-i-Parsa											0		0			
Parwan Tota		0	0	0	0	0	0	0	0	0	0	1,310	0	124		p-f*	p-f*
Samangan	Aybak (Provincial Center)										14	27	0			· · · ·	
	Darah-i-Soof-i-Bala			I		1		1	614		34	196	1,454	1,182	İ		
	Darah-i-Suf-i-Payin					1		1					,	,	1		
	Fayroz Nakhcheer		i – – – – – – – – – – – – – – – – – – –	i – – – – – – – – – – – – – – – – – – –	l –			1							1		
	Hazrat-i-Sultan		I	I	<u> </u>						29	85	280	90			
	Khuram wa Sar Bagh		l	l				54	0		29	238	307	90		├── ┦	
	Khuram wa Sar Bagh Roi-Do-Ab		I	I				54	0		24					⊢	
	IS OF AD	L	-	-	-					10.2	101	605	1,833	589			
C			0	0	0	0	0	54	614	100	101	1,151	3,874	1,960	p-f*	p-f*	p-f*
Samangan Te	otal	0		1					1		453	204	05	188	0	4 F	
Samangan To Sari Pul	otal Balkhab	0										201	95	100			
	otal Balkhab Gosfandi	0													0		
	otal Balkhab Gosfandi Kohistanat	0										471	1,424	377	0		
	otal Balkhab Gosfandi											471	1,424 441		0 0 16		
	otal Balkhab Gosfandi Kohistanat										595	471 687 476	1,424 441 959	377	0		
	otal Balkhab Gosfandi Kohistanat Sangcharak											471	1,424 441	377 1,122	0 0 16		
	otal Balkhab Gosfandi Kohistanat Sangcharak Sari Pul (Provincial Center)			0	0	0	0	146	0	57		471 687 476	1,424 441 959	377 1,122 415	0 0 16 203		

Province	District	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Takhar	Baharak														0		
	Bangi							8	0		20	13		0	79		
	Chahab						17	45	19		4	27		70	0		
	Chal						8	17	20			30		15	9		
	Dargad											15		0	0		
	DashtiQala														0		
	Farkhar						6	6	26		43	27	43	118	32		
	Hazar Sumuch														32		
	Eshkamish							10	19		77	40		2	47		
	Kalafgan						101	93	27		77	69		609	318		
	Khwaja Bahawuddin														0		
	Khwaja Ghar						9	57	32		26	35		109	0		
-	Namak Ab														0		
	Rustag						10	151	24		34	194	1,321	816	118		
	Talogan (Provincial Center)						16	97	16		14	115	-,	77	577		
	Warsai						10	9			14	66		46	0		
	Yangi Qala						22	154	20		71	131		317	0		
Takhar Tota		0	0	0	0	0	201	647	211	788	380	762	1,364	2,179	1,211	p-f*	p-f*
Uruzgan	Chorah	694	424	1,574	233	652	932	1,179	0	1.330	975	1.402	259	2,179	71	316	306
C. uzgan	Dihrawud	909	938	2,923	1,870	1,033	1,243	726	0	1,340	1,282	2,523	209	1,704	3,538	2,849	2038
	Khas Uruzgan	0	4	2,725	1,070	1,055	0	130	0		580	358	338	886	173	304	407
	Nesh *	410	334	104	399	373	510	394	0		59	426	352	614	175	504	407
	Shahidi Hasas	1,337	12	0	0	1,158	1,110	802	0		1,333	782	646	1,127	3,109	4,403	2445
	Tirin Kot (Provincial Center)	1,428	1,180	3,271	2.484	1,158	1,110	1,494	0		469	1,874	221	3,348	2,312	2,067	4028
Uruzgan Tot	``/	4,778	2,892	7,872	4.986	4,661	4,989	4,725	0		4,698	7,365	2,025	9,703	9,203	9,939	9,224
Wardak	Chak-i-Wardak	4,//0	2,092	7,072	4,900	4,001	4,707	4,723	0	5,100	211	284	2,023	9,703	9,203	9,939	9,224
waruak	Daimirdad										0	204	106	0			
	Hisah-i-Awal Behsud										22		100	0			
	Jaghatu										22	0		0			
	Jagnatu Jalrez										531	78		0			
	Jairez Markaz-i- Behsud										472	/8		0			
	Maidan Shahr (Provincial Center)										527	102		0			
	Nerkh										780	215		0			
											192	213		0			
Wardak Tot	Sayyidabad										2,735	1,017	106	0		- 64	- 6*
-		0	0	0	0	0	74	139	0		302	526	205	346	p-1 " 79	p-f* 55	p-f* 103
Zabul	Arghandab	0	0	0	0	0	/4	139	0		188	320	203	340	16	33	103
	Atghar	0	0	0	0	0	41	114	0		646	431	1,016	742	389	422	147
	Daychopan	0	0	0	0	0	41	114	0		040	431	1,016	/42			
	Kakar Kak-e Afghan	54		255	154	1.00	373	202		<u> </u>	309	251		122	104	110	219
	Mizan	54	0	200	154	160	3/3	383	0			251	56	123	129	289	309
	Naw Bahar				0		Ar	40			600	317	188	(57	63	210	33
	Qalat (Provincial Center)	0	0	0	0	1	46	40	0		689			657	78	310	19
	Shah Joi								0		178	679	240	538	320	237	175
	Shemel Zayi								L		65	44	16	35	159	153	46
	Shinkai										164	287	102	228	139	105	87
	Tarnak wa Jaldak	0	0		0	0		48	1			410	145	506	136	608	5
Zabul Total		54	0	255	154	161	537	585	1	200	2,541	2,977	2,053	3,211	1,611	2,335	1,144
TOTAL		69,927	53,732	56,819	58,417	63,664	90,900	81,983	7,598	,	80,399	126,328	103,635	164,858	192,981	157,253	123,094
Rounded To	otal	70,000	54,000	57,000	58,000	64,000	91,000	82,000	8,000	74,000	80,000	131,000	104,000	165,000	193,000	157,000	123,000

