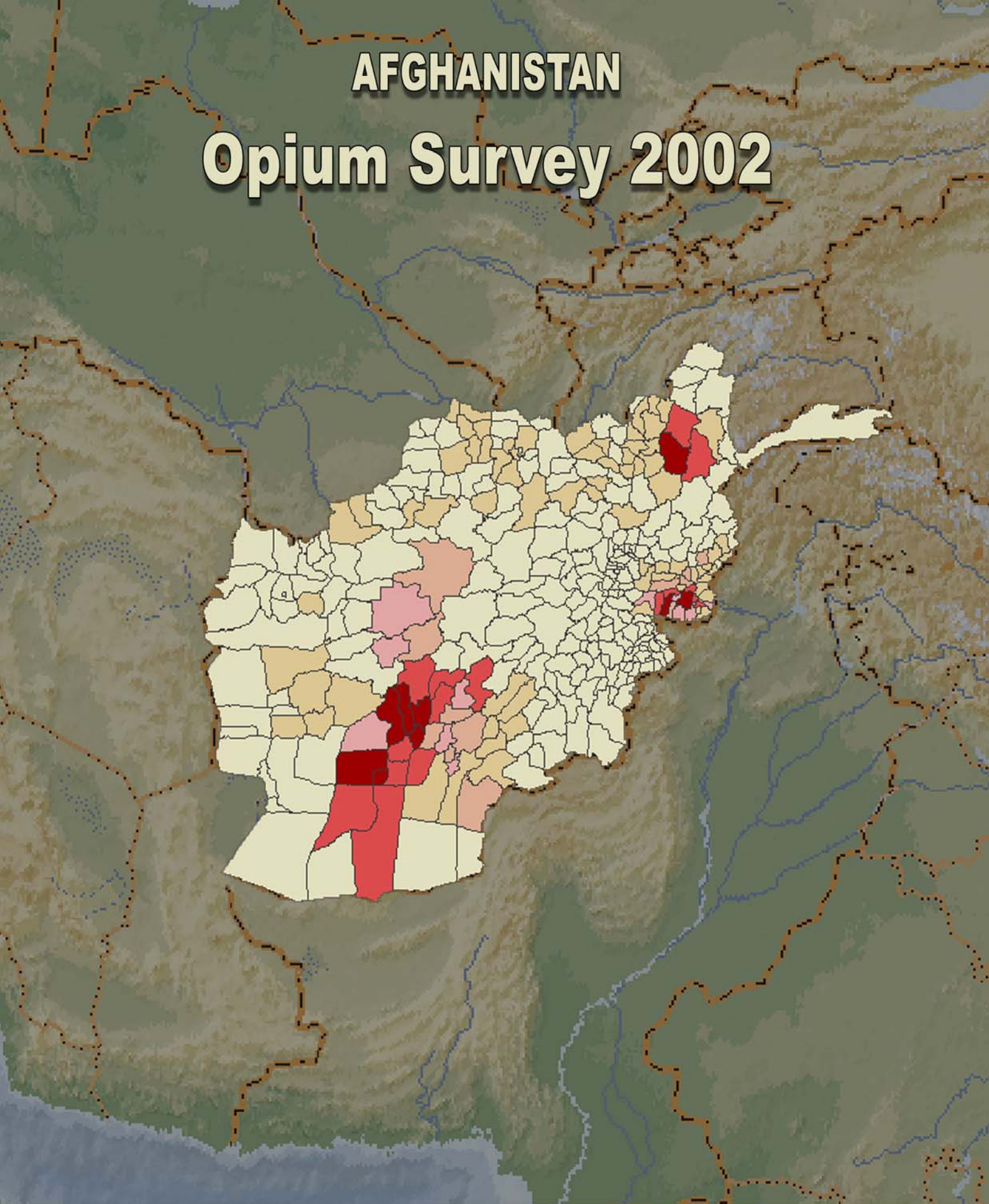


AFGHANISTAN

Opium Survey 2002



United Nations Office
for Drug Control
and Crime Prevention

October 2002

Abbreviations

AIA	Afghan Interim Administration
ICMP	Illicit Crop Monitoring Programme
UNODCCP	United Nations Office for Drug Control and Crime Prevention, which includes UNDCP
UNDCP	United Nations International Drug Control Programme
GPS	Global Positioning System

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1 Executive summary

Background

Annual opium survey in Afghanistan

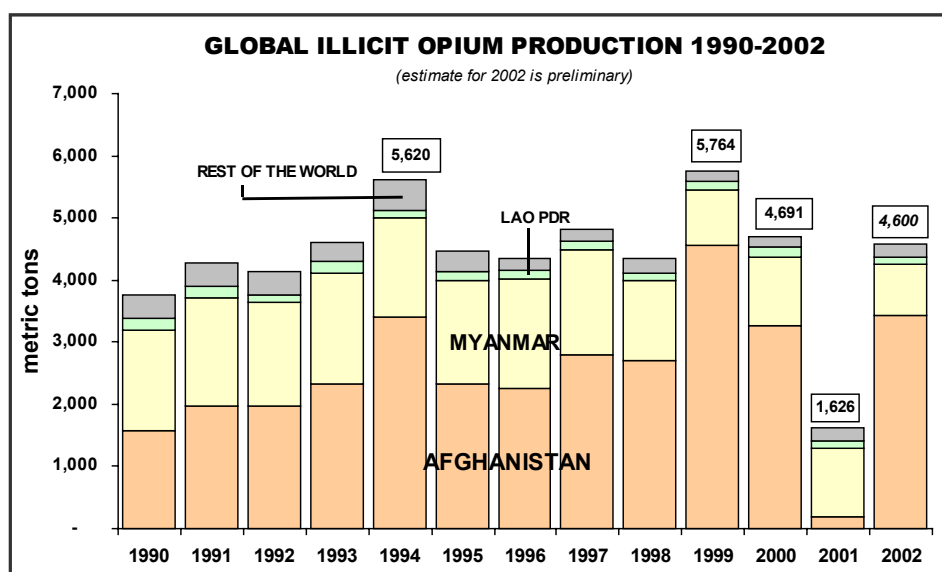
The United Nations Office for Drug Control and Crime Prevention (UNODCCP) has conducted an annual opium poppy survey in Afghanistan since 1994. The survey collects and analyses information on the location and extent of opium poppy cultivation, on the potential production of opium, as well as on opium prices in that country. The results provide a detailed picture of the current year's opium season and enable the identification of trends. This information is essential for planning, implementing and monitoring the impact of the measures required for tackling a problem which, in a country that has become by far the largest source of illicit opium and heroin trafficked in the world, has clearly assumed international dimensions.

UNODCCP's opium survey in Afghanistan is implemented in the technical framework of its global Illicit Crop Monitoring Programme (ICMP). The objective of ICMP is to assist the international community in monitoring the extent and evolution of illicit crops in the context of the elimination objective adopted at the General Assembly Special Session on Drugs in June 1998.

The 2002 survey was funded and organized under the project AD/AFG/F98 "Monitoring of opium production in Afghanistan" and the project AD/GLO/C93 "Support to the development of an international monitoring mechanism for illicit crops". The Governments of the United Kingdom, Italy, Finland, Belgium and France provided funding for those projects.

The high level of opium poppy cultivation in Afghanistan

During the 1990s, Afghanistan firmly established itself as the largest source of illicit opium and its derivative, heroin, in the world. By the end of the 1990s, Afghanistan provided about 70% of global illicit opium production, well ahead of Myanmar (about 22%) and Lao PDR (about 3%). Primarily supplying countries in South West Asia, Central Asia, East and West Europe, as well as in South Asia, the Arabian peninsula and Africa, illicit opiates of Afghan origin were consumed by an estimated 9 million abusers, which is two-thirds of all opiate abusers in the world. It can be estimated that,



all along the trafficking chain, about half a million people have been involved in the trade of illicit Afghan opiates in recent years. Although these numbers are only approximate, UNODCCP also estimates that the overall turnover of illicit international trade in Afghan opiates can be roughly estimated at US\$ 25 billion annually.

An abrupt decline of illicit opium poppy cultivation was recorded in Afghanistan in 2001, following the ban imposed by the Taliban regime in its last year in power. Despite the existence of significant stocks of opiates accumulated during previous years of bumper harvests, the beginning of a heroin shortage became apparent on some European markets by the end of 2001. Furthermore, the absence of the usual harvest in Afghanistan in spring 2001 and the subsequent depletion of stocks pushed opium prices upwards to unprecedented levels in the country (prices increased by a factor of 10), creating a powerful incentive for farmers to plant the 2002 crop.

The power vacuum in Kabul caused by the aftermath of 11 September 2001 enabled farmers to replant opium poppy (starting in October/November 2001). By the time the Afghan Interim Administration was established and issued a strong ban on opium poppy cultivation, processing, trafficking and consumption (17 January 2002), most opium poppy fields had already started to sprout.

In February 2002, a two-week rapid assessment survey launched by UNODCCP in the traditional opium growing areas of southern and eastern Afghanistan provided the basic evidence to confirm the resumption of opium poppy cultivation on a large scale. This survey did not cover all the growing areas. Due to a later and more staggered planting than usual, some opium fields could not even be seen during the February 2002 field visits by the UNODCCP surveyors. A full survey was therefore required for a comprehensive and reliable assessment of the problem. It was launched by UNODCCP in March 2002 and completed in September 2002. The present text summarises the findings.

Methodology

Due to the events of 11 September 2001 and the subsequent armed conflict, UNODCCP's annual survey faced a difficult and dangerous security environment on the ground.

In April 2002, at the onset of the opium harvest in eastern and southern Afghanistan, the Afghan Interim Administration (AIA) launched an eradication campaign (with compensations). Some farmers' reactions to this measure resulted in a temporary deterioration of the security situation for UNODCCP's surveyors who were withdrawn from the opium poppy growing areas. As the field work stopped, UNODCCP quickly adapted the methodology to ensure a continuation of the survey. Instead of running a census ground survey complemented with limited satellite imagery, the 2002 survey was based on high-resolution satellite images complemented by extensive ground truthing and targeted ground surveys. In total, UNODCCP field surveyors visited 923 villages in 84 districts of 16 provinces.

High-resolution satellite images ensured a sample-based coverage of all the main opium growing areas, regardless of the security situation. To improve the interpretation of the images as well as to account for staggered planting, images of the same areas were acquired twice, with a one-month interval. As soon as the security situation permitted, UNODCCP surveyors went back to the opium growing areas where they collected GPS coordinates of opium poppy fields in about 600 different locations. This information was crucial to ensure an accurate interpretation of the satellite images (ground truthing). Independent of the satellite-based survey, a sample ground survey

was carried out in the North of Afghanistan. It provided similar results as the satellite-based survey, confirming the validity of the methodology used. Some ground survey activities were also carried out in the East in Nangarhar and in central Afghanistan in the province of Ghor.

Data on yield and productivity were collected for both irrigated and rain-fed poppy cultivation through farmer interviews by UNODCCP surveyors in three provinces: Helmand, Nangarhar and Badakhshan. The yield survey was conducted on a random sample basis during or after the main opium harvest period. Data on opium prices were collected at various locations.

Findings

Opium poppy cultivation

The total opium poppy cultivation in Afghanistan in 2002 was estimated to range from 69,000 hectares (ha) to 79,000 ha, with a mean estimate of 74,000 ha.

This level of opium poppy cultivation compares with levels reached during the mid to late 1990s. Although it remains lower than the record levels of 1999 (about 90,500 ha) and 2000 (about 82,000 ha), it confirms that opium poppy cultivation has resumed to high levels, after the considerable decline recorded in 2001.

Afghanistan opium poppy cultivation from 1994 to 2002 (in ha)

	1994	1995	1996	1997	1998	1999	2000	2001	2002
Rounded total	71,000	54,000	57,000	58,000	64,000	91,000	82,000	8,000	74,000

Potential opium production

The average opium yield was estimated at 46 kg per hectare, a significant increase compared to last year's overall yield of 24 kg/ha. The reasons for this increase are twofold : (a) opium poppy cultivation has resumed on irrigated land in southern and eastern Afghanistan, which are significantly more productive; and (b) climatic conditions were more favourable than before, after the end of the drought which affected Afghanistan over the last few years.

As a result, the total potential opium production in Afghanistan in 2002 is estimated to amount to 3,400 metric tons (range: from 3,200 mt to 3,600 mt), a considerable increase compared to 2001, but a 25% decline from the record production of 1999 (4,600 mt).

Afghanistan opium production from 1994 to 2002 (in tons)

	1994	1995	1996	1997	1998	1999	2000	2001	2002
Rounded total	3,400	2,300	2,200	2,800	2,700	4,600	3,300	185	3,400

Geographical distribution

Opium poppy cultivation was found in 24 out of a total of 32 provinces in Afghanistan this year. However, in line with the usual pattern (with the exception of 2001), almost 95% of the cultivation was concentrated in just five provinces. Helmand in the South came first, with nearly 30,000 ha, followed by Nangarhar in the East (about 20,000 ha), Badakhshan in the North (about 8,000 ha), Uruzgan in the South/Center (about 5,000 ha) and Kandahar in the South (about 4,000 ha).

Provincial ranking of opium poppy cultivation and production in 2002

Province	Cultivation (in ha)	% of country total	Production (in tons)	% of country total
Helmand	29,950	40%	1,300	38%
Nangarhar	19,780	27%	1,030	30%
Badakhshan	8,250	11%	300	9%
Uruzgan	5,100	7%	230	7%
Kandahar	3,970	5%	180	5%
Country	74,000		3,400	

Opium prices

Opium prices in Afghanistan changed considerably during the last two years. After a long period of relative stability (1994-2000) and prices as low as US\$ 30 per kg, opium prices skyrocketed in 2001 following the enforcement of a ban on opium poppy cultivation. Between mid-2000 and the harvest time of 2001, opium prices increased ten-fold from US\$ 30 per kg to about US\$ 300 per kg, and then doubled again to reach a record-high of about US\$ 700 per kg in early September 2001. Immediately after 11 September, opium prices declined quickly to about US\$100 per kg, reflecting the closing of Afghanistan's borders and the off-loading of stocks by traders.

In early 2002, as measured by the survey, the average price for Afghan fresh opium increased again to US\$ 350 per kg. As the opium harvest is not brought at once to the markets and as opium prices movements are difficult to anticipate, the final average price for the 2002 opium production could differ from this estimate.

At current price levels (which would seem unlikely to persist given the resumption of large-scale opium production this year), and as a result of the combination of high level cultivation (74,000 ha) and good opium yield (46 kg/ha), the total income for the Afghan opium poppy farmers could reach several hundreds million US dollars this year. The value of the 2002 production will then reach a record high, far above earlier years (from 1994 to 2000, the estimated total annual income varied between a minimum of about US\$ 50 million and a maximum of about US\$ 200 million at the time of the bumper harvest in 1999).

At surveyed prices, and on the basis of an estimated average of 0.3 ha of opium poppy cultivation per opium poppy farmer, the 2002 average income per opium poppy farmer could amount to a few thousand dollars in 2002. In previous years the typical income was estimated at several hundred dollars, from US\$ 400 to 600. It is essential to bear in mind that these estimates do not refer to the country at large (where the average per family income remains one of the lowest in the world). Rather, the relatively high level of farming revenues refers to the few regions where the opium poppy cultivation is concentrated.

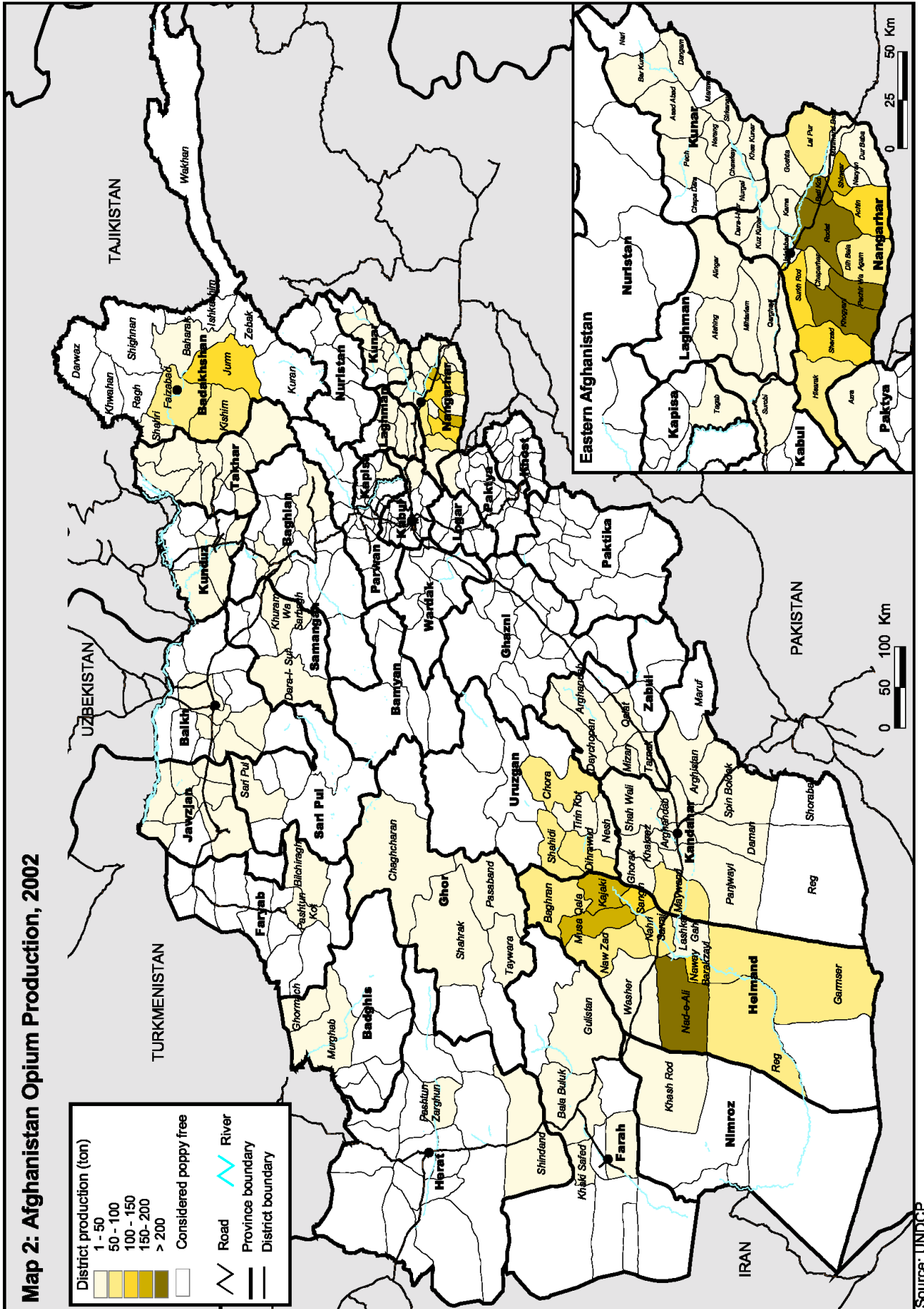
Agricultural land in opium growing areas

Another interesting finding of the survey is the evolution of the total agricultural land in Afghanistan during the last decade. Based on an update of the FAO 1993 land cover figures made by UNODCCP for the opium growing areas, it is estimated that the decline in arable land amounted to 37 % between the early and the late 1990s. This places the increased levels of opium poppy cultivation in a clearer perspective as it

further illustrates the shift of some regions in Afghanistan to an illicit opium economy during the last decade.

Conclusion

It would not be appropriate, however, to see Afghanistan as a country entirely dependent on illegal activity. As shown by the survey, a high level of economic dependency on opium poppy cultivation is limited to a few of the provinces which did not comply with the ban on opium poppy cultivation, processing, trafficking and abuse, issued on 17 January 2002 by President Karzai. The decree states that the continuing existence of an opium-based economy was a matter of national security and should be fought by all means. It also calls for greater international support to interdict the trade and offer alternatives to farmers. The findings reported above render this call for international support extremely important.



2 Introduction

The Opium Poppy Survey implemented annually by the United Nations International Drug Control Programme in Afghanistan is an important monitoring tool. It collects and analyses information on the location and extent of opium poppy cultivation, on the potential production of opium, as well as on opium prices in that country. The results provide a detailed picture of the outcome of the current year's opium season and, with previous years' data, enable the identification of mid- and long-term trends in the evolution of the illicit drug problem in that country. This information is essential for planning, implementing and monitoring the impact of the measures required for tackling a problem which, in a country that has become by far the largest source of illicit opium and heroin trafficked in the world, has clearly taken international dimensions.

UNODCCP's opium survey in Afghanistan is implemented in the technical framework of its Global Illicit Crop Monitoring Programme (ICMP). The objective of ICMP is to assist the international community in monitoring the extent and evolution of illicit crops in the context of the elimination objective adopted at the General Assembly Special Session on Drugs in June 1998. In the framework of ICMP, monitoring activities are presently supported by UNODCCP in the other five main countries affected by illicit opium poppy and coca bush cultivation (Myanmar and Lao PDR in Asia, and Colombia, Peru and Bolivia in Latin America).

The survey was funded and organized under the project AD/AFG/F98 "Monitoring of opium production in Afghanistan" and the project AD/GLO/C93 "Support to the development of an international monitoring mechanism for illicit crops". Funding for the survey was provided by the Governments of the United Kingdom, Finland, Belgium and France.

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¹ UNODCCP, *Global Illicit Drug Trends 2002*, p. 12.

Afghan Interim Administration was established and issued a new ban on opium poppy cultivation (17 January 2002), most opium poppy fields had already started to sprout.

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High-resolution satellite images ensured a sample-based coverage of all the main opium growing areas, regardless of the security situation. To improve the interpretation of the images as well as to account for staggered planting, images of the same areas were acquired twice, with a one-month interval. As soon as the security situation permitted, UNODCCP surveyors went back to the opium growing areas where they collected GPS coordinates of opium poppy fields in about 600 different locations. This information was crucial to ensure an accurate interpretation of the satellite images (ground truthing). Independent of the satellite-based survey, a sample ground survey was carried out in the North of Afghanistan. It provided similar results as the satellite-based survey, confirming the validity of the methodology used. Some ground survey activities were also carried out in the East in Nangarhar and in central Afghanistan in the province of Ghor.

Data on yield and productivity were collected for both irrigated and rain-fed poppy cultivation through farmer interviews by UNODCCP surveyors in three provinces: Helmand, Nangarhar and Badakhshan. The yield survey was conducted on a random sample basis during or after the main opium harvest period. Data on opium prices were collected at various locations.

3 Methodology

3.1 Opium Poppy Cultivation

Since 1994, UNODCCP had relied on a ground based census methodology to estimate the area cultivated with opium poppy in Afghanistan. Surveyors visited all known opium poppy cultivating areas in the country, estimated the area of poppy cultivation and interviewed poppy growers.

A similar survey set up was planned for the 2002 survey, but the security situation prevailing in most of the Afghan countryside throughout the spring of 2002 prevented UNODCCP from relying on its traditional ground survey methodology.

Instead, a remote sensing approach was developed to assess poppy cultivation in the seven provinces of Helmand, Uruzgan, Kandahar, Nangarhar, Laghman, Kunar and Badakhshan. Together, these provinces accounted for 90% of the total opium poppy cultivation in 2000. Random sampling was used to estimate the amount of land under opium poppy cultivation in these seven provinces.

The total agricultural land over these seven provinces was used as the frame from which the sample was drawn. The FAO 1993 land cover map of Afghanistan, presented in Annex 1, was used as a guide to define the sampling frame. But to take into account the land cover changes over the past ten years and, in particular, the effects of the drought, the initial FAO land cover was updated with more recent satellite images.

This land cover update was a desk study made from computer screen interpretation of Landsat 7 images dated from 1999 to 2001. The GPS positions collected for the analysis of the high-resolution satellite images were used in the process.

The sample was made of 23 areas of 10 km by 10 km corresponding to the size of the high-resolution IKONOS satellite images. The arable land covered by the sample amounted to 69,000 ha, which represents a total sample size of 12% of total arable land in the seven provinces mentioned above. The sample size varied, however, from province to province.

Table 1: Provincial sample rate over total agricultural land

Province	Sample rate
Nangarhar	25%
Kunar	14%
Laghman	9%
Kandahar	3%
Uruzgan	35%
Helmand	14%
Badakhshan	3%

The interpretation of the poppy cultivation area is made from the multi-spectral IKONOS images. The 4-m resolution of the spectral bands was sufficient to capture

opium field area in Afghanistan, as the average opium field size was about 0.3 ha, equivalent to 187 pixels on the IKONOS image².

The analysis of the high-resolution satellite images was calibrated from a field work exercise that was conducted from 16 May to 25 May 2002 over 19 of the 23 sample areas³. Over each sample area, the surveyors visited at least 3 stations where they collected 5 GPS points over opium poppy fields, 3 GPS points over cereal fields and 2 GPS points over other crops. In total, 583 valid points were taken, distributed as follows:

Table 2: Distribution of GPS points

Province	Poppy	Wheat	Other	Total
Helmand	91	52	18	161
Kandahar	30	33	18	81
Uruzgan	25	17	9	51
Nangarhar	84	52	34	170
Laghman	19	13	6	38
Badakhshan	42	25	15	82
Total	291	192	100	583

Figure 1: GPS measurement in Badakhshan, 15 May 2002



The information collected from the ground was reported on the high-resolution satellite image to define, for each image, the spectral signature of the opium poppy, cereals and

² One pixel of a 4-m resolution image represents 16 m² on the ground. The average opium poppy field size was obtained during the February 2002 pre-assessment ground survey.

³ Chora district in Uruzgan, Baghran district in Helmand, Narang district in Kunar were not accessible for security reason.

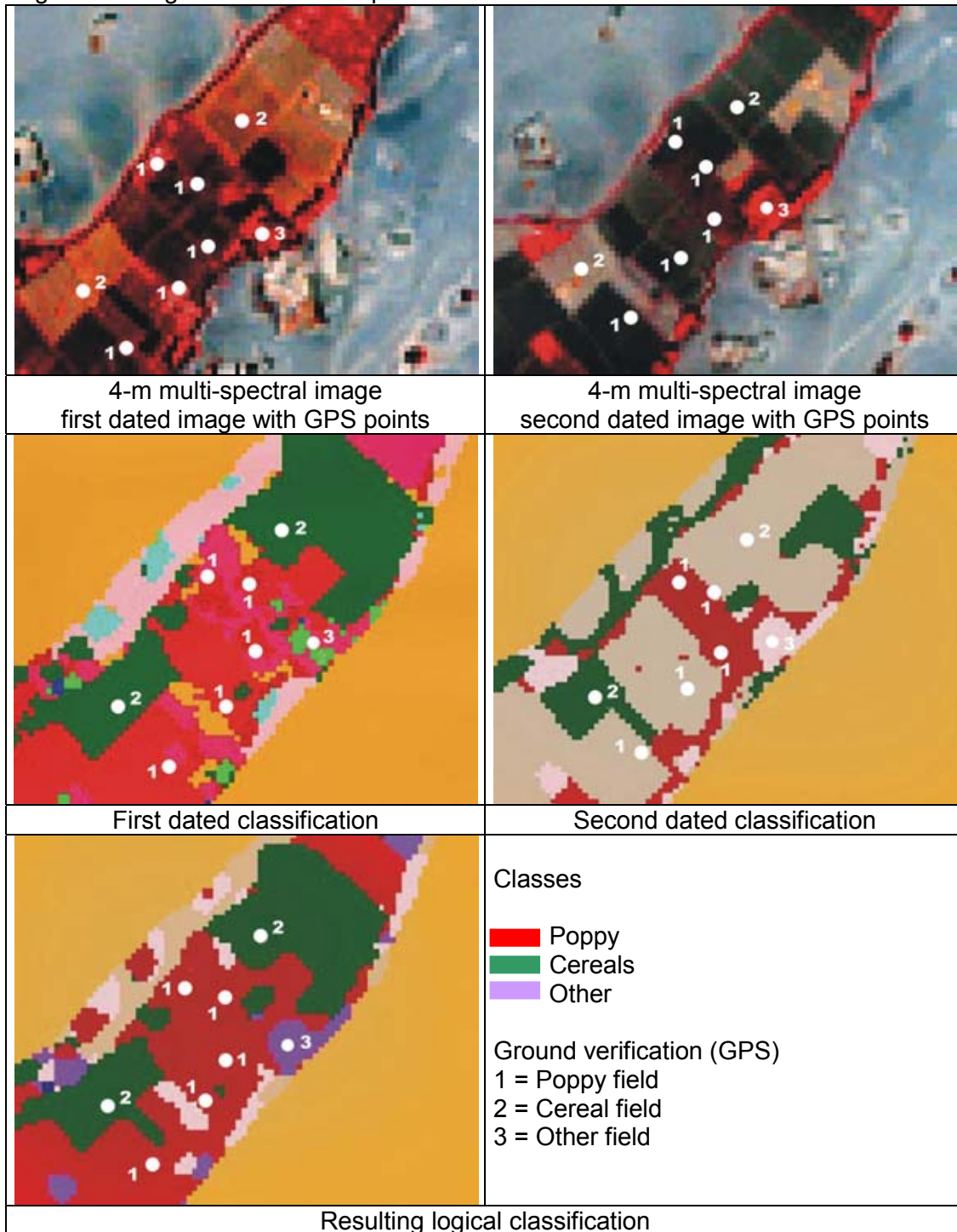
other crop classes. Based on this information, each pixel of the satellite images is classified automatically in a process called supervised classification.

To reduce the risk of confusion between opium poppy and cereals fields, two images were acquired over the same area: a first image during the main opium growing period, and a second image after the main opium harvest. As the spectral signature of the cereals and poppy fields evolved differently, the combination of the information from the two images enabled a clearer distinction between the two crops.

The classification information of the two dated images was processed through a logical classification matrix and each pixel classified. The logical classification matrix was adapted from region to region taking into account the dates of the images and the local crop calendar.

Figure 2 illustrates the logical classification process from a sample of a 4-m resolution multi-spectral image.

Figure 2: Logical classification process



The result of the logical classification provided for each sample area a ratio of opium poppy cultivation, which was then extrapolated to the total arable land area. For the districts where sample areas were taken, the averages from the sample area were directly extrapolated to the district level. For the other districts, the sample results were first averaged by province, before being extrapolated to the district level.

Simple random sampling formulae were used to extrapolate the total poppy area as well as to calculate the standard errors and the confidence interval of 95% for the estimates.

Note on the accuracy of the classification

The information associated with GPS points enabled calculating the accuracy of the image classification process.

The GPS points were reported over the raw satellite images from which the field boundaries can be more easily delineated. The field surface is then compared with the logical classification output.

The following table indicates horizontally for the first row how many pixels classified as poppy were found from the ground verification to be actually 'poppy', 'cereals' or 'other'. This gives a user accuracy of 89.8% for poppy.

Table 3: Classification accuracy

		Ground Verification				Users accuracy
		Poppy (pixel)	Cereals (pixel)	Other (pixel)	Total (pixel)	
Classification	Poppy	20,613	1,169	1,169	22,950	89.8%
	Cereals	850	13,494	956	15,300	88.2%
	Other	638	319	7,756	8,713	89.0%
	Total (pixel)	22,100	14,981	9,881	46,963	
Producers accuracy		93.3%	90.1%	78.5%		

Vertically the first column indicates how many pixels that were identified as poppy during the ground verification were classified as 'poppy', 'cereals' or 'others'. This gives the producer accuracy, which was found to be 93.3% for poppy.

The overall classification accuracy is 88%, which is, according to remote sensing practices, a reasonable level of accuracy for agricultural surveys.

To estimate the opium poppy cultivation over the territory that accounted for the remaining 10% of the opium poppy cultivation in 2000, sample ground surveys were implemented whenever possible. In total, UNODCCP field surveyors visited 923 villages in 84 districts of 16 provinces.

In April 2002, in eastern Afghanistan, the surveyors had been trained and worked for about one week before being recalled for security reasons. The data already collected

by the surveyors was used as a sample survey. It should be noted, however, that the data collected are not evenly distributed throughout the region. It constitutes, nevertheless, the best estimate of opium cultivation in some districts not covered by the satellite survey.

In May 2002, a sample ground survey was also launched in the northern provinces. It relied on a stratified sample with systematic selection methodology. In brief, previous survey data⁴ were examined to determine the villages in a given district that grew opium poppy. These villages were then classified as high level or low level opium producers in terms of area under cultivation.

Surveyors (one per district, many with previous opium survey experience) were trained to fill the questionnaire and in area estimation techniques. They visited each village in turn completing questionnaires. Surveyors made their own estimations and observations by counting the number of fields under poppy cultivation and estimating average field sizes. Interviews were also carried out with village headmen, religious leaders, elders and individual farmers.

In total, twenty-two surveyors visited 171 villages, in 48 districts of 9 provinces in north-western and north-eastern Afghanistan.

The detailed organisation and findings of this sample survey were presented in a separate report published earlier.

After reports of opium poppy cultivation appearing in 2002 in Ghor province, a partial ground survey was set up. Local surveyors were recruited and sixty-four villages were surveyed in August. It should be noted that for security reasons, UN staff was not authorised to travel to the area to supervise the surveyors.

When it was not possible to set up a ground survey, the average opium poppy cultivation from 1994 to 2000 was used as the best approximation for 2002. This applies to the provinces of Herat, Farah, Nimroz and Samagan. From 1994 to 2000, those four provinces accounted on average for only 1% of the total area under opium poppy cultivation in Afghanistan.

Note on the update of the village settlement database

In collaboration with AIMS, UNODCCP is conducting as part of the Afghanistan monitoring project, a census survey aimed at updating the village settlements database of Helmand province. The objective is to reconcile the AIMS village settlements database with the UNODCCP poppy village database. This component of the survey is still on-going. It will provide an improved village database of Helmand province that will be used as baseline in future opium surveys as well as by government administrations and UN agencies.

⁴ 2001 data for Badakhshan province, 2000 data for the rest

3.2 Opium Yield

Data on yield were collected for both irrigated and rain-fed poppy cultivation through farmer interviews in three provinces: Helmand, Nangarhar and Badakhshan. The survey was conducted on a random sample basis during or after the main opium harvest period.

It should be noted that, in previous years, yield data were collected in all opium producing districts as part of the census survey. Farmers were asked to provide their yield estimates for the forthcoming harvest. In 2002, the sample yield survey was conducted during or after the harvest. Farmers answers could therefore be considered more accurate.

Table 4: Number of farmers interviewed for yield

Provinces	Irrigated	Rain-fed	Collection dates
Badakhshan	36	40	6 to 9 July 2002
Helmand	126	0	18 to 28 July 2002
Nangarhar	167	0	2 to 8 July 2002
Total	329	40	

The average opium yield on irrigated and rain-fed poppy land for each district of these provinces was calculated by averaging the yields reported by the farmers. Because irrigated land produces higher yields, these statistics are computed separately. Simple random sampling formulae have been used to calculate the standard errors and the confidence interval at 95% for the estimates.

To calculate the production, average yield estimates were multiplied by the average area estimate. Lower and upper production estimates were obtained by multiplying the average yield with the lower and upper area estimates.

The yield assessment methodology used in Afghanistan is dependent on farmers' reports. A more objective methodology to assess opium yield and relying on opium capsules volume and density are used in the other opium surveys of Myanmar and Lao PDR. A similar yield assessment exercise was integrated to the census ground survey, but was cancelled because of security reasons.

In addition, a yield method development exercise had also been planned to determine the specific correlation for Afghanistan between the opium poppy capsules volume and the opium yield. Twelve trials opium poppy fields had been selected from Nangarhar (4 fields), Helmand (4 fields) Balkh (2 fields) and Badakhshan (2 fields), but this exercise had to be cancelled at the same time as the census ground survey for security reasons.

3.3 Opium Prices

Time series prices quoted in this report are mainly monthly prices gathered by the UNODCCP regional co-ordinators based in Nangarhar and Kandahar. In addition, data on prices were also collected during the sample ground survey from local market centres. In order to enable a reasonable degree of comparability with last years' prices collected from farmers' interviews, the prices found in this report are the traders' purchase prices of opium.

4 Findings

The provincial and district boundaries referred to in this year's survey report follow the most commonly used administrative divisions for Afghanistan. As they differ slightly from past opium surveys, the corresponding district names previously used are also mentioned in annex.

4.1 Opium Poppy Cultivation Estimates

After analysis of the survey data, the total opium poppy cultivation in Afghanistan in 2002 is estimated to range from 69,000 ha to 79,000 ha with a mean estimate of 74,000 ha.

This level of opium poppy cultivation compares with levels reached during the mid to late 1990s. Although it remains lower than the record levels of 1999 (about 90,500 ha) and 2000 (about 82,000 ha), it confirms that opium poppy cultivation has resumed to high levels after the considerable decline recorded in 2001 (about 8,000 ha).

Table 5: Afghanistan opium poppy cultivation from 1994 to 2002 (in ha)

	1994	1995	1996	1997	1998	1999	2000	2001	2002
Rounded total	71,000	54,000	57,000	58,000	64,000	91,000	82,000	8,000	74,000

The 2002 opium poppy cultivation estimate is higher than forecasted by UNODCCP in February 2002. The reason is that a number of opium poppy fields were planted later than usual and were therefore not visible in February when a rapid assessment survey was conducted.

At the beginning of the usual opium-sowing season (October/November), it seems that some farmers had already decided to defy the ban imposed by the Taliban on opium poppy cultivation. During the subsequent period of a vacuum in central power many farmers decided to plant opium poppy, taking advantage of the chaotic situation.

The sustained high prices offered for opium poppy and the favourable climatic conditions also encouraged farmers to plant extremely late, even on spare or less productive land, as illustrated on table 6.

Table 6: Opium poppy sowing calendar in the main opium cultivating regions

Province		Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.
Nangarhar	previous years	▶								
	in 2002	▶								
Helmand	previous years	▶								
	in 2002	▶								
Badakhshan	previous years					▶				
	in 2002					▶				

Consequently, opium poppy fields at all stages of the growth cycle were observed during this year's survey. For example in the northern part of Helmand province, where the opium harvesting season is usually completed in June or July, opium poppy flowering fields could still be seen in late August.

Figure 3: Evidence of late planting in Rodat district (Nangarhar)



7 April 2002, Rodat district.

As most of the opium poppy fields in the region, this field was planted between October and November 2001. In April 2002 most fields were flowering like this one, and the bulk of the opium harvest took place a few weeks later.

7 April 2002, Rodat district.

During this opium poppy season, some farmers planted opium poppy fields later than usual. In contrast with the normal opium poppy fields that were flowering (see picture above), the late-planted fields were only sprouting in April 2002.



Figure 4: Evidence of late planting in Helmand province

22 May 2002,

As most of the opium poppy fields in Helmand, this field was planted between November and December 2001 and was harvested in May 2002. The picture was taken in late May when the field was left drying after the harvest.



20 August 2002

In 2002, some fields were planted later than usual and could still be seen at growth stage in late August. They would be harvested in September.

It is also likely that the continued high trader demand and very high prices offered for opium throughout the year, encouraged farmers to start planting opium poppy in areas not traditionally known to grow opium poppy. As further detailed below, opium poppy cultivation was reported for the first time in several districts this year. The level of opium poppy cultivation in these new areas seems to be low, except in the province of Ghor, where significant areas of opium poppy cultivation have been found.

Changes in agricultural land

This year's survey also provided estimates of changes in arable land in Afghanistan during the past ten years. Over the area considered for the opium survey, results showed that the total arable land was reduced by 37% between the early 1990s and the late 1990s, most likely as a result of several years of drought and population displacement.

Table 7: Change in arable land in Afghanistan (in ha)⁵

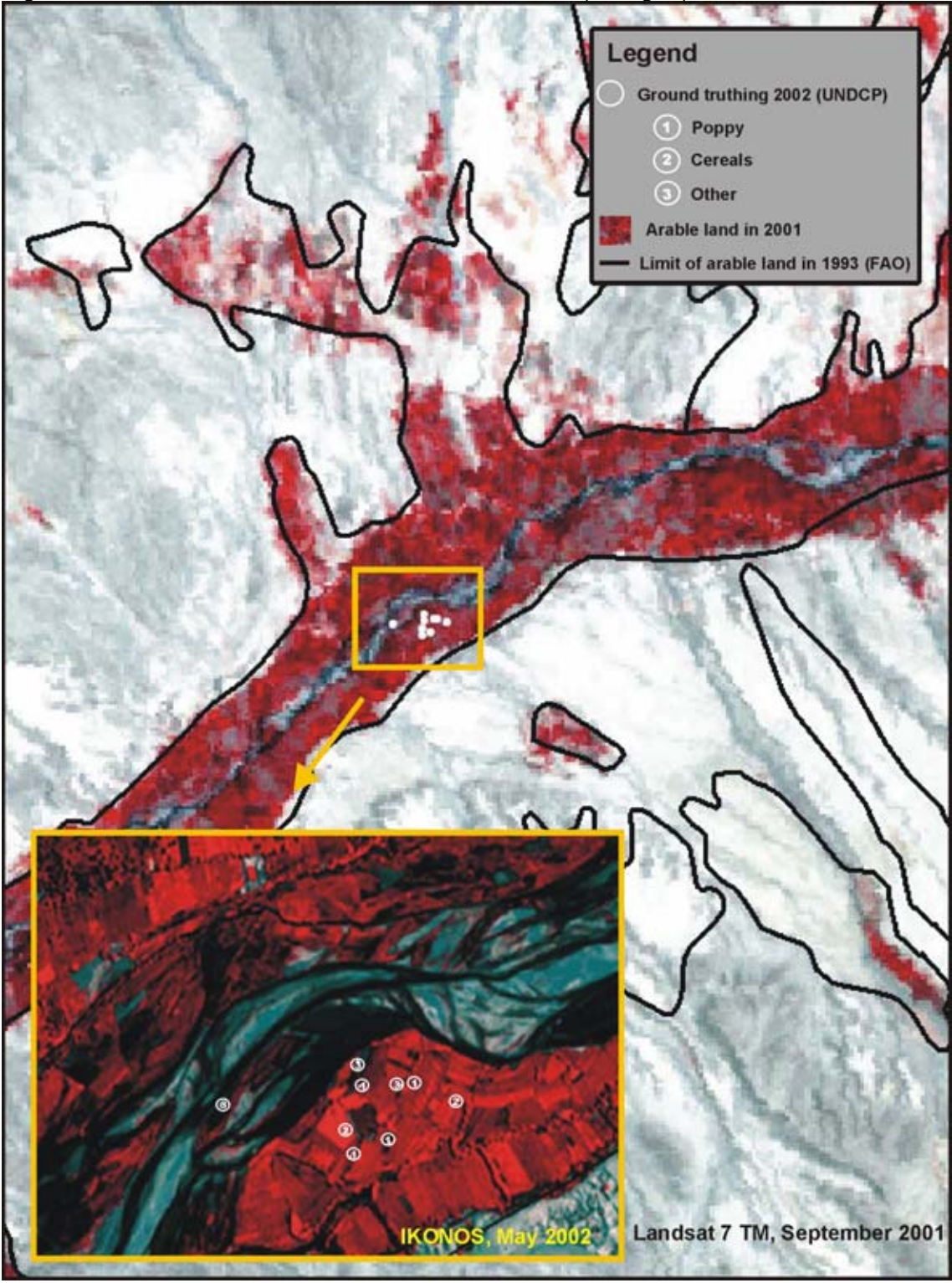
Province	early 1990s	late 1990s	Difference	change in %
Badakshan	270,000	103,000	-167,000	-62%
Helmand	238,000	181,000	-57,000	-24%
Uruzgan	59,000	29,000	-30,000	-51%
Kandahar	202,000	137,000	-65,000	-32%
Nangarhar	96,000	89,000	-7,000	-7%
Kunar	22,000	16,000	-6,000	-27%
Laghman	21,000	21,000	0	0%
Total	908,000	576,000	-332,000	-37%

This places the sustained or even increased absolute levels of opium poppy cultivation in Afghanistan during that period in a clearer perspective as it further illustrates the shift of Afghanistan to an illicit opium economy during the last decade.

Figure 5 overlays the 1993 arable land boundaries on a Landsat 7 image acquired in 2001. It clearly illustrates the reduction of arable land between the early and late 1990s. The map in annex illustrates the changes in arable land in the main opium growing areas between the early 1990s and the late 1990s, after the landcover update made in the framework of the 2002 opium poppy survey.

⁵ The results are for the area covered by the opium survey. They are not meant to be provincial totals.

Figure 5: Reduction of arable land in Tirin Kot district (Uruzgan)



Provincial and district ranking

Opium poppy has been found in 24 provinces out of a total of 32. Similar to the situation prevailing in the 1990s, almost 95% of the opium poppy cultivation is concentrated in just five provinces, with Helmand having the largest opium poppy cultivated area, covering nearly 30,000 ha.

Table 8: Provincial ranking of opium poppy cultivation in 2002

Province	Ha	% of country total
Helmand	29,950	40%
Nangarhar	19,780	27%
Badakhshan	8,250	11%
Uruzgan	5,100	7%
Kandahar	3,970	5%

At the district level, data shows that half of the total opium poppy cultivation is concentrated in only 13 districts:

Table 9: District ranking of opium poppy cultivation in 2002

Province	District	Ha	% of country total	Cumulated %
Helmand	Nad-e-Ali	5,880	8%	8%
Helmand	Musa Qala	3,690	5%	13%
Badakhshan	Kishim	2,840	4%	17%
Helmand	Sangin	2,810	4%	21%
Nangarhar	Rodat	2,760	4%	24%
Helmand	Naway Barakzayi	2,730	4%	28%
Badakhshan	Jurm	2,690	4%	32%
Helmand	Naw Zad	2,650	4%	35%
Helmand	Kajaki	2,640	4%	39%
Nangarhar	Khogyani	2,640	4%	42%
Nangarhar	Bati Kot	2,390	3%	46%
Badakhshan	Fayzabad	2,370	3%	49%
Nangarhar	Shinwar	2,060	3%	52%

In most of these districts, opium poppy cultivation takes place on irrigated land producing high opium yield. The notable exceptions are the districts of Kishim and Faizabad in Badakhshan province where opium poppy cultivation mainly occurs on less productive rain-fed land.

The map presented on the following page shows the geographical distribution of opium poppy cultivation at the district level in Afghanistan. In annex 5, a map illustrates the opium poppy cultivation level in 2000 and 2001.

The following sections present the findings for the three main growing regions: Southern, Eastern and Northern Afghanistan.

Southern Afghanistan

Since the early 1990s, Helmand has remained the highest opium poppy growing province in Afghanistan. Apart from 2001, Helmand province accounts once again for the bulk of the opium poppy cultivation in Afghanistan.

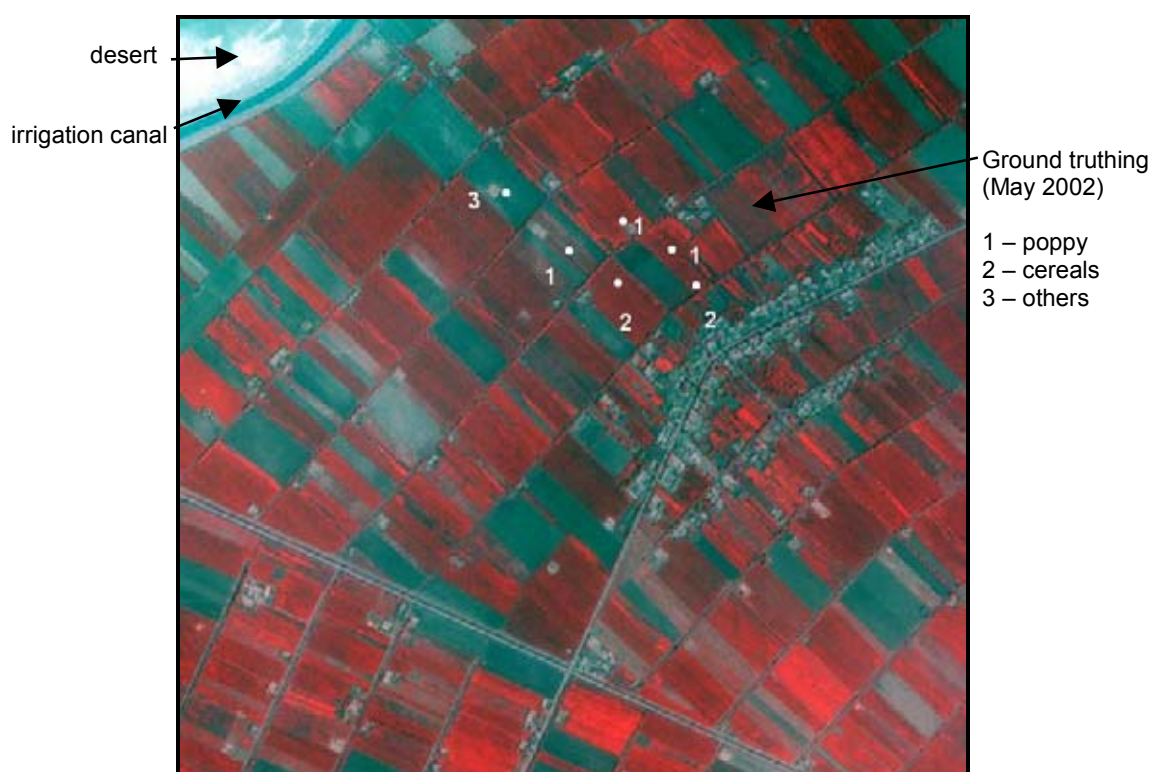
Table 10: Opium poppy cultivation in Helmand, 1994 –2002 (in ha)

	1994	1995	1996	1997	1998	1999	2000	2001	2002
Helmand	29,579	29,754	24,910	29,400	30,672	44,552	42,853	0	29,950
Country total	71,000	54,000	57,000	58,000	64,000	91,000	82,000	8,000	74,000
Helmand as % of country total	42%	55%	44%	51%	48%	49%	52%	0%	40%

In that province, with 5,880 ha, the district of Nad-e-Ali accounts for 8% of the national opium poppy cultivation. However, the record levels of 1999 (8,700 ha) and 2000 (8,300 ha) have not been reached this year. In 2000, due to very high yields, the resulting opium production in the district of Nad-e-Ali alone accounted for 10% of the world illicit opium production, which was more than Lao PDR (3.5 %) and Colombia (2%) put together the same year.

The arable land in Nad-e-Ali district is concentrated on an area watered by a relatively modern and vast irrigation scheme established some 30 years ago. Water is brought by canal from the Helmand river to an intensively cultivated area but the rest of the district is mainly desert.

Figure 5: Nad-e-Ali irrigated land from IKONOS, 20 April 2002



The situation is different in the northern parts of Helmand, where the agricultural land is confined to narrow valleys. Nevertheless, opium poppy cultivation is intense in the northern districts of Helmand as well. For example, in the district of Sangin (or Sarban Qala), opium poppy fields constituted about 40% of all cultivated fields in 2002.

Figure 6: Agricultural valley of Sangin district (Sarban Qala), 2 April 2002



Significant levels of opium poppy cultivation were also reported – for the first time – by local surveyors in the neighbouring province of Ghor, north of Helmand. The partial survey that was conducted in 64 villages of four districts indicated an alarming level of 2,200 ha of opium poppy cultivation in these villages in 2002. This year's survey could only cover 6% of the total number of villages that have been reported growing opium in these four districts. As opium poppy cultivation is likely to occur in many more villages, the total area under opium poppy cultivation in this province could be much higher. For security reasons, UN staff was not authorised to travel to the area to supervise the survey work. The opium production of Ghor province is reportedly sold in Musa-Qala district (Helmand province) and in Nimroz province.

Figure 7: Opium poppy fields in Taywara district, Ghor province (7 September 2002)



It should be noted that new instances of poppy cultivation have also been informally reported, at a lower scale, in the neighbouring district of Lal-o Sar Jangal, Tulak and Saghar, as well as in Purchaman district of Farah province. These reports, however, could not be verified.

Eastern Afghanistan

After a considerable decline in 2001, opium poppy cultivation has resumed in the previously important districts of Achin, Bati Kot, Chaparhar, Khogiani, Rodat, Sherzad, Shinwar and Sorkh Rod. Together these districts account for 80% of the opium poppy cultivation in Nangarhar province, or 20% of the national total in 2002.

Table 11: Major opium growing districts in Nangarhar province (in ha)

	1994	1995	1996	1997	1998	1999	2000	2001	2002
<i>Achin</i>	5,354	2,187	2,315	1,640	1,693	2,209	1,317	1	940
<i>Bati Kot</i>	3,797	529	392	1,013	2,034	603	535	0	2,390
<i>Chaparhar</i>	1,089	1,377	1,750	1,234	1,365	977	832	2	990
<i>Khogiani</i>	4,347	2,577	2,628	3,385	3,808	5,338	4,913	3	2,640
<i>Rodat</i>	1,026	2,038	1,959	1,583	2,147	3,649	2,302	0	2,760
<i>Sherzad</i>	1,954	2,351	1,646	1,689	1,302	1,741	1,719	2	1,470
<i>Shinwar</i>	3,884	1,265	2,075	1,478	1,374	1,559	1,300	0	2,060
<i>Sorkh Rod</i>	747	106	587	619	1,072	1,602	1,840	0	1,440
Total	22,198	12,430	13,352	12,641	14,795	17,678	14,757	8	14,690
% of country total	31%	23%	23%	22%	23%	19%	18%	0%	20%

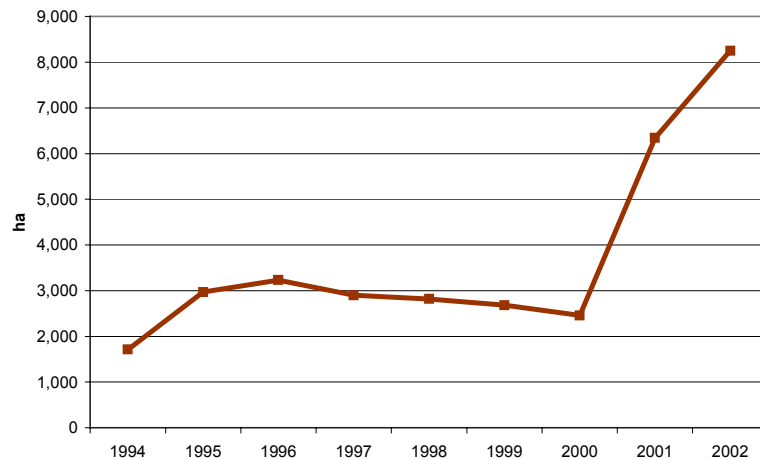
Opium poppy cultivation has also been observed in the neighbouring provinces of Laghman and Kunar, but the comparatively smaller agricultural areas available there keep opium poppy cultivation to relatively lower levels.

For the first time, there have been unverified reports of low level of opium poppy cultivation in Maidan and other districts of Wardak province.

Northern Afghanistan

For the second consecutive year, a considerable increase in opium poppy cultivation has been noted in Badakhshan province.

Figure 8: Opium poppy cultivation trend in Badakhshan (1994-2002)



Opium poppy cultivation in Badakhshan is concentrated in the three districts of Kishim, Faizabad and Jurm. Together these three districts account for 11% of the national opium poppy cultivation in 2002.

In contrast to the southern and eastern regions where agricultural land is irrigated, Badakhshan is characterised by large areas of less productive rain-fed land. This is particularly the case for the districts of Kishim and Faizabad, as illustrated by the table below:

Table 12: Rain-fed and irrigated opium poppy cultivation in Badakhshan (in ha)

District	Total	Rain-fed	% of total	Irrigated	% of total
Kishim	2,840	2,660	94%	180	6%
Faizabad	2,370	1,940	82%	430	18%
Jurm	2,690	240	9%	2,450	91%
Total	7,900	4,840	61%	3,060	39%

The sustained increase in area under poppy cultivation in Badakhshan since 2001 seems to have been triggered by the sustained high price levels for opium, as well as favourable climatic conditions, encouraging late planting in the spring to take advantage of the high yields anticipated. This year's increase was mainly noticeable in the rain-fed areas of Kishim and Faizabad districts.

Figure 9: Opium poppy cultivation in Baharak district (Badakhshan, May 2002)



In three districts of Badakhshan provinces (Faizabad, Jurm and Kishim) opium poppy cultivation estimates were obtained from the sample ground survey and again independently from the satellite survey. To ascertain the validity of the methodologies used, it is worth noting that both estimates coincided.

For the first time, there have been unverified reports of opium poppy cultivation in the district of Yakawlang in Bamyan province.

4.2 Opium Yield and Production Estimates

In 2002, the average opium yield in Afghanistan was estimated at 46 kg/ha, a significant increase compared to last year's average yield of 24 kg/ha. The reasons for this increase are twofold : (a) opium poppy cultivation has resumed on irrigated land in Eastern and Southern Afghanistan which are significantly more productive, and (b) the drought affecting Afghanistan during the last few years has come to an end.

As a result, the total opium production in Afghanistan is estimated to amount to 3,400 metric tons (range: from 3,200 mt to 3,600 mt) in 2002. Although this represents a very considerable increase compared to 2001, it remains 25% lower than the record production level estimated in 1999 (4,600 tons).

Table 13: Afghanistan opium production from 1994 to 2002 (in tons)

	1994	1995	1996	1997	1998	1999	2000	2001	2002
Rounded total	3,400	2,300	2,200	2,800	2,700	4,600	3,300	185	3,400

In 2002, data on opium yield were gathered from a sample of farmers' interviews from the three provinces of Badakhshan, Helmand and Nangarhar. The results for these three provinces are presented below and the detailed district results are in annex 6.

Table 14: Weighted provincial opium yield estimate in 2002 (in kg/ha)

Province	Irrigated	Rain-fed	Overall
Badakhshan	43	32	36
Helmand	45		45
Nangarhar	54		54
Country	48	32	46

In 2002, after three years of drought, better rains were recorded in most provinces⁶. As a result, the analysis of data for irrigated poppy fields revealed an opium yield of 48 kg/ha. This represents a 54% increase compared to last year's average yield of 31 kg/ha for irrigated poppy.

In Badakhshan, where 60% of the opium poppy cultivation take place on rain-fed land, the rain improved the yield considerably, from 18 kg/ha in 2001 to 29 kg/ha in 2002. In May 2002, prior to the opium harvest in this region, farmers already reported their perception of this season as a very favourable one for poppy cultivation, with high rainfall and good temperatures. Some farmers even anticipated doubling their opium yield in rain-fed areas as compared to previous years.

As there was no census survey this year, the overall (irrigated and rain-fed) average yield for the three provinces was used as the best estimate for the national average opium yield. As the production of these three provinces on average accounted for more than 80% of the national opium production in the 1990s, the overall average yield of these three provinces has always been close to the national average yield, and is thus a good proxy for the national average yield.

⁶ FAO/WFP Crop and Food Supply Assessment Mission to Afghanistan, August 2002

Table 15: Average Opium Yield (kg/ha) trends from 1995 to 2000

Province	1995	1996	1997	1998	1999	2000	2001	2002
Badakhshan	21	20	23	20	15	17	24	36
Helmand	48	38	51	38	55	43	na	45
Nangarhar	42	43	44	45	49	37	47	54
Three provinces average⁷	44	39	47	40	50	40	25	46
National average	43	39	48	42	50	40	24	
Difference	1	0	-1	-2	0	0	1	

In 2002, the overall average yield for Badakhshan, Helmand and Nangarhar provinces was 46 kg/ha. Applied to the national opium cultivation estimates, the country production estimate ranged from 3,200 tons to 3,600 tons with a mean estimate of 3,400 tons.

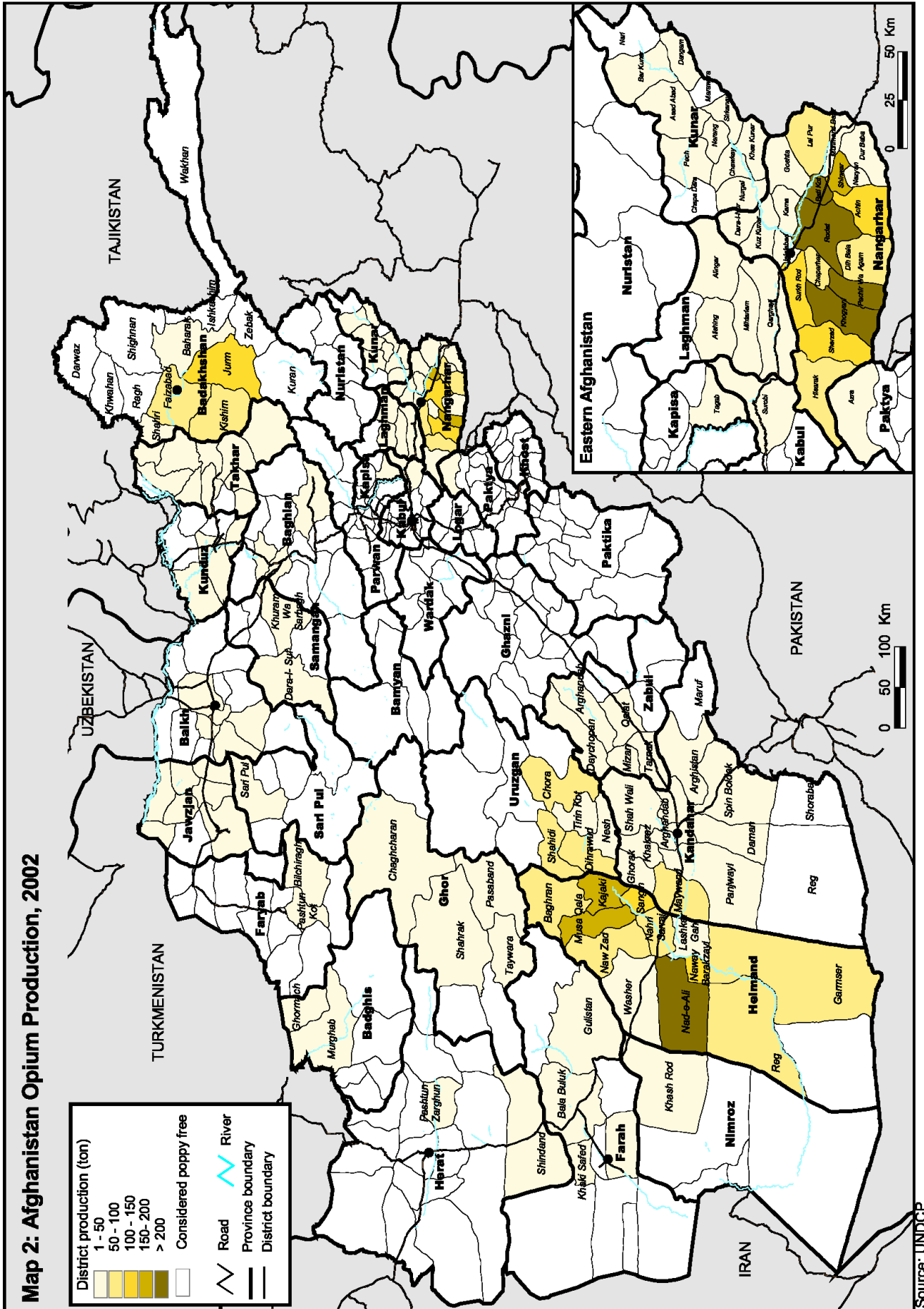
As for the opium poppy cultivation, opium production remains highly concentrated in a few provinces. With a production of 2,400 tons of opium the two provinces of Helmand and Nangarhar alone account for 70% of Afghanistan's opium production or more than 50% of the world total opium production in 2002.

Table 16: Provincial ranking of opium production in 2002

Province	tons	% of country total
Helmand	1,300	38%
Nangarhar	1,030	30%
Badakhshan	300	9%
Uruzgan	230	7%
Kandahar	180	5%

The map presented on the following page shows the geographical distribution of opium production at the district level in Afghanistan.

⁷ Yield sub-averages were calculated as the sum of the opium production of the three provinces divided by the area under poppy cultivation in the three provinces.



4.3 Opium Prices Estimates

Data collected in the main opium producing regions of Afghanistan in 2002 showed that opium prices remained at very high levels throughout the opium season, though fluctuating strongly.

Weighted by production, the average price of Afghan fresh opium amounted to US\$/kg 350 as compared to US\$/kg 300 in 2001 and US\$/kg 30 in 2000. As can be seen from the table in annex and the following map, prices ranged from US\$ 300 and US\$ 400 in all districts of Helmand province, Kandahar, and most districts of Nangarhar province. In northern Afghanistan, prices were usually lower, with typical prices ranging from US\$ 100 to US\$ 300. The notable exceptions were prices in Badghis province, bordering Turkmenistan, where prices up to US\$ 650 were reported.

Compared to the previous year, opium prices increased in both southern and eastern Afghanistan but declined in northern Afghanistan. In contrast to the 1990s, opium prices in Badakhshan (US\$/kg 207) were lower than prices in eastern Afghanistan (Nangarhar US\$/kg 333) or southern Afghanistan (Helmand US\$/kg 385).

The 2001 price averages were weighted by district production. As data were systematically only collected in the main opium producing regions, the 2002 national average was approximated by the average prices (weighted by production) of the three provinces of Helmand, Nangarhar and Badakhshan.

Table 17: Average prices for fresh opium (in US\$/kg)

Province	Average	+/- range ⁸	Number of bazaars visited
Badakhshan (Jul. 02)	207	16	4
Helmand (Jul. 02)	385	7	14
Nangarhar (Aug. 02)	333	11	19
Rounded average ⁹	350		

The map presented on the following page shows the geographical distribution of opium prices through Afghanistan.

⁸ 95% confidence interval

⁹ weighted by opium production

Eastern and Southern Afghanistan

Following the opium poppy ban of July 2000, opium prices had increased ten-fold between mid-2000 and the harvest time of 2001, and then doubled again to reach a record high of about US\$ 700 just before September 11. Immediately afterwards, prices plummeted but recovered quickly. Since October 2001, prices remained high but fluctuated far more than they used to do in the past (see annex 7).

At the time of sowing opium poppy for the 2002 opium season, between November and December 2001, opium prices ranged from US\$ 350 to US\$ 400 per kg, about four times higher than at the same time the previous year, and as much as ten times higher than in 1999. Since opium is an important source of cash income, the high prices offered by opium traders created a powerful incentive for farmers to plant opium poppy.

Table 18: Dry opium prices at planting time in Afghanistan (US\$/kg)

	Nov. 1999	Dec. 1999	Nov. 2000	Dec. 2000	Nov. 2001	Dec. 2001
Eastern Afghanistan (Nangarhar)	38	39	107	159	402	316
Southern Afghanistan (Kandahar)	31	32	60	101	350	275

Despite the good opium harvest in 2002, the prices for dry opium remained in the range of about US\$/kg 400 through the season. One possible explanation is that after the very low 2001 opium production, opium stocks were virtually depleted, which created a strong demand for opium in 2002.

The following figure shows the development of average monthly prices from November 2001 to August 2002. It should be noted though that fluctuations within months have been substantial, possibly a consequence of eradication efforts and the closure of some opium markets.

Figure 10: Dry opium prices in Kandahar and Nangarhar (US\$/kg)

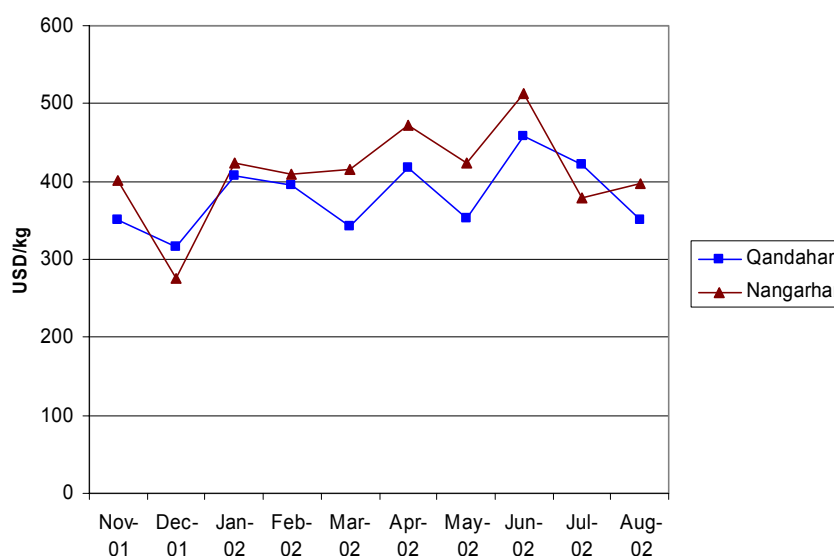


Table 19: Dry opium prices in Helmand and Nangarhar (US\$/kg)

	Nov-01	Dec-01	Jan-02	Feb-02	Mar-02	Apr-02	May-02	Jun-02	Jul-02	Aug-02
Kandahar	350	316	407	395	343	418	353	458	422	350
Nangarhar	402	275	423	409	416	472	423	514	380	398

Northern Afghanistan

Opium prices data were also collected in the northern part of the country during the sample ground survey conducted in May 2002 and again for Badakhshan province, the most important opium producing province in northern Afghanistan, in July 2002, at the same time as the yield assessment survey.

Table 20: Dry opium prices (US\$/kg)

Province	May 2002	July 2002
Badakhshan	240	257
Takhar	215	na
Badghis	605	na
Balghlan	312	na
Balkh	178	na
Farayab	338	na
Jawzjan	100	na
Kunduz	248	na

In Badakhshan province, which accounted for 9% of the total opium production, dry opium prices were estimated at about US\$/kg 240 in May 2002, i.e. 40% less than in the southern and eastern regions of Afghanistan. This contrasts with results reported in the 1990s when opium prices in Badakhshan were among the highest in Afghanistan.

A possible explanation for this relative change in opium price pattern may be the increase in poppy cultivation in the province in recent years.

The most significant increases and higher prices were observed in Badghis and Faryab provinces, probably due to the high demand in the opiate markets along the Turkmenistan border. In these provinces, farmers were reported to be selling directly in these markets, without using middlemen.

By contrast, price declines were reported from Badakhshan as well as Jawzan and Balkh provinces. Middlemen have been reported active in Baghlan province, moving opium from the production area to market centres like Anderab. The low prices reported in Balkh and Jawzjan seem to be due to be poor access to opium markets.

Table 21: Dry opium price changes in northern Afghanistan (US\$/kg)

Province	July 2001	May 2002	% change
Badakhshan	365	257	-30%
Takhar	238	215	-10%
Badghis	174	605	248%
Baghlan	212	312	47%
Balkh	235	178	-24%
Faryab	173	338	95%
Jawzjan	194	100	-48%
Kunduz	229	248	8%

Difference between dry and fresh opium prices

Prices for fresh opium were collected in July and August 2002. As summarised in the following table, they are between 25% and 10% lower than the prices for dry opium.

Table 22: Difference in dry and fresh opium prices (US\$/kg)

Province	Dry Opium	Fresh Opium	Difference
Badakhshan (Jul. 02)	257	207	- 24%
Helmand (Jul. 02)	422	385	- 10%
Nangarhar (Aug. 02)	398	333	- 20%

Value of opium

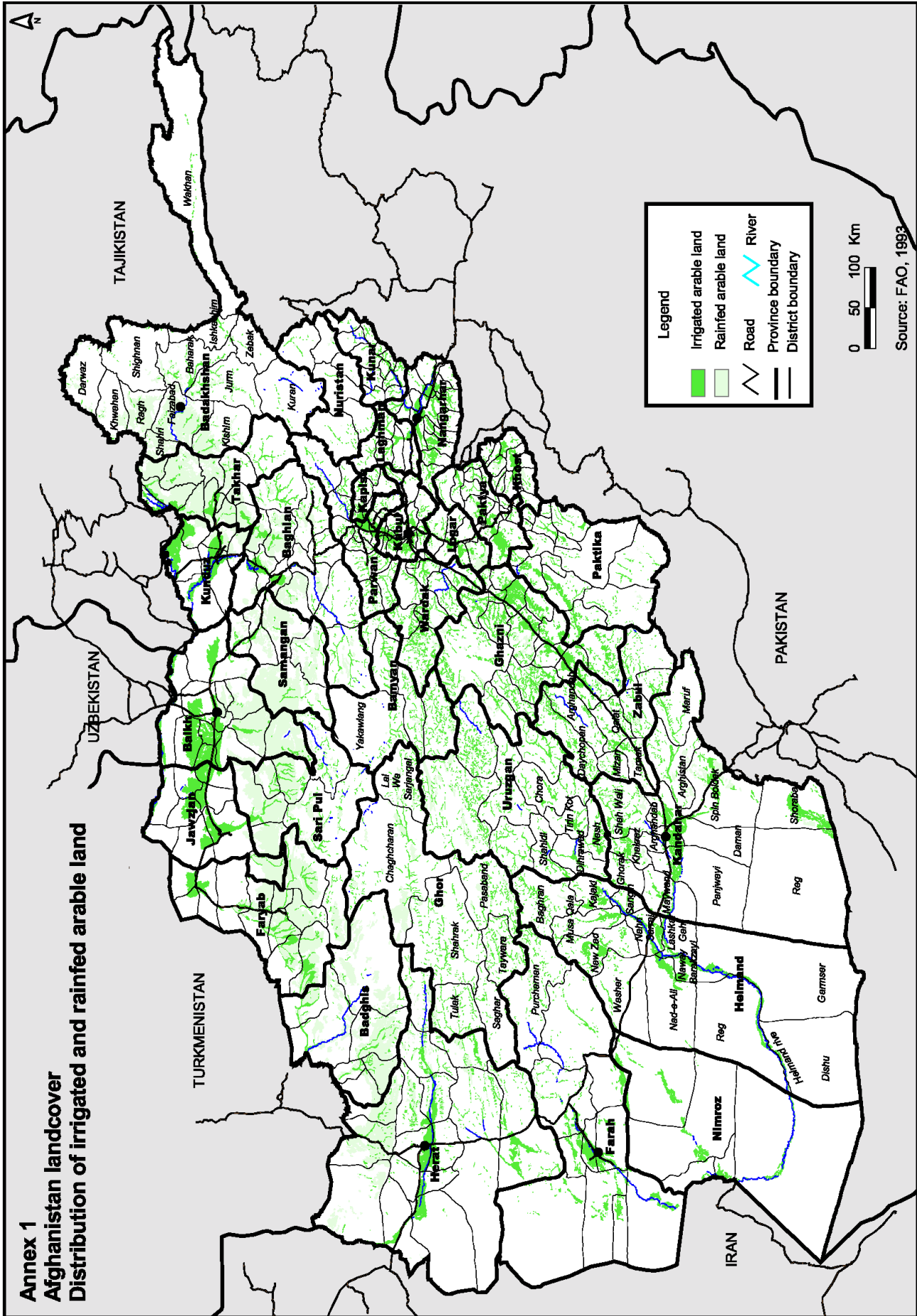
At current price levels (which would seem unlikely to persist given the resumption of large-scale opium production this year), and as a result of the combination of high level cultivation (74,000 ha) and good opium yield (46 kg/ha), the total income for the Afghan opium poppy farmers could reach several hundreds million US dollars this year. The value of the 2002 production will then reach a record high, far above earlier years (from 1994 to 2000, the estimated total annual income varied between a minimum of about US\$ 50 million and a maximum of about US\$ 200 million at the time of the bumper harvest in 1999).

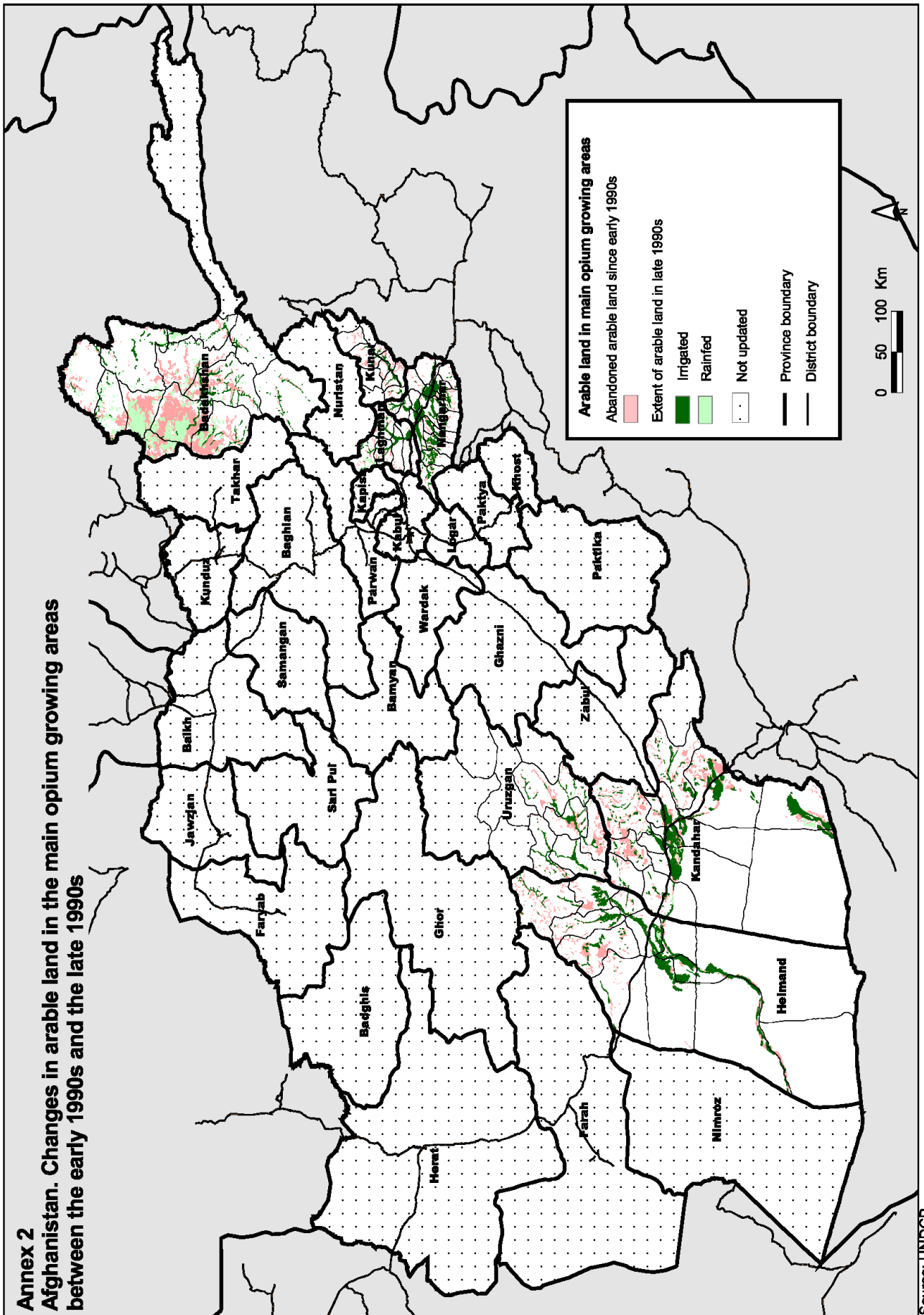
At surveyed prices, and on the basis of an estimated average of 0.3 ha of opium poppy cultivation per opium poppy farmer, the 2002 average income per opium poppy farmer would amount to a few thousand dollars in 2002. In previous years the typical income was estimated at several hundred dollars, from US\$ 400 to 600. It is essential to bear in mind that these estimates do not refer to the country at large (where the average per family income remains one of the lowest in the world). Rather, the relatively high level of farming revenues refers to the few regions where the opium poppy cultivation is centred.

Afghanistan as a whole should not be seen as a country entirely dependent on illegal activity. As shown by the survey, a high level of economic dependency on opium poppy cultivation is limited to a few of the provinces which did not comply with the ban on opium poppy cultivation issued in January 2002 by President Karzai.

5 Annexes

- Annex 1 Map. Distribution of irrigated and rain-fed arable land
- Annex 2 Map. Changes in arable land in the main opium growing areas
- Annex 3 List of IKONOS images
- Annex 4 Afghanistan opium poppy estimates 2002
- Annex 5 Map. Opium poppy cultivation in 2000 and 2001
- Annex 6 Afghanistan opium production estimates 2002
- Annex 7 Graph. Dry opium prices from March 1997 to August 2002
- Annex 8 Afghanistan opium prices, 2001-2002
- Annex 9 Map. Opium prices trend in Afghanistan, 2000-2001





Annex 3
List of IKONOS images

Province	District	Dates
First images		
Badakhshan	Faizabad	30.06.2002
Badakhshan	Jurm	11.06.2002
Badakhshan	Kheshim	15.06.2002
Helmand	Baghran	20.05.2002
Helmand	Garamser	20.05.2002
Helmand	Kajaki	20.05.2002
Helmand	Musa Qala	20.05.2002
Helmand	Nad-e-Ali	20.04.2002
Helmand	Naw Zad	20.05.2002
Helmand	Sarban Qala	20.05.2002
Kunar Total	Narang	
Laghman	Metarlam	20.05.2002
Nangarhar	Khogyani	20.05.2002
Nangarhar	Rodat	20.04.2002
Nangarhar	Sherzad	20.05.2002
Nangarhar	Shinwar	16.05.2002
Nangarhar	Sorkh Rod	20.05.2002
Uruzgan	Chora	16.05.2002
Uruzgan	Dehrawudd	20.05.2002
Uruzgan	Tirin Kot	20.05.2002
Kandahar	Arghandab	16.05.2002
Kandahar	Khakrez	20.05.2002
Kandahar	Maiwand	20.05.2002
Second images		
Badakhshan	Faizabad	24.07.2002
Badakhshan	Jurm	17.07.2002
Badakhshan	Kheshim	24.07.2002
Helmand	Baghran	15.06.2002
Helmand	Garamser	
Helmand	Kajaki	26.06.2002
Helmand	Musa Qala	03.07.2002
Helmand	Nad-e-Ali	09.06.2002
Helmand	Naw Zad	09.06.2002
Helmand	Sarban Qala	15.06.2002
Kunar Total	Narang	24.06.2002
Laghman	Metarlam	15.06.2002
Nangarhar	Khogyani	15.06.2002
Nangarhar	Rodat	20.05.2002
Nangarhar	Sherzad	15.06.2002
Nangarhar	Shinwar	15.06.2002
Nangarhar	Sorkh Rod	15.06.2002
Uruzgan	Chora	24.06.2002
Uruzgan	Dehrawudd	27.06.2002
Uruzgan	Tirin Kot	24.06.2002
Kandahar	Arghandab	26.06.2002
Kandahar	Khakrez	15.06.2002
Kandahar	Maiwand	24.06.2002

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Afghanistan opium poppy cultivation estimates (ha), 2002

Province	District	Former district reference	Previous UNDCP survey estimates								2002			
			1994	1995	1996	1997	1998	1999	2000	2001	Low	Avg	High	
Badakhshan	Baharak	Baharak	111	64	116	9	202	23	86	345	170	180	190	
	Fayzabad	Faizabad	77	2,344	1,592	1,634	1,282	906	1,073	868	2,070	2,370	2,660	
	Ishkashim	Eshkashem	0	0	3	0	0	0	0	0	-	-	-	
	Jurm	Jurm	433	555	1,326	1,051	1,198	1,249	773	2,897	2,300	2,690	3,070	
	Khwahan	Khvahan								0	-	-	-	
	Kishim	Keshem	1,093	3	177	62	62	385	507	2,191	2,570	2,840	3,120	
	Ragh	Ragh	0	0	8	31	2	8	0	0	-	-	-	
	Shahri Buzurg	Shahr-e-Bozorg	0	0	0	0	71	113	19	41	160	170	180	
	Zebak	Zebak	0	4	8	115	0	0	0					
Badakhshan Total			1,714	2,970	3,230	2,902	2,817	2,684	2,458	6,342	7,270	8,250	9,220	
Badghis	Ghormach	Ghowrmach							20	0	3	4	5	
	Murghab	Morghab							21	0	21	22	23	
Badghis Total			0	0	0	0	0	0	41	0	25	26	28	
Baghlan	Andarab	Anderab								81	30	31	31	
	Baghlan	Baghlan							152	0	115	120	124	
	Dahana-I- Ghor	Dahaneh-e-Ghowri				328	929	967	27	0	0	0	0	
	Nahrin	Nahrin								1	-	-	-	
	Puli Khumri	Pul-e-Khumri							38	20	1	1	2	
Baghlan Total			0	0	0	328	929	1,005	199	82	147	152	157	
Balkh	Balkh	Balkh				13	29	29	82	1	21	22	23	
	Chahar Bolak	Char Bulaq				165	530	2,600	53	0	0	0	0	
	Chimtal	Chemtal			1,065	532	485	1,428	2,451	0	152	153	154	
	Dawlat Abad	Dowlatabad								3	-	-	-	
	Dihdadi	Dehdadi							22	0	7	8	8	
	Nahri Shahi	Naher Shahi							33	0	14	14	15	
	Sholgara	Shulgarah							28	0	19	19	20	
Balkh Total			0	0	1,065	710	1,044	4,057	2,669	4	214	217	219	
Farah	Anar Dara	Anar Darreh								0	-	-	-	
	Bakwa	Bakwah		1	13	129	31	129	259	0	-	-	-	
	Bala Buluk	Bala Balok		8	19	169	36	186	183	0	-	-	-	
	Farah	Farah			18	18	10	44	73	0	-	-	-	
	Gulestan	Gulestan			581	252	94	428	849	0	-	-	-	
	Khaki Safed	Khak-e Safid							0	0	-	-	-	
	Lash Wa Juwayn	Lash-e Joveyn								0	-	-	-	
	Pur Chaman	Purchaman								0	-	-	-	
	Qalay-I-Kah	Qalae Koh								0	-	-	-	
Farah Total			0	9	631	568	171	787	1,364	0	300	500	700	
Faryab	Bilchiragh	Belcheragh							6	0	19	26	33	
	Maymana	Meymaneh							1	0	0	0	0	
	Pashtun Kot	Pashtun Kowt								11	1	1	2	
	Qaysar	Qeysar								16	-	-	-	
	Shirin Tagab	Shirin Tagab								3	-	-	-	
Faryab Total			0	0	0	0	0	0	36	0	20	28	35	
Ghazni	Ajristan	Ajristan	313	0	0	0	0	0	0	0	-	-	-	
Ghazni Total			313	0	0	0	0	0	0	0	0	0	0	
Ghor	Chaghcharan										630	700	770	
	Pasaband										630	700	770	
	Shahrak										270	300	330	
	Taywara										450	500	550	
Ghor Total										1,980	2,200	2,420		
Helmand	Baghran	Baghran		2,519	1,267	2,754	2,910	2,794	2,653	0	1,660	1,800	1,930	
	Dishu	Deh Shu								0				
	Garmser	Garmser	786	725	942	1,993	1,205	2,643	2,765	0	1,900	2,020	2,140	
	Kajaki	Kajaki	979	4,087	2,814	3,904	3,959	5,746	4,625	0	2,500	2,640	2,780	
	Lashkar Gah	Bust	2,256	885	1,054	1,325	1,869	2,528	3,145	0	1,070	1,140	1,220	
	Musa Qala	Musa Qala	1,154	5,137	3,924	4,360	5,574	7,013	5,686	0	3,500	3,690	3,890	
	Nad-e-Ali	Nad-e-Ali	12,529	5,983	4,035	5,102	5,156	8,667	8,323	0	5,690	5,880	6,080	
	Nahri Sarraj	Nahr-e-Saraj	590	4,716	4,309	4,807	2,426	4,041	4,378	0	1,720	1,850	1,980	
	Naw Zad	Naw Zad	2,345	2,799	3,596	1,585	3,605	4,424	5,085	0	2,550	2,650	2,780	
	Naway Barakzayi	Nawa Barakzai	6,074	1,254	505	722	1,150	2,581	3,246	0	2,540	2,730	2,910	
	Reg	Khan Neshin								222	0	1,810	1,940	2,070
	Sangin	Sarban Qala	2,866	973	1,909	1,971	1,734	2,646	1,711	0	2,650	2,810	2,960	
	Washer	Washir		676	555	877	1,084	1,469	1,014	0	780	800	820	
	Helmand Total			29,579	29,754	24,910	29,400	30,672	44,552	42,853	0	28,370	29,950	31,560

Afghanistan opium poppy cultivation estimates (ha), 2002

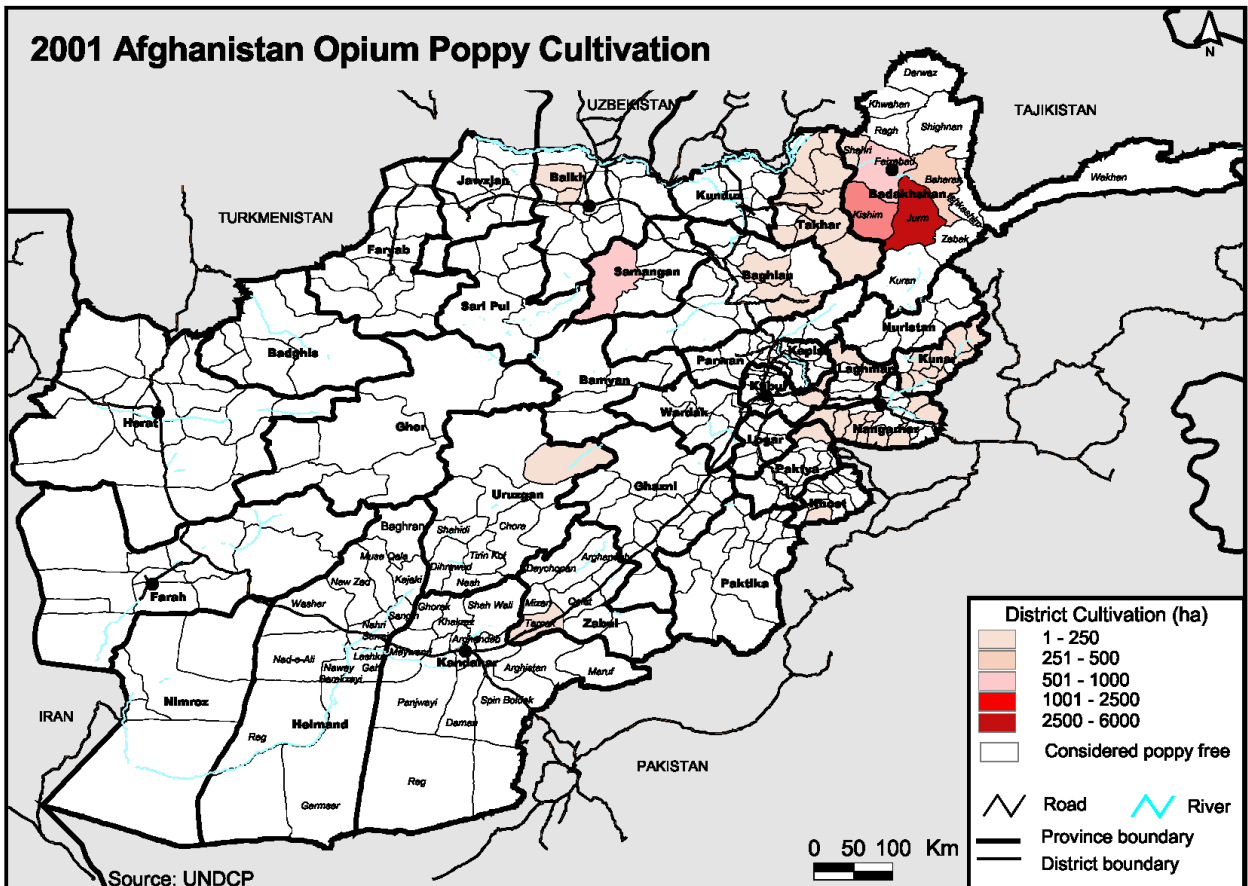
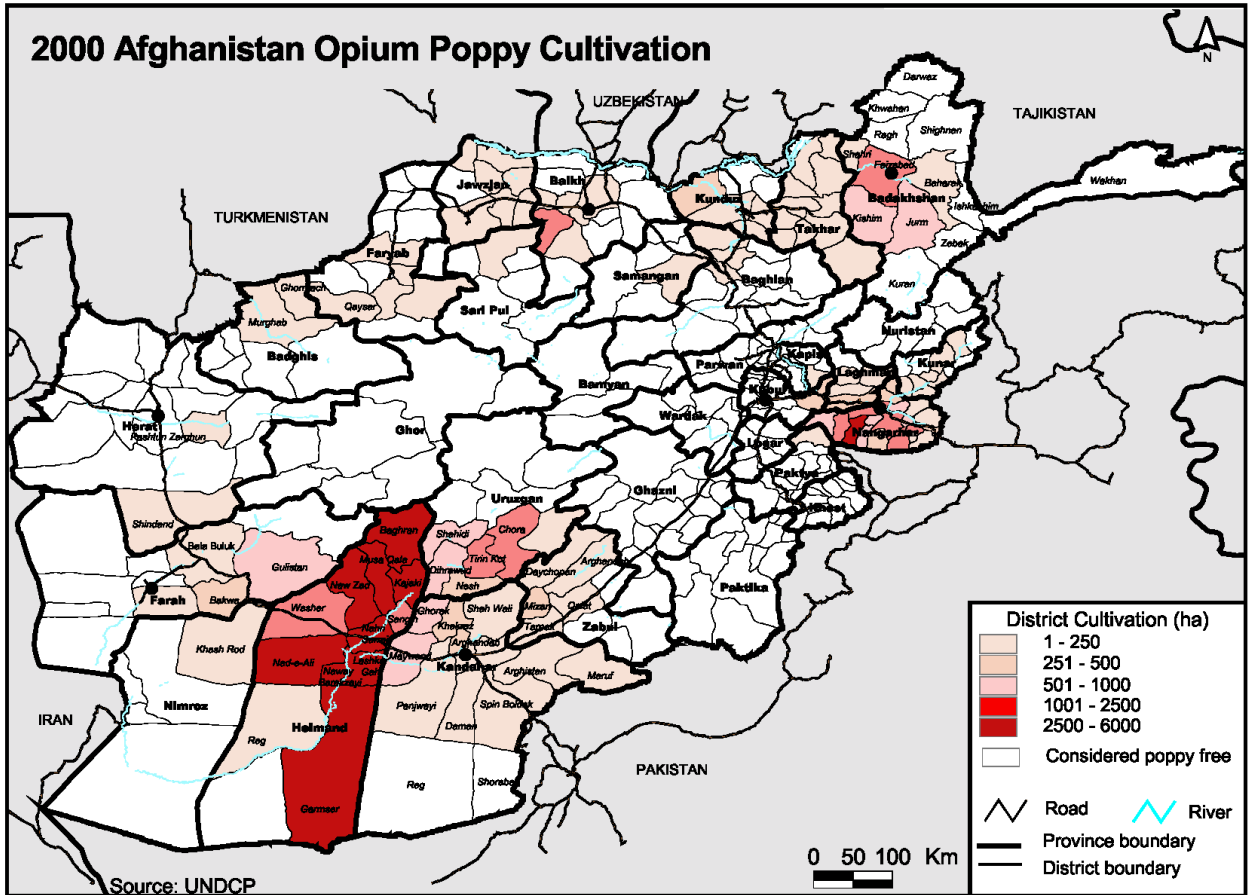
Province	District	Former district reference	Previous UNDCP survey estimates								2002			
			1994	1995	1996	1997	1998	1999	2000	2001	Low	Avg	High	
Herat	Obe	Obey												
	Pashtun Zarghun	Pashtun Zarghun	0	0	0	38	0	0	38	0	-	-	-	
	Shindand	Shindand							146	0	-	-	-	
	Zinda Jan	Zنده Jan								0	-	-	-	
Herat Total			0	0	0	38	0	0	184	0	30	50	70	
Jawzjan	Aqcha	Aqchah							532	208	0	46	47	47
	Faysabad	Faizabad							43	105	0	23	24	25
	Khamyab	Khamyab								6		29	30	31
	Mardyan	Mardian							43	111	0	4	4	4
	Mingajik	Manga Jek							1,789	141	0	7	7	7
	Qarqin	Qarqin							186	10	0	24	24	24
	Shibirghan	Sheberghan								19	0	1	1	1
Jawzjan Total			0	0	0	0	0	2,593	600	0	134	137	139	
Kabul	Surobi	Sarobi							132	340	29	57	58	59
Kabul Total			0	0	0	0	0	132	340	29	57	58	59	
Kandahar	Arghandab	Arghandab	211	87	331	561	399	750	459	0	320	330	340	
	Arghistan	Arghistan							38	13	0	70	80	90
	Daman	Daman							110	50	0	170	190	210
	Ghorak	Ghorak	347	803	692	1,503	1,126	1,109	574	0	270	380	320	
	Kandahar	Qandahar+Dand	320	53	234	21	73	227	156	0	480	640	810	
	Khakrez	Khakrez	362	274	627	286	518	632	320	0	520	560	610	
	Maruf	Maruf	30	16	1	0	3	5	17	0	-	-	-	
	Maywand	Maiwand	256	333	618	1,278	2,497	2,022	995	0	950	1,090	1,240	
	Panjwai	Panjwai	250	357	266	255	134	132	184	0	140	150	170	
	Shah Wali Kot	Shah Wali Kot	678	97	94	127	162	236	238	0	240	260	290	
Spin Boldak	Spin Boldak	1,170	107	194	91	317	261	26	0	260	290	320		
Kandahar Total			3,624	2,127	3,057	4,122	5,229	5,522	3,034	0	3,420	3,970	4,400	
Kapisa	Tagab	Tagab							5	104	0	206	207	208
Kapisa Total			0	0	0	0	0	5	104	0	206	207	208	
Khost	Spera	Speyrah									0	-	-	-
	Tani	Tani									6	-	-	-
Khost Total			0	0	0	0	0	0	0	6	0	0	0	
Kunar	Asad Abad	Asadabad							73	239	1	120	140	150
	Bar Kunar	Bar Kunar							47	72	31	40	40	50
	Chawkay	Chawki	13	11	0	0	8	9	50	8	120	140	160	
	Dangam	Dangam									4	46	49	52
	Khas Kunar	Khas Kunar	75	82	10	0	12	50	173	0	60	70	80	
	Narang	Narang		15	1	0	13	27	84	10	90	100	120	
	Nari	Naray									1	-	-	-
	Nurgal	Mazar (Nur Gul)	27	19	5	0	8	28	98	9	60	70	80	
	Pech	Peche									11	260	263	266
	Sirkanay	Sarkani		25	2	0	34	54	71	8	90	100	110	
Kunar Total			115	152	18	0	75	288	786	82	886	972	1,068	
Kunduz	Ali Abad	Aliabad							5	51	0	2	3	3
	Chahar Dara	Chahar Darreh							8	30	0	6	6	7
	Imam Sahib	Emam Saheb							3	0		-	-	-
	Khan Abad	Khanabad							2	36	0	-	-	-
	Kunduz	Kunduz							9	51	0	3	3	3
	Qalay-I- Zal	Qala-e Zal							11	321	0	4	5	5
Kunduz Total			0	0	0	0	0	38	489	0	16	16	17	
Laghman	Alingar	Alingar	0	0	0	0	2	71	131	3	142	146	150	
	Alishing	Alishang	0	0	0	0	3	26	88	0	101	104	107	
	Dawlat Shah	Dowlat Shah									12	-	-	-
	Mihtarlam	Metarlam	0	0	0	0	14	72	190	0	190	240	290	
	Qarghayi	Qarghai	0	0	0	0	58	128	298	0	300	460	610	
Laghman Total			0	0	0	0	77	297	707	15	733	950	1,157	
Nangarhar	Achin	Achin	5,354	2,187	2,315	1,640	1,693	2,209	1,317	1	920	940	960	
	Bati Kot	Bati Kot	3,797	529	392	1,013	2,034	603	535	0	2,210	2,390	2,570	
	Chaparhar	Chaparhar	1,089	1,377	1,750	1,234	1,365	977	832	2	970	990	1,010	
	Dara-I-Nur	Darae Noor	1,302	392	199	73	199	734	421	0	370	380	400	
	Dih Bala	Deh Bala	307	646	354	569	511	468	439	11	640	650	660	
	Dur Baba	Durbaba	29	78	38	39	56	50	33	0	40	40	40	
	Goshta	Goshta	1,249	467	116	77	122	240	238	99	150	150	160	
	Hisarak	Hesarak	202	453	253	370	436	741	541	2	600	620	650	

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Afghanistan opium poppy cultivation estimates (ha), 2002

Province	District	Former district reference	Previous UNDCP survey estimates								2002		
			1994	1995	1996	1997	1998	1999	2000	2001	Low	Avg	High
	Jalalabad	<i>Behsud+Jalalabad</i>	458	31	51	123	397	979	1,021	0	89	90	90
	Kama	<i>Kama</i>	0	18	0	0	198	389	589	0	1,080	1,120	1,170
	Khogyani	<i>Khogiani</i>	4,347	2,577	2,628	3,385	3,808	5,338	4,913	3	2,630	2,640	2,650
	Kuz Kunar	<i>Kuz Kunar</i>	293	233	115	15	105	236	399	0	490	500	520
	Lal Pur	<i>La'lpur</i>	302	267	79	66	137	270	248	95	240	250	260
	Muhmand Dara	<i>Mohmand Dara</i>	1,630	0	156	83	125	290	255	0	690	720	750
	Nazyan	<i>Nazian</i>	343	138	251	111	252	184	177	0	150	150	150
	Pachir Wa Agam	<i>Pachier wa Agam</i>	768	571	681	400	488	731	630	3	400	420	430
	Rodat	<i>Rodat</i>	1,026	2,038	1,959	1,583	2,147	3,649	2,302	0	2,760	2,760	2,760
	Sherzad	<i>Sherzad</i>	1,954	2,351	1,646	1,689	1,302	1,741	1,719	2	1,470	1,470	1,470
	Shinwar	<i>Shinwar</i>	3,884	1,265	2,075	1,478	1,374	1,559	1,300	0	2,060	2,060	2,060
	Surkh Rod	<i>Sorkh Rod</i>	747	106	587	619	1,072	1,602	1,840	0	1,340	1,440	1,540
Nangarhar Total			29,081	15,724	15,645	14,567	17,821	22,990	19,747	218	19,299	19,780	20,300
Nimroz	Chahar Burjak	<i>Char Borjak</i>								0	-	-	-
	Kang	<i>Kang</i>	10	2	1	107	5	2	0	0	-	-	-
	Khash Rod	<i>Khash Rud</i>	672	117	135	535	6	201	219	0	-	-	-
Nimroz Total			682	119	136	642	11	203	219	0	180	300	420
Paktya	Azra	<i>Azro</i>					4	29	46	1	37	38	39
	Chamkani	<i>Chamkani</i>								0	-	-	-
	Jaji	<i>Jaji</i>								0	-	-	-
	Lija Mangal	<i>Hasan Kheyl</i>								0	-	-	-
	Sayid Karam	<i>Seyed Karam</i>								0	-	-	-
Paktya Total			0	0	0	0	4	29	46	1	37	38	39
Samangan	Dara-I- Suf	<i>Darae Souf</i>								614	-	-	-
	Khuram Wa Sarbagh	<i>Khuram+Samangan</i>							54	0	-	-	-
Samangan Total			0	0	0	0	0	0	54	614	60	100	140
Sari Pul	Sangcharak	<i>Sar-e Pol</i>							146	0	57	57	57
Sari Pul Total			0	0	0	0	0	0	146	0	57	57	57
Takhar	Bangi	<i>Bangi</i>							8	0	-	-	-
	Chah Ab	<i>Chah Ab</i>						17	45	19	-	-	-
	Chal	<i>Chal</i>						8	17	20	-	-	-
	Farkhar	<i>Farkhar</i>						6	6	26	-	-	-
	Ishkamish	<i>Eshkamesh</i>							10	19	-	-	-
	Kalafgan	<i>Kalafgan</i>						101	93	27	-	-	-
	Khwaja Ghar	<i>Khvajeh Ghar</i>						9	57	32	-	-	-
	Rustaq	<i>Rostaq</i>						10	151	24	-	-	-
	Taluqan	<i>Taloqan</i>						16	97	16	-	-	-
	Warsaj	<i>Warsaj</i>						12	9	10	-	-	-
	Yangi Qala	<i>Yangi Qala</i>						22	154	20	-	-	-
Takhar Total			0	0	0	0	0	201	647	211	782	788	794
Uruzgan	Chora	<i>Chora</i>	694	424	1,574	233	652	932	1,179	0	1,220	1,330	1,330
	Day Kundi	<i>Dai Kundi</i>								0	-	-	-
	Dihrawud	<i>Dehrawud</i>	909	938	2,923	1,870	1,033	1,243	726	0	1,250	1,340	1,420
	Gizab	<i>Gezab</i>	1,476	16	8	0	0	0	0	0	-	-	-
	Khas Uruzgan	<i>Khas Oruzgan</i>	0	4	0	0	0	0	130	0	-	-	-
	Kijran	<i>Kajran</i>								0	-	-	-
	Nesh	<i>Nesh</i>	410	334	104	399	373	510	394	0	460	490	520
	Shahidi Hassas	<i>Char Chashma</i>	1,337	12	0	0	1,158	1,110	802	0	1,130	1,190	1,240
	Shahrestan	<i>Shahrestan</i>								1	-	-	-
	Tirin Kot	<i>Tirin Kot</i>	1,428	1,180	3,271	2,484	1,445	1,194	1,494	0	680	750	830
Uruzgan Total			6,254	2,908	7,880	4,986	4,661	4,989	4,725	1	4,740	5,100	5,340
Zabul	Arghandab	<i>Arghandab</i>	0	0	0	0	0	74	139	0	-	-	-
	Daychopan	<i>Dai Chopan</i>	0	0	0	0	0	41	114	0	-	-	-
	Mizan	<i>Mizan</i>	54	0	255	154	160	373	383	0	-	-	-
	Qalat	<i>Qalat</i>	0	0	0	0	1	46	40	0	-	-	-
	Shahjoy	<i>Shah Juy</i>								0	-	-	-
	Tarnak Wa Jaldak	<i>Jaldak</i>	0	0	0	0	0	77	48	1	-	-	-
Zabul Total			54	0	255	154	161	611	725	1	120	200	280
TOTAL			71,416	53,763	56,827	58,417	63,672	90,983	82,172	7,606	69,082	74,045	78,827
ROUNDED TOTAL			71,000	54,000	57,000	58,000	64,000	91,000	82,000	8,000	69,000	74,000	79,000

Annex 5



Annex 6
Afghanistan opium production estimates, 2002

PROVINCE	DISTRICT	SAMPLE YIELD AVERAGE				CULTIVATION				PRODUCTION				
		IRRIGATED		RAINFED		Irrigated		Rainfed		Lower	Higher			
		Avg kg/ha	+/- n	Avg kg/ha	+/- n	Avg ha	+/- n	Avg ha	+/- n	kg	kg			
Badakhshan	Baharak	34	5	10	0	180	10			180	5,780	6,120	6,460	
	Faizabad	51	6	11	32	3	11	430	60	2,370	73,270	84,010	104,160	
	Jurm	43	8	10	29	4	10	2450	350	2,690	96,100	112,310	128,230	
	Kishim	39	4	5	32	2	9	180	20	2,840	83,360	92,140	101,240	
	Shahri Buzurg			0				No yield data		n.a.				
	Badakhshan surveyed Total					3,240	440	4,840	530	8,080	258,510	294,600	340,090	
	Helmand													
Beghran	34	3	20		1,800	140			1,800	56,440	61,200	65,620		
Garmser	43	5	10		2,020	120			2,020	81,700	86,860	92,020		
Lashkar Gah	33	9	6		1,140	70			1,140	35,310	37,620	40,260		
Kajaki	64	12	10		2,640	140			2,640	160,000	168,960	177,920		
Khan Neshin	48	5	10		1,940	130			1,940	86,880	93,120	99,360		
Musa Qala	53	6	10		3,690	190			3,690	185,500	195,570	206,170		
Nad-e-Ali	41	8	10		5,880	190			5,880	233,290	241,080	249,280		
Nahr-e-Seraj	29	6	10		1,850	130			1,850	49,880	53,650	57,420		
New Zad	37	4	10		2,650	100			2,650	94,350	98,050	102,860		
Nawa Barakzai	52	6	10		2,730	190			2,730	132,080	141,960	151,320		
Sarban Qala	49	10	10		2,810	160			2,810	129,850	137,690	145,040		
Washir	36	5	10		800	20			800	28,080	28,800	29,520		
Helmand surveyed Total					29,950	1,580			29,950	1,273,360	1,344,560	1,416,790		
Nangarhar	Achin	72	4	10		940	20			940	66,240	67,680	69,120	
	Bati Kot	69	8	20		2,390	180			2,390	152,490	164,910	177,330	
	Jalalabad	13	2	10		90	1			90	1,157	1,170	1,170	
	Chaparhar	29	28	10		990	20			990	28,130	28,710	29,290	
	Darae Noor	25	4	7		380	10			380	9,250	9,500	10,000	
	Deh Bala	49	8	10		650	10			650	31,360	31,850	32,340	
	Durbaba	49	12	8		40	0			40	1,960	1,960	1,960	
	Goshta	22	5	9		150	10			150	3,080	3,300	3,520	
	Hisarak			2		No yield data				n.a.				
	Kama	14	2	10		1,120	40			1,120	15,120	15,680	16,380	
	Khogiani	49	12	10		2,640	10			2,640	128,870	129,360	129,850	
	Kuz Kunar	13	2	10		500	10			500	6,370	6,500	6,760	
	Lal Pur			0		No yield data				n.a.				
Mohmand Daira	54	10	10		720	30			720	37,260	38,880	40,500		
Nazian	56	7	10		150	0			150	8,400	8,400	8,400		
Pachier Wa Agam	46	8	10		420	320			420	4,600	19,320	19,780		
Rodat	72	4	9		2,760	0			2,760	198,720	198,720	198,720		
Sherzad			0		No yield data				n.a.					
Shinwar	64	8	10		2,060	0			2,060	131,840	131,840	131,840		
Surkh Rod			2		No yield data				n.a.					
Nangarhar surveyed Total					16,000	661			16,000	824,847	857,780	876,960		
Total surveyed areas			329		49,190	2,681	4,840	530	54,030	2,356,717	2,496,940	2,633,840		
Other areas										Opium Yield (kg/ha, 3 provinces)	44	46	49	
Country Total									20,015	Estimated opium production (kg)	873,028	924,972	975,686	
									74,045	3,229,745	3,421,912	3,609,526		
ROUNDED COUNTRY TOTAL OPIUM PRODUCTION (tons)										Estimated opium production (tons)		3,200	3,400	3,600

Annex 8 (Page 1 of 3)
2002 Afghanistan opium prices (US\$/kg)

Province	District	Former district reference	2001 Dry	2001 Fresh		2002 Dry	2002 Fresh	2002 Dry	2002 Fresh
						May		July-August	
Badakhshan	Baharak	<i>Baharak</i>	397	238		274		250	200
	Fayzabad	<i>Faizabad</i>	353	281		230		260	210
	Ishkashim	<i>Eshkashem</i>						220	190
	Jurm	<i>Jurm</i>	398	327		207	80	297	228
	Kishim	<i>Keshem</i>	392	326		275			
	Shahri Buzurg	<i>Shahr-e-Bozorg</i>	286	339		270			
Badakhshan average			365	302		238	80	257	207
Badghis	Ghormach	<i>Ghowrmach</i>	174			514			
	Murghab	<i>Morghab</i>	174			649	431		
Badghis average			174			595	431		
Baghlan	Andarab	<i>Anderab</i>	242	201		327			
	Baghlan	<i>Baghlan</i>	206				202		
	Dahana-I- Ghor	<i>Dahaneh-e-Ghowr</i>	197						
	Puli Khumri	<i>Pul-e-Khumri</i>	205			274	215		
Baghlan average			212	201		312	208		
Balkh	Balkh	<i>Balkh</i>	237	201		137	103		
	Char Bolak	<i>Char Bulaq</i>	235			172			
	Chimtal	<i>Chemtal</i>	239			158	98		
	Dihdadi	<i>Dehdadi</i>				236	176		
	Nahri Shahi	<i>Naher Shahi</i>	250			210	145		
	Sholgara	<i>Shulgarah</i>	213			200	151		
Balkh average			235	201		179	123		
Faryab	Bilchiragh	<i>Belcheragh</i>	180			346			
	Maymana	<i>Meymaneh</i>	175						
	Pashtun Kot	<i>Pashtun Kowt</i>	186						
	Qaysar	<i>Qeysar</i>	161						
	Shirin Tagab	<i>Shirin Tagab</i>	164						
Faryab average			173						
Ghazni	Ajristan	<i>Ajristan</i>	360						
Ghazni average			360						
Ghor	Chaghcharan							349	331
	Pasaband							352	331
	Shahrak							353	332
	Taywara							346	321
Ghor average							349	328	
Helmand	Baghran	<i>Baghran</i>	237					394	370
	Dishu	<i>Deh Shu</i>							
	Garmser	<i>Garmser</i>	259					437	396
	Kajaki	<i>Kajaki</i>	257					407	370
	Lashkar Gah	<i>Bust</i>	234					426	389
	Musa Qala	<i>Musa Qala</i>	236					437	400
	Nad-e-Ali	<i>Nad-e-Ali</i>	268					426	389
	Nahri Sarraj	<i>Nahr-e-Saraj</i>	242					426	389
	Naw Zad	<i>Naw Zad</i>	265					433	385
	Naway Barakzayi	<i>Nawa Barakzai</i>	277					437	396
	Reg	<i>Khan Neshin</i>						437	396
	Sangin	<i>Sarban Qala</i>	247					407	370
	Washer	<i>Washir</i>						407	370
Helmand average			252					423	385
Herat	Obe	<i>Obey</i>	335						
	Pashtun Zarghun	<i>Pashtun Zarghun</i>	331						
	Shindand	<i>Shindand</i>	342						
	Zinda Jan	<i>Zendej Jan</i>	314						
Herat average			327						
Jawzjan	Aqcha	<i>Aqchah</i>	169			88	68		
	Faysabad	<i>Faizabad</i>	230			152	108		
	Khamyab	<i>Khamyab</i>	194			56	44		
	Mardyan	<i>Mardian</i>	217			42	43		
	Mingajik	<i>Manga Jek</i>	198			92	66		
	Qarqin	<i>Qarqin</i>	195			76	46		

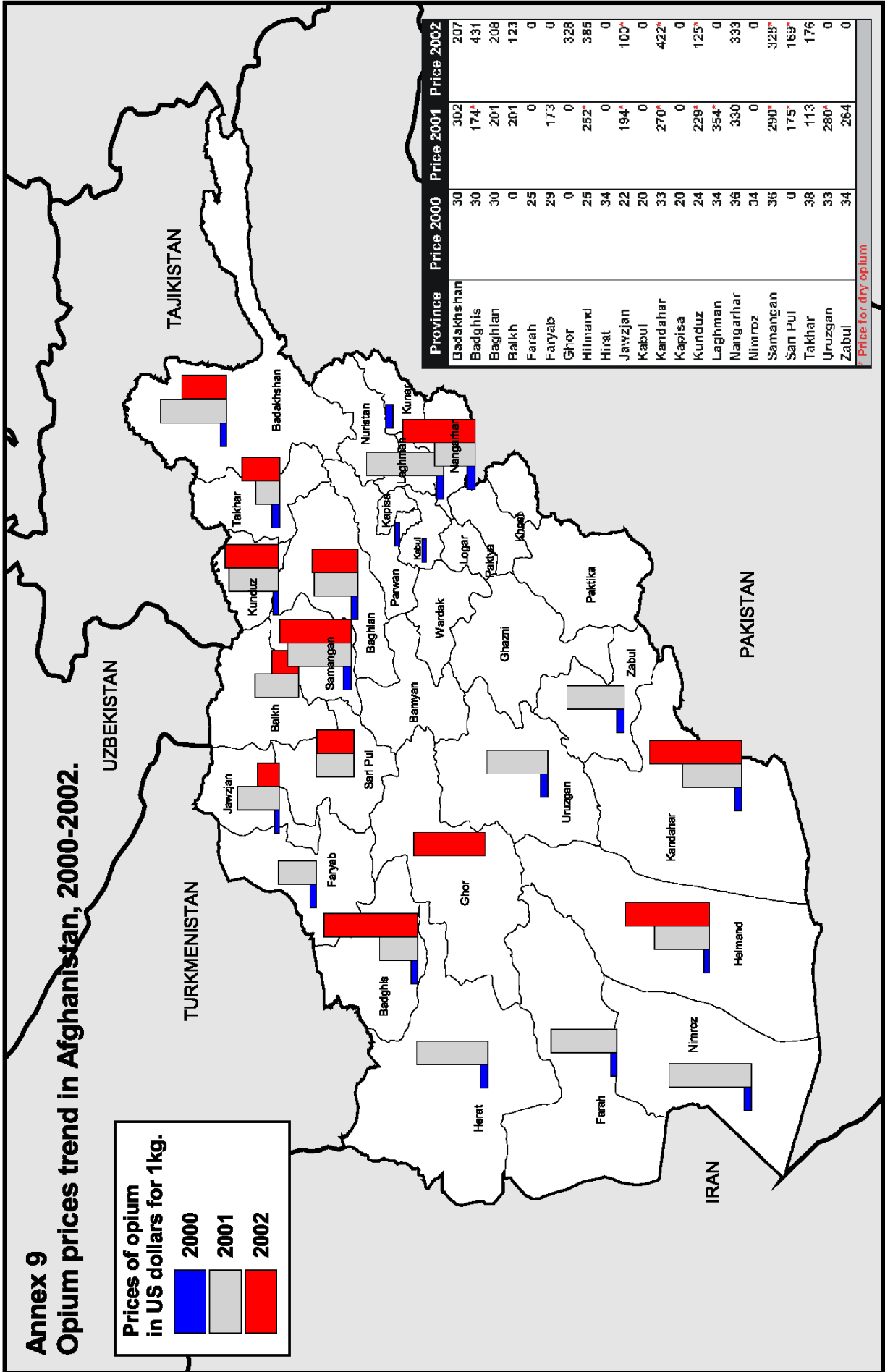
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2002 Afghanistan opium prices (US\$/kg)

Province	District	Former district reference	2001 Dry	2001 Fresh	2002 Dry	2002 Fresh	2002 Dry	2002 Fresh
							May	July-August
	Shibirghan	Sheberghan	176		41	41		
Jawzjan average			194		100	61		
Kabul	Surobi	Sarobi	362					
Kabul average			362					
Kandahar	Arghandab	Arghandab	316					
	Ghorak	Ghorak	234					
	Kandahar	Qandahar+Dand	245					
	Khakrez	Khakrez	262					
	Maywand	Maiwand	288					
	Panjwayi	Panjwai	257					
Kandahar average			270					
Kapisa	Tagab	Tagab	403					
Kapisa average			403					
Khost	Tani	Tani	325	291				
Khost average				291				
Kunar	Bar Kunar	Bar Kunar	302	155				
	Chawkay	Chawki	370	200				
	Narang	Narang	301	187				
	Nurgal	Mazar (Nur Gul)	354	188				
	Pech	Peche	373	268				
Kunar average			339	200				
Kunduz	Ali Abad	Aliabad	210		243	118		
	Chahar Dara	Chahar Darreh	234		250	107		
	Kunduz	Kunduz	219		263	149		
	Qalay-l- Zal	Qala-e Zal	236		225	112		
Kunduz average			229		247	125		
Laghman	Alingar	Alingar	404					
	Alishing	Alishang	318					
	Dawlat Shah	Dowlat Shah	365					
	Mihtarlam	Metarlam	336					
	Qarghayi	Qarghai	350					
Laghman average			354					
Nangarhar	Achin	Achin	330				388	341
	Bati Kot	Bati Kot	331				410	336
	Chaparhar	Chaparhar	317				385	344
	Dara-l-Nur	Darae Noor	282				378	334
	Dih Bala	Deh Bala	335				378	332
	Dur Baba	Durbaba	329				388	340
	Goshta	Goshta	350				391	343
	Hisarak	Hesarak	297				340	240
	Jalalabad	Behsud+Jalalabad	355				385	344
	Kama	Kama	348				385	338
	Khogyani	Khogiani	301				490	350
	Kuz Kunar	Kuz Kunar	303				378	334
	Lai Pur	La'ipur	346	188				
	Muhmand Dara	Mohmand Dara	379				422	337
	Nazyan	Nazian	396				378	341
	Pachir Wa Agam	Pachier wa Agam	315				398	344
	Rodat	Rodat	347				385	337
	Sherzad	Sherzad	304					
	Shinwar	Shinwar	321				478	351
	Surkh Rod	Sorkh Rod	312				390	310
Nangarhar average			330	188			397	333
Nimroz	Chahar Burjak	Char Borjak						
	Kang	Kang						
	Khash Rod	Khash Rud	378					
Nimroz average			378					
Paktya	Azra	Azro	389	292				
Paktya average			389	292				
Samangan	Dara-l- Suf	Darae Souf	240	207	386			

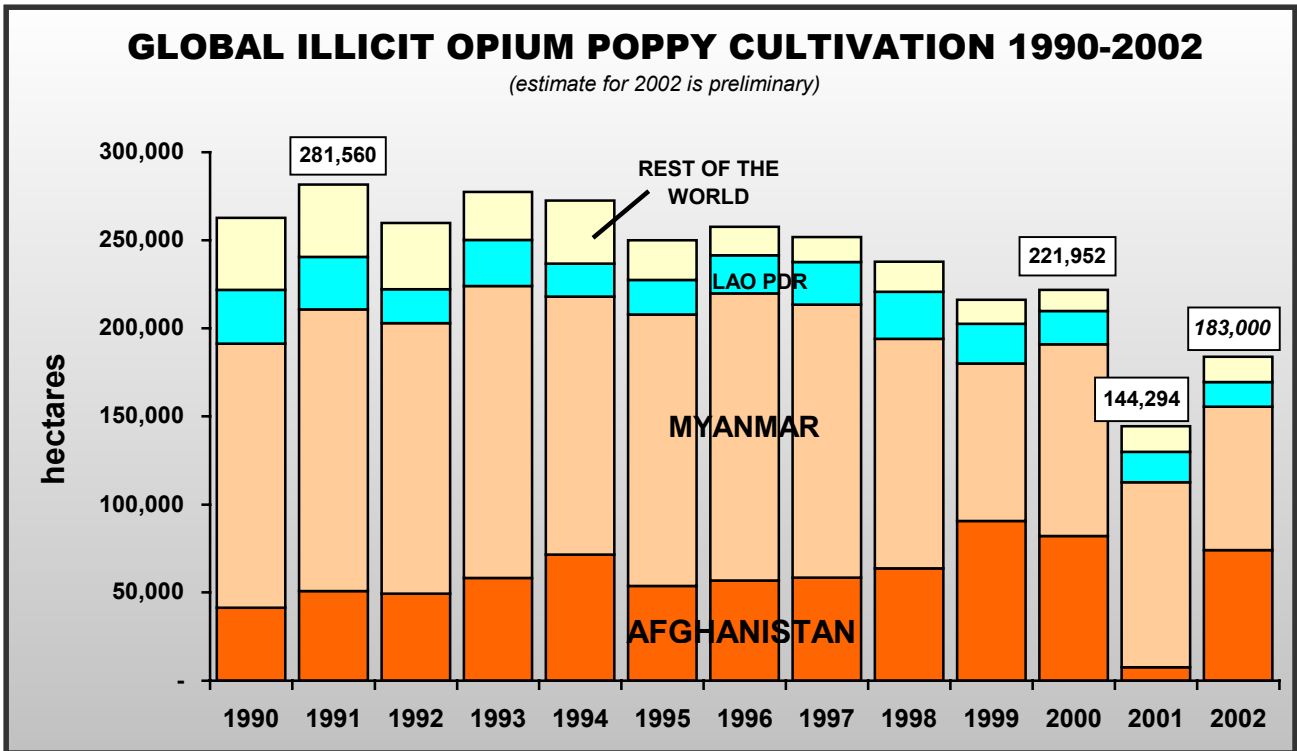
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2002 Afghanistan opium prices (US\$/kg)

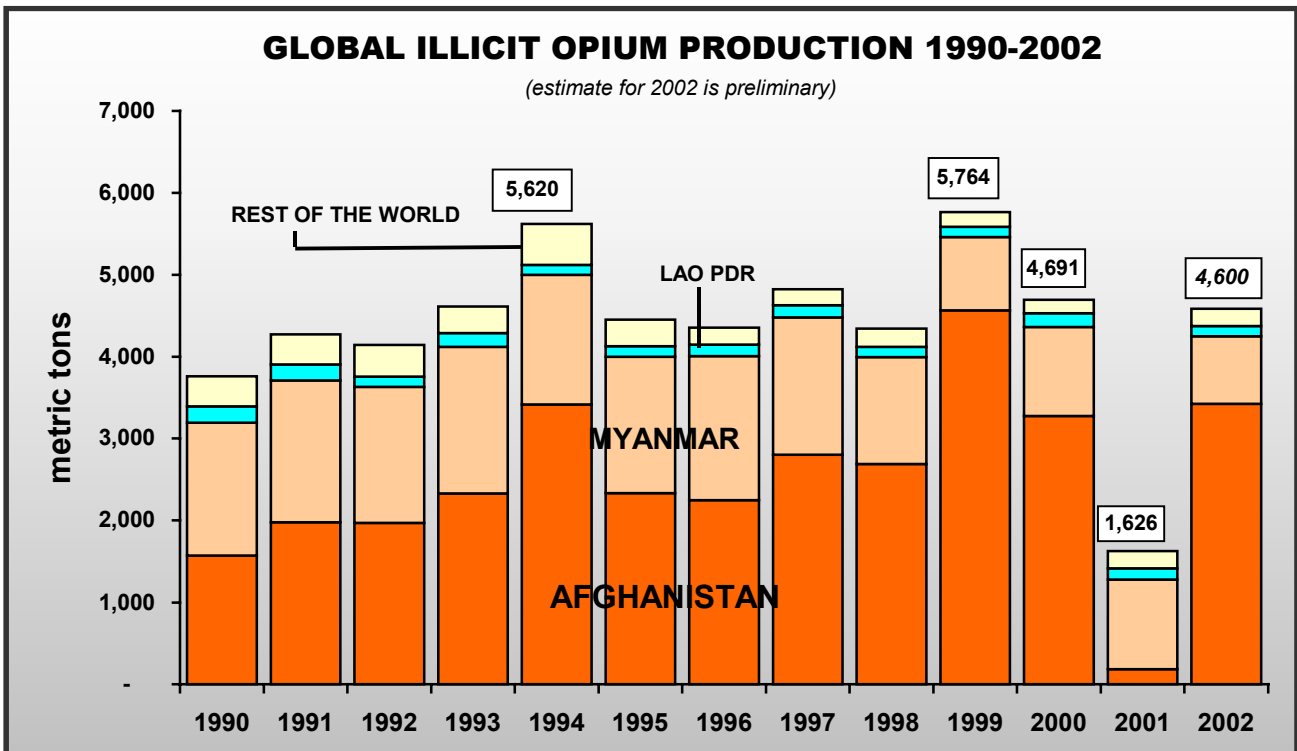
Province	District	Former district reference	2001 Dry	2001 Fresh		2002 Dry	2002 Fresh	2002 Dry	2002 Fresh
						May		July-August	
	Khuram Wa Sarbagh	<i>Khuram+Samanga</i>	339			299			
Samangan average			290	207		328			
Sari Pul	Sangcharak	<i>Sar-e Pol</i>	175			169	125		
Sari Pul average			175			169	125		
Takhar	Bangi	<i>Bangi</i>	235						
	Chah Ab	<i>Chah Ab</i>	246	100					
	Chal	<i>Chal</i>	223	151					
	Farkhar	<i>Farkhar</i>	251	113					
	Ishkamish	<i>Eshkamesh</i>	222	73					
	Kalafgan	<i>Kalafgan</i>	232	141		223	171		
	Khwaja Ghar	<i>Khvajeh Ghar</i>	233	110		202	185		
	Rustaq	<i>Rostaq</i>	253	141					
	Taluqan	<i>Taloqan</i>	235	90					
	Warsaj	<i>Warsaj</i>	238	100					
	Yangi Qala	<i>Yangi Qala</i>	251	111					
Takhar average			238	113		216	176		
Uruzgan	Chora	<i>Chora</i>	307						
	Day Kundi	<i>Dai Kundi</i>							
	Dihrawud	<i>Dehrawud</i>	259						
	Gizab	<i>Gezab</i>	292						
	Khas Uruzgan	<i>Khas Oruzgan</i>	254						
	Kijran	<i>Kajran</i>	269						
	Nesh	<i>Nesh</i>	291						
	Shahidi Hassas	<i>Char Chashma</i>	262						
	Shahristan	<i>Shahrestan</i>	271						
	Tirin Kot	<i>Tirin Kot</i>	248						
Uruzgan average			280						
Zabul	Arghandab	<i>Arghandab</i>	276						
	Daychopan	<i>Dai Chopan</i>	274						
	Mizan	<i>Mizan</i>	253						
	Qalat	<i>Qalat</i>	258						
	Shahjoy	<i>Shah Juy</i>	264						
	Tarnak Wa Jaldak	<i>Jaldak</i>	255						
Zabul average			264						



Annex 10



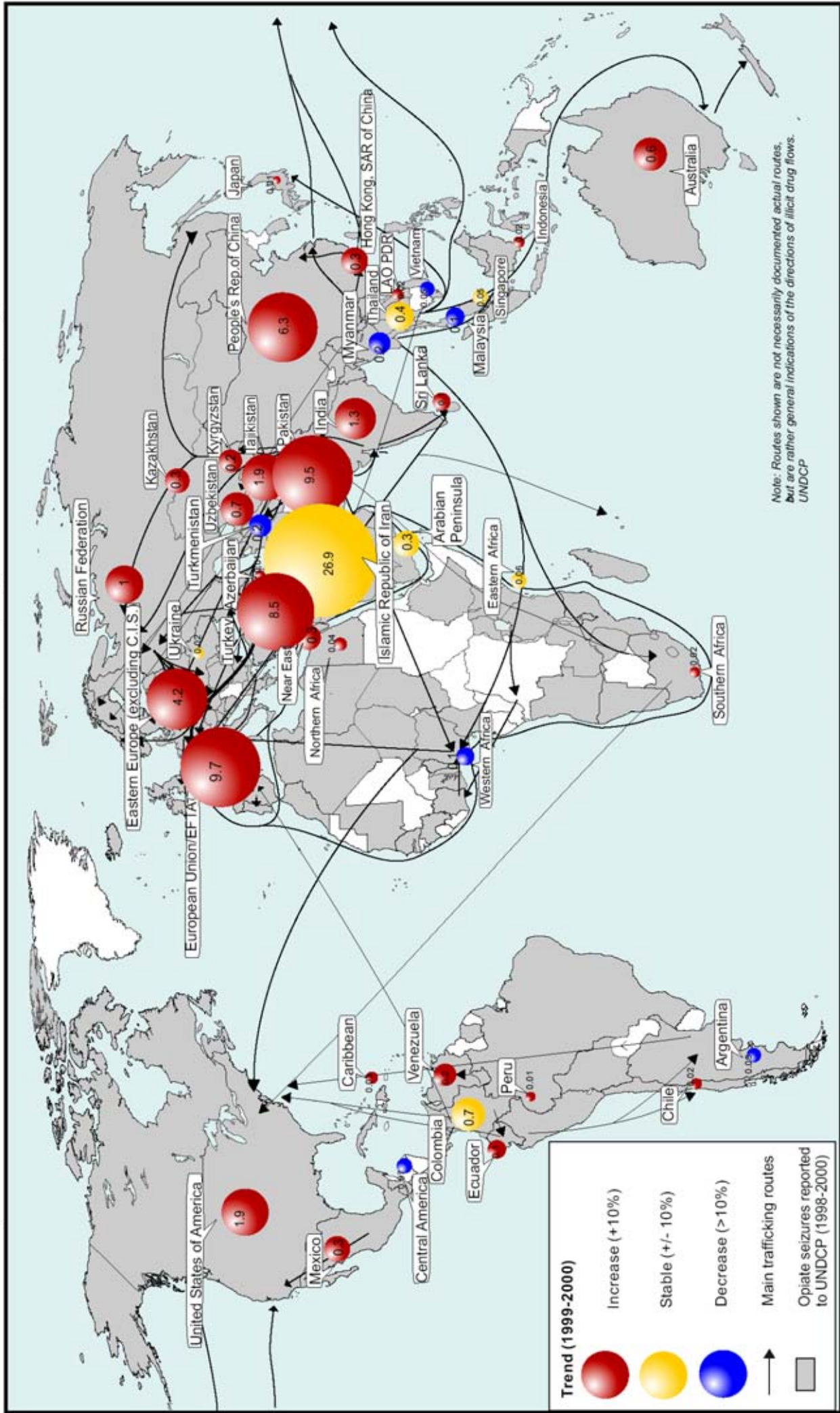
Source: UNDCP, *Global Illicit Drug Trends 2002*, for years 1990-2001; Lao/UNDCP 2002 opium survey report for 2002 data on Lao PDR, Myanmar/UNDCP 2002 opium survey report for data on Myanmar. Data for the rest of the World is based on 2001 estimates as 2002 estimates are not yet available.



Source: UNDCP, *Global Illicit Drug Trends 2002*, for years 1990-2001; Lao/UNDCP 2002 opium survey report for 2002 data on Lao PDR, Myanmar/UNDCP 2002 opium survey report for data on Myanmar. Data for the rest of the World is based on 2001 estimates as 2002 estimates are not yet available.

Annex 11

Heroin and morphine seizures 1999-2000: extent and trends (countries reporting seizures of more than 0.01 tons (10 kg))

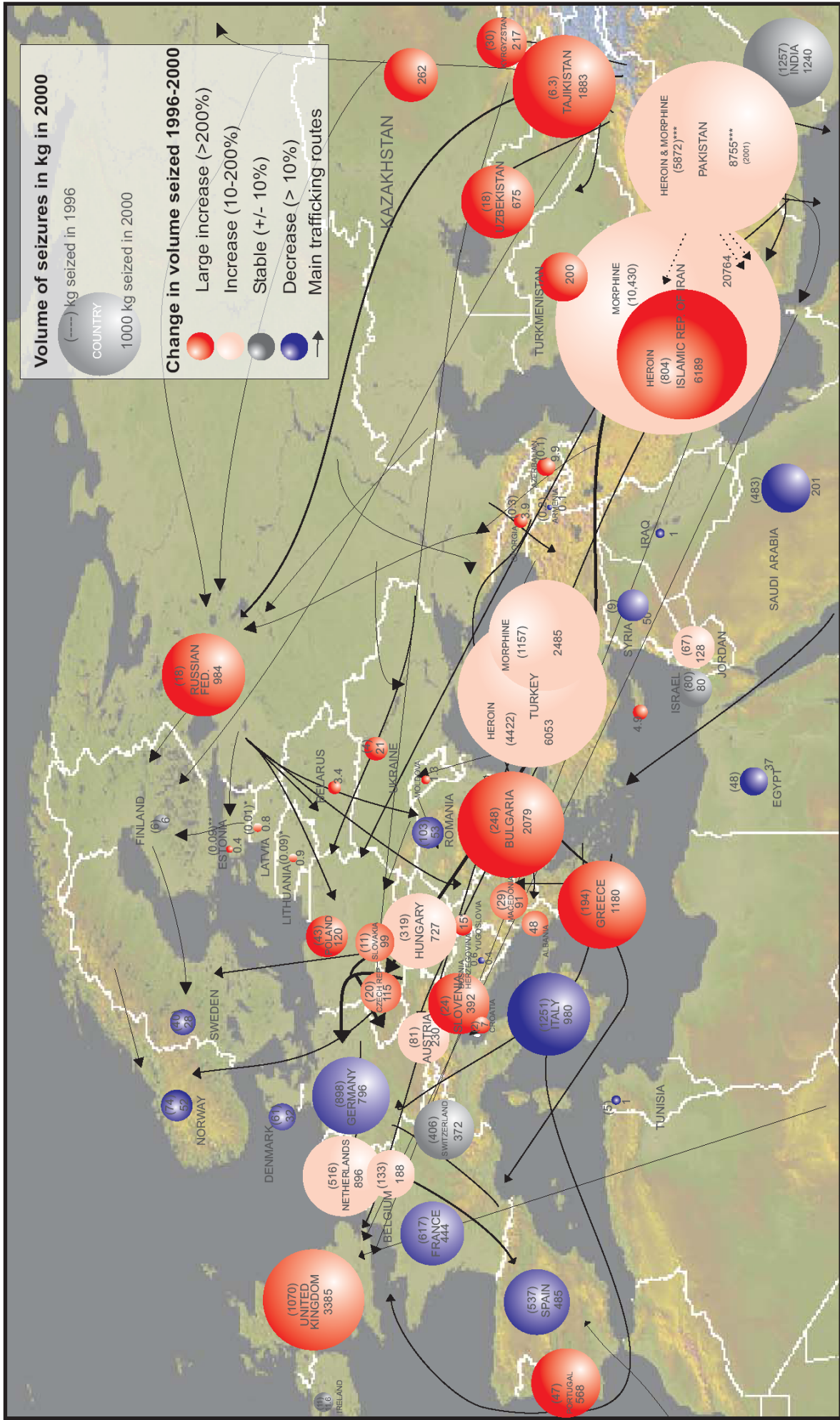


Source: UNDCP, Global Illicit Drug Trends 2002.

Annex 12

Heroin and Morphine Trafficking 1996-2000: extent and evolution of seizures

(seizures refer to heroin unless specified otherwise)



*data for 1997 **data for 1998

*** Includes data for morphine base seizures; individual seizures show a ratio of heroin to morphine of 60%:40% in Pakistan in 2000.
 Sources: UNDCP, *Global Illicit Drug Trends 2002* and UNDCP DELTA.