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Farmers' Intentions Survey 2003/2004

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Abbreviations

ICMP	UNODC global Illicit Crop Monitoring Programme
UNODC	United Nations Office on Drugs and Crime
CND	Afghanistan's Counter Narcotics Directorate
AIMS	UNDP's Afghanistan Information Management System

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- Nazir Ahmad Shah
- Mohammad Ibrahim Azhar
- Hakan Demirbüken
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This report, and other ICMP survey reports can be downloaded from :
www.unodc.org/unodc/en/crop_monitoring.html

PREFACE

This report shows that the opium production problem in Afghanistan will continue to present a considerable challenge to the Afghan Government and the international community in the period ahead. Two farmers out of three interviewed in October, shortly before planting time, stated they intended to increase significantly their opium poppy cultivation in 2004. This intention was manifested throughout the country, with availability of land often appearing to be the only limiting factor.

Persistent poverty, high opium prices and access to credit (from traffickers) through the advance sale of the future opium harvest are reported as the main reasons for continuing, or even increasing, opium production in 2004. Farmers revealed a clear awareness of the government ban on opium production; this survey however shows that the short-term benefits of this activity (high revenues) have, until now, continued to outweigh the potential risks (from law enforcement measures) it presents to them.

The results of this survey impart the unequivocal warning that the illegal opium production will continue to thrive unless resolute actions are taken: alternative livelihoods for farmers, eradication of opium fields and interdiction of traffickers. The formidable threat which the opium economy poses to peace, stability and socioeconomic recovery in Afghanistan will otherwise continue to increase.

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

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EXECUTIVE SUMMARY

Afghanistan experienced its second largest opium harvest (after 1999) in 2003, estimated at 3,600 metric tons of opium. The harvest accounted for more than three quarters of the world's illicit opium production. Against this background, the United Nations *Office on Drugs and Crime* (UNODC) and the Afghan Counter Narcotics Directorate (CND) launched a Farmers' Intentions Survey in October 2003, shortly before the start of the 2004 opium season. Through individual interviews of a sample of 1329 farmers and village headmen randomly selected across poppy growing regions of Afghanistan, the survey investigated the potential cultivation trend for 2004; farmers' motivations for growing poppy or not; as well as their socio-economic profiles. This report presents the main findings. It should be pointed out that the farmers' revealed intentions do not provide a firm forecast of actual production but give an indication of the underlying trend.

TREND : large potential increase in opium poppy cultivation in 2004

- Should the intentions declared by the farmers materialize, the area under poppy cultivation could increase significantly in Afghanistan in 2004: 69% of all farmers interviewed in poppy growing regions of Afghanistan reported intentions to increase poppy cultivation in 2004, 16% to keep it stable and only 4% to reduce it (11% did not provide an answer).
- Similarly, 75% of all village headmen interviewed expected opium poppy cultivation to increase in their villages in 2004, 7 % to remain stable and only 2% to decline (15% did not provide an answer).
- In more than a third of previously poppy-free villages located in opium producing regions of Afghanistan, headmen expected poppy cultivation to start in 2004.
- Most of the potential increase, however, would come from farmers who already produced opium in 2003.
- Intended increases were reported from all parts of the country, but were particularly pronounced in the northern provinces, and least pronounced in the East.
- Farmers who already grew poppy previously but also devoted a significant share of their land to other crops are the ones who intend to increase the most their opium production in 2004 (particularly large farmers, cultivating more than 10 ha of land).
- Even if intentions to plant poppy may have been exaggerated as a way to prompt the provision of assistance, the risk of a substantial increase remains.

FACTORS: Poverty and high opium prices drive opium poppy cultivation

Main motivations to grow / not grow opium poppy

To grow:

- to alleviate poverty (31% of the farmers' replies; 30% of headmen replies)
- high opium prices (30% farmers; 28% headmen)
- to access credit ('*salaam* arrangements') (18% farmers; 18% headmen)
- to purchase 'luxury' items (such as motor-cycles) (7% farmers; 6% headmen)
- expected compensations from eradication (6% farmers; 6% headmen)

Not grow:

- it is against Islam (24% farmers; 17% headmen)
- it is illegal (23% farmers; 15% headmen)
- fear of eradication (17% farmers; 16% headmen)
- fear of imprisonment/fines (16% farmers; 16% headmen)
- unfavourable climatic/soil conditions (11% farmers; 7% headmen)

Large awareness of the opium poppy ban

- 77% of the farmers reported awareness of the Government ban (and one can assume than most of the 19% who refused to answer the question were also aware of the ban);
- only 4% of the farmers claimed not to have been aware of the ban;
- 33% of the farmers declared themselves ready, in principle, to respect the poppy ban. Compliance, however, is not unconditional. Many farmers make external assistance a precondition and announced they would grow poppy in 2004 on the assumption that such assistance would not be forthcoming.

Previous external assistance : limited impact so far on intentions to cultivate opium poppy

- Farmers in villages which received some form of economic aid intended to increase poppy cultivation slightly less than in villages that did not. The difference, however, was not statistically significant, which suggests that economic aid provided so far has had little or no overall impact on farmers' intentions to grow or not grow opium poppy. This does not mean that economic assistance cannot influence farmers, but suggests that the volume, scope and modality of interventions need to be reassessed with a view to maximize the impact on future planting intentions.

Previous eradication : unclear impact so far on intentions to cultivate opium poppy

- Farmers in villages affected by eradication in previous years reported intentions for somewhat stronger increases of poppy cultivation in 2004 than farmers in villages not affected by eradication. Once again, however, the difference was not statistically significant, which suggests that eradication activities implemented so far have reduced the opium harvest, but have not had an overall deterrent effect. As in the case of economic assistance, this does not mean that the risk of eradication cannot change farmers' intentions but implies that eradication activities have not yet reached the deterrence threshold.

PROFILE : farmers and the role of opium

In opium producing regions, a quarter of all farmers grew poppy in 2003

- In the opium producing regions as a whole, 27% of the families in the sample grew poppy in 2003 and 73% did not.
- The highest proportions of poppy growing families were found in eastern and southern Afghanistan (41% each).

Landholdings are small but most farmers own the land they cultivate

- Poppy growers in the sample cultivate an average of 2.1 ha of land (poppy and other crops), against 2.6 ha for non-poppy growers. However, the difference was not statistically significant, which suggests that both categories can be considered as cultivating the same size of land (on average, slightly more than 2 ha).
- If a comparison is made between 'traditional poppy farmers', defined as farmers who started poppy cultivation before 2002, and the rest, the difference becomes statistically significant. This shows that opium farmers typically had smaller landholdings than others in the past but that this distinction has now become blurred as many larger-scale farmers also started producing opium in recent years.
- Poppy farmers devoted an average of 27% of the land they cultivated to opium poppy in 2003.
- Farmers own most of the land they cultivate (79% in the case of poppy farmers, 78% in the case of non-poppy farmers).

Most farmers decide what to plant on their own

- Most farmers decide what to plant on their own (87% of poppy growers and 81% of non-poppy growers).

- 'Decisions taken by others' played a more noticeable role in southern Afghanistan (for 14% of poppy growers, against 9 % for the country as whole).

Farmers obtain poppy seeds from previous harvest and bazaars

- Almost half of all farmers reported their previous year's harvest as the source of poppy seeds for the next opium season.
- 35% of poppy seeds were obtained from the bazaars (local markets).

Income : wheat is no match for poppy

- In 2003, the average income from poppy (US$12,700 per hectare) was much higher than from wheat (US$222 per ha) or other agricultural products.
- Opium prices fell during 2003 but remain high (some US$250 per kg in October 2003); wheat prices remained largely stable in 2003, but were some 30% below the long-term average.
- The average net income for a 'poppy farmer' (cultivating poppy and other crops) was some US$2,520 in 2003, against US$670 for a non-poppy farmer.
- However, not all poppy farmers can be considered rich; the highest proportion of poppy farmers (31%) earned only between US$200 and US$500 in 2003; and the highest proportion of non-poppy farmers (29%) earned between US$500 and US$1000. This reflects a concentration of poppy farming both among small-scale farmers and large-scale farmers, while non-poppy farmers tend to have medium-size landholdings.
- More than 60% of the income of poppy farmers is from opium, followed by cereals and wages earned. Most of the income of non-poppy farmers comes from cereals, followed by live-stock and other agricultural products.

Opium production pushes up labour costs

- In the poppy growing regions, average daily wages amounted to US$2.7 for unskilled labour, US$3 for wheat harvesting and US$6.8 for opium harvesting. This reflects the know-how required for opium harvesting and the labour shortage reported by many Afghan villages in the poppy growing regions during the opium harvest time. As a result, some wheat farmers cannot find itinerant workers to harvest their wheat.

Opium production facilitates access to credit

- In the absence of a proper rural credit system, opium production, which enables *salaam* arrangements (advance sale of the future harvest), plays a key role for obtaining credit.
- No interest (perceived to be against Islam) is charged on most loans, but their actual cost is high. In October 2003, farmers selling opium through *salaam* arrangements were getting 50% to 60% of the prevailing opium market price (equivalent to interest rates of 66% to 100% for a period of six to seven months, assuming stable prices).
- In 2003, 50% of poppy growers and 32% of non-poppy growers took out a loan. 46% of poppy growers and 44% of non-poppy growers intend to take out a loan in 2004.
- The average amount of the loans taken out by poppy growers (US$724) was some 60% higher than for non-poppy growers (US$461) in 2003.
- The main sources of the loans for both poppy growers and non-poppy growers were traders/shopkeepers (46% for poppy growers and 48% for non-growers), followed by opium traders (18%) for poppy growers.
- Poppy farmers had, on average, US$740 of outstanding loans at the beginning of 2003, about 60% more than non-poppy growers (US$456 on average).
- 56% of the farmers in the poppy growing regions announced that their loan repayment strategy is to continue/increase opium production; 3% plan to sell their existing opium stock.

1 Introduction

During the second half of the 1990s Afghanistan became the world's largest source of illicit opium and its derivative, heroin. The 2003 opium survey conducted by UNODC and the Afghan government revealed that Afghan farmers cultivated opium poppy on 80,000 hectares, yielding some 3,600 metric tons of opium, equivalent to more than three-quarters of the world's illicit opium production last year.

Against this background, a "farmer's intention survey" was launched by UNODC in cooperation with the Afghan Counter Narcotics Directorate (CND), to provide advance information on the potential opium poppy cultivation trends in 2004. It was conducted in October 2003, at the time when the farmers were deciding what to plant on their fields for the 2004 agricultural season. The survey also collected information on the motivations of farmers to grow or not to grow opium poppy and the profile of Afghan farmers in poppy growing regions, including the distribution patterns of land among poppy and non-poppy farmers, their income levels and their credit taking behaviours.

The survey was based on interviews of a random sample of 308 village headmen and 922 farmers. In a smaller number of villages (33) additional in-depth interviews were conducted with 99 farmers. The interviews were conducted by 40 local surveyors supervised by CND and UNODC staff. The surveyors were selected based on their previous experience with UNODC surveys, their knowledge of local customs and their acceptance by the local communities.

This survey took place at the time of a deteriorating security situation in rural Afghanistan that prompted many international organisations to limit or even stop their activities in parts of the country. In this context, the dedication of the surveyors was extremely commendable.

After the end of the field work, intensive debriefing sessions took place in Jalalabad, Kandahar, Mazar-i-Sharif and in Faizabad during which surveyors could provide additional information to that contained in the questionnaires. In addition, interviews with local authorities and international organisations operating in Afghanistan were made in order to gain a better understanding of the overall socio-political situation as it relates to the issue of opium poppy cultivation this year, trafficking activities and the attitudes of local authorities towards opium poppy cultivation.

This survey was funded and organized under the projects AD/AFG/F98 "Monitoring of opium production in Afghanistan" and AD/GLO/C93 "Illicit Crop Monitoring Programme Support", with funding provided by the Governments of the United Kingdom, Italy and Finland.

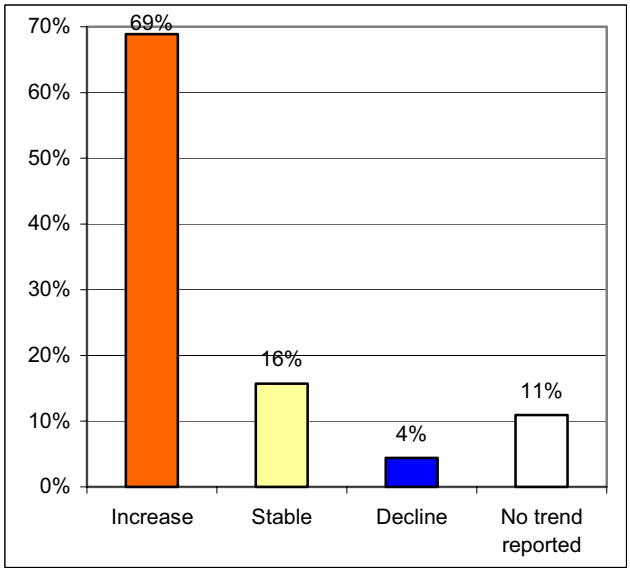
2 Findings

2.1 INTENDED CHANGES IN OPIUM POPPY CULTIVATION IN 2004

2.1.1 Opium poppy cultivation trends for 2004

One of the most striking results of this survey was the announced intentions of Afghan farmers to significantly increase opium poppy cultivation in 2004. This trend was *de-facto* observed all across Afghanistan and was confirmed by practically all of the 40 surveyors in the debriefing sessions (including for other villages in the region that had not been specifically surveyed). Overall, 69% of the farmers interviewed reported that they intended to increase poppy cultivation in 2004; 16% intended to maintain cultivation at the same level and only 4% of the farmers intended to reduce the land dedicated to poppy cultivation in 2004. Eleven percent of the farmers interviewed did not report a trend.[1]

Graph 1: ***Reported trends in poppy cultivation in 2004 in % of all farmers interviewed (n = 922)***



The intended increases in poppy cultivation were substantial, clearly offsetting reported declines: 24% of all farmers interviewed reported intentions to increase poppy cultivation by between 1% and 50%; another 24% intended to increase it by between 51% and 100% and a further 29% announced they would more than double it in 2004. Moreover, a significant number of farmers who had not produced opium in 2003 or in previous years, expressed their intentions to start producing opium in 2004 (43% of the non-poppy farmers in the sample). Most of the increase in the land under poppy cultivation, however, can be expected from farmers who already produced opium in 2003. They intended to dedicate more land to poppy cultivation in 2004 while reducing, in exchange, the areas devoted to wheat and other cereals. If the announced intentions were to materialize, the average proportion of land dedicated by a poppy farmer to poppy cultivation could rise from 27% in 2003 to more than 40% in 2004.

[1] The latter figure includes farmers who did not want to reveal their intentions, but also farmers who did not grow poppy in 2003 and apparently do not intend to grow poppy in 2004, and thus could not indicate trends regarding their poppy production.

Limiting the analysis to the farmers who provided information on poppy cultivation trends (n=821), the proportion of farmers intending to raise poppy cultivation amounts to 77%. Above average increases were reported from northern Afghanistan; the lowest - though still significant – were reported from eastern Afghanistan (65% of the farmers providing information intend to increase poppy cultivation in 2004) and central Afghanistan (68%).

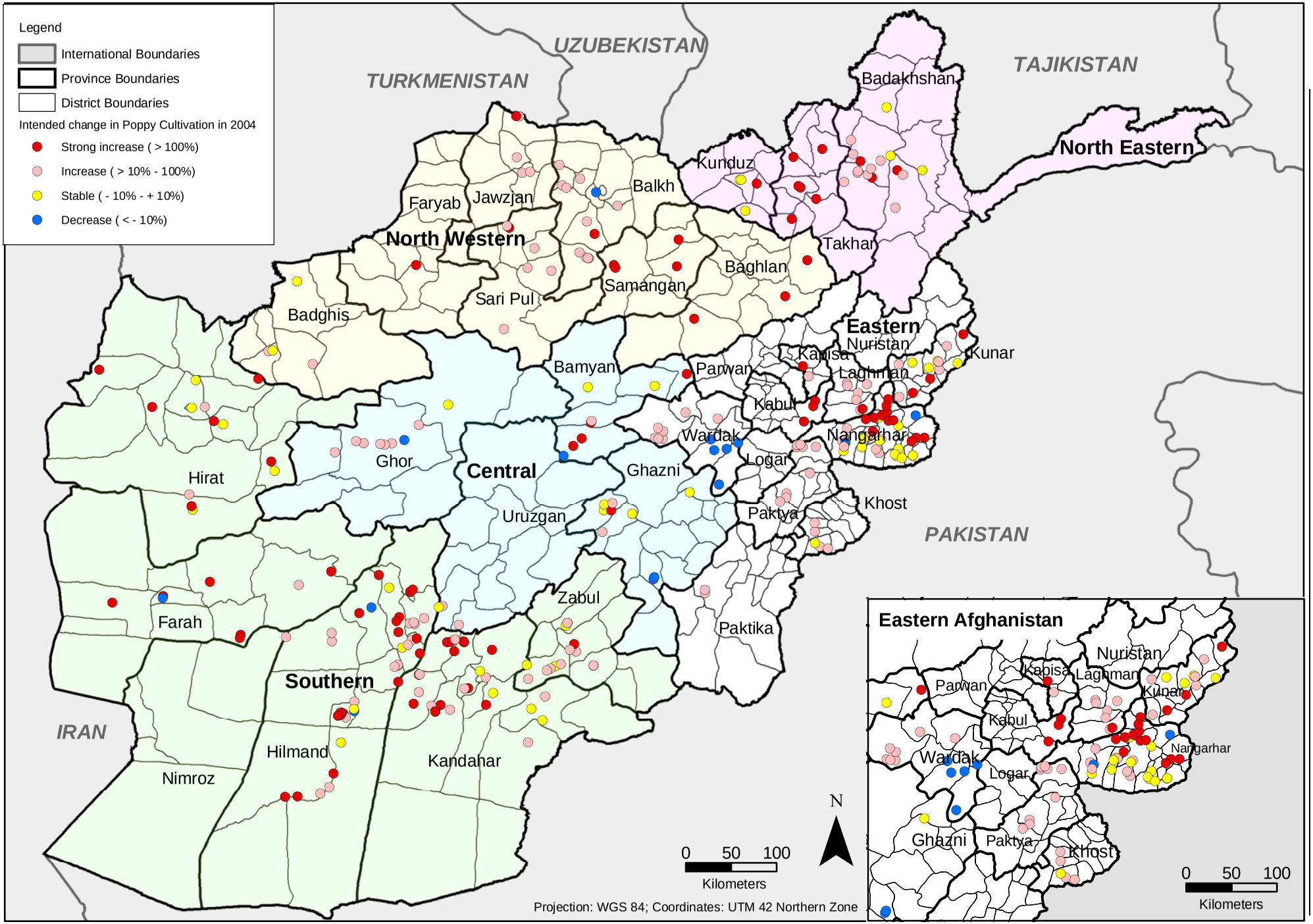
Table 1: ***Reported 2003-2004 opium poppy cultivation trends in % of the farmers who answered the question (n = 821)***

Region (province)	Increase	Stable	Decline
Eastern (Nangarhar, Kunar, Nuristan, Laghman, Kapisa, Parwan, Kabul, Wardak, Logar, Paktya, Khost, Paktika)	65%	26%	9%
North eastern (Badakhshan, Takhar, Kunduz)	89%	10%	2%
North western (Badghis, Faryab, Jawzjan, Sari Pul, Balkh, Samangan, Baghlan)	83%	17%	1%
Central (Ghor, Uruzgan, Ghazni, Bamyan)	68%	26%	6%
Southern (Zabul, Kandahar, Hilmand, Nimroz, Farah, Hirat)	88%	9%	4%
Country total	77%	18%	5%

Average intended increases in the areas under poppy cultivation of more than 100% were reported by farmers in several parts of northern Afghanistan, notably in Takhar province. The lowest expected increases were reported by farmers in the provinces of Gazni (Central Afghanistan) and Wardak (Eastern Afghanistan). In a few districts of Wardak province (Eastern Afghanistan) cultivation could decline. Revealed farmers intention also suggest that cultivation may remain stable or decrease in a few districts of Nangarhar (Eastern Afghanistan), Farah (Southern Afghanistan) and Balkh (North-Western Afghanistan). The map on the next page illustrates the trends in more detail as reported by the farmers interviewed. (The data shown on the map reflect the classified aggregated results, per village, of the intended changes identified in interviews with three farmers per village).

The results presented in this chapter must be taken with a high degree of caution. They are purely indicative and should not be misinterpreted as any kind of precise forecast by UNODC for the 2004 opium harvest. They merely represent the expressed intentions of a limited sample of farmers (n = 922) randomly selected from 308 villages across Afghanistan. For comparison, the overall number of farmers growing opium poppy was estimated at 264,000 in 2003. UNODC's sampling frame of villages in opium producing regions was 13,980, from which 308 villages were randomly selected while the total number of villages in Afghanistan is more than 30,700. There are additional factors that should be taken into account in interpreting the results. The questions were asked prior to actual sowing; thus farmers may still have changed their decisions in subsequent weeks. For some farmers the reported intentions may have also been an expression of protest as some of the expected benefits from not growing opium in 2003 had not materialized. Moreover, one should not exclude the possibility that farmers were exaggerating their intentions to grow opium in order to prompt the central government and/or the international community to intervene and offer them financially attractive alternatives. But, even if these factors may have contributed to an exaggeration of the true intentions, there seems to be a real risk that Afghanistan could face a significant rise in opium production in 2004. Interviews conducted with local authorities and observations of local UNODC staff also point in this direction.

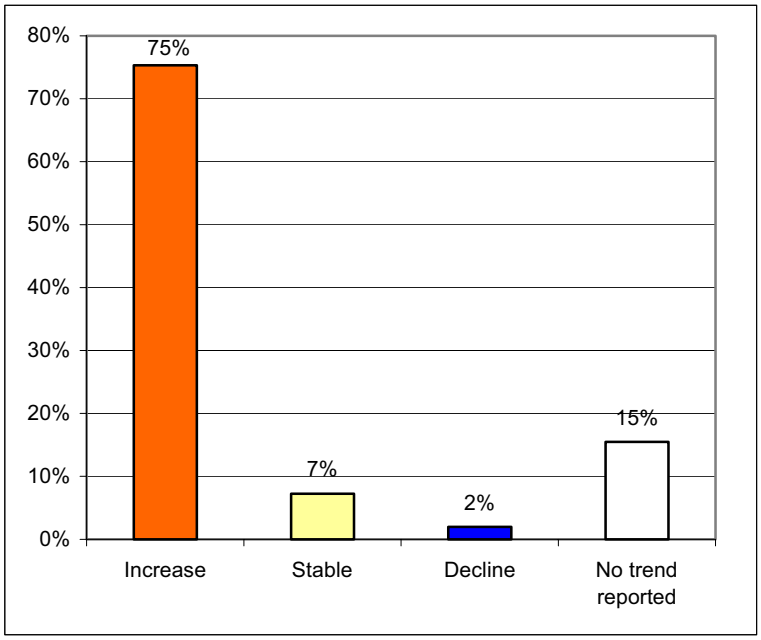
Afghanistan Farmers' Intention Survey 2003: Farmers intended changes in Poppy Cultivation in 2004 in villages surveyed



Note: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.
In the Central region, for security reason, GPS data could not be collected in all villages surveyed. Of the 308 villages where the FIS took place, geographical coordinates of 282 villages were collected.

The likelihood of a significant rise was also indicated in interviews of village headmen. They, even more than the farmers, expected opium poppy cultivation to rise in 2004. Overall