Kounded Total [70,000] 54,000] 57,000] 58,000] 64,000] 91,000] 82,000] 74,000] 80,000] 151,000] 104,000] 105,000] 195,000] 157,000] 125,000] * p-f = poppy-free according to the definition of the respective year. The concept was introduced in 2007. In 2007, provinces with no poppy; since 2008, provinces with less than 100 ha of poppy.

Province	District	Eradication	No. of fields	No. of
		(ha) verified	eradication	villages
			reported	eradication reported
Badakhshan-GLE	Argo	162	797	61
Badakhshan-GLE	Darayim	135	458	52
Badakhshan-GLE	Faizabad (Provincial Center)	133	25	4
Badakhshan-GLE	Kishim	14	56	9
Badakhshan-GLE	Tashkan	23	85	14
Badakhshan-GLE	Wardooj	14	141	8
Badakhshan-GLE	Yaftal-I-Sufla	39	36	10
Badakhshan-PEF	Argo	12	150	7
Badakhshan-PEF	Yaftal-i-Sufla	7	89	4
Sub total		420	1,837	169
Day Kundi-GLE	Kiti	15	48	5
Day Kundi-GLE	Shahristan	13	65	8
Sub total	Shahiristan	27	113	13
Farah-GLE	Bala Buluk	43	75	8
Sub total		43	75	8
	Ghormach *	261	236	10
Faryab-GLE	Gnormacn *			
Sub total Hilmand-GLE	Leshbargeh (Pressingial Conter)	261	236 973	10
-	Lashkargah (Provincial Center)	616		26
Hilmand-GLE	Nad Ali	575	910	19
Hilmand-GLE	Naher-I- Saraj	175	193	6
Hilmand-GLE	Nawa-i- Barukzai	109	199	3
Hilmand-PEF	Nad Ali	1,994	1,002	8
Hilmand-PEF	Naher-i- Saraj	642	370	3
Hilmand-PEF	Lashkargah (Provincial Center)	8	7	1
Sub total		4,119	3,654	66
Hirat-GLE	Adraskan	7	52	4
Hirat-GLE	Kushk (Rubat-I- Sangi)	5	9	3
Hirat-GLE	Shindand	55	186	24
Sub total		67	247	31
Kabul-GLE	Surubi	1	9	3
Sub total		1	9	3
Kandahar-GLE	Arghandab	24	60	12
Kandahar-GLE	Kandahar (Provincial Center)	2	5	2
Kandahar-GLE	Panjwayee	12	13	6
Kandahar-GLE	Shiga(Takhta Pul)	6	20	4
Kandahar-GLE	Zhire	25	56	4
Sub total		69	154	28
Kapisa-GLE	Koh Band	22	154	19
Kapisa-GLE	Mahmood Raqi (Provincial Center)	0.22	1	1
Kapisa-GLE	Nijrab	7	58	4
Kapisa-GLE	Tagab	2	11	1
Sub total		31	224	25
Kunar-GLE	Dangam	8	79	3
Kunar-GLE	Khas Kunar	1	8	1
Kunar-GLE	Noor Gal	1	32	5
Kunar-GLE	Sar Kani	1	6	1
Kunar-GLE	Shigal Wa Sheltan	1	27	2
Sub total		11	152	12

ANNEX III: ERADICATION FIGURES BY DISTRICT (2009)

Province	District	Eradication (ha) verified	No. of fields eradication reported	No. of villages eradication reported
Nangarhar-GLE	Achin	61	215	3
Nangarhar-GLE	Hesarak	27	95	9
Nangarhar-GLE	Khugyani	105	371	15
Nangarhar-GLE	Lalpoor	4	30	2
Nangarhar-GLE	Nazyan	2	16	1
Nangarhar-GLE	Sher Zad	27	81	3
Sub total		226	808	33
Uruzgan-GLE	Chora	0.01	5	1
Uruzgan-GLE	Dihrawud	37	77	9
Uruzgan-GLE	Tirinkot (Provincial Center)	37	289	16
Sub total		74	371	26
Grand Total		5,351	7,880	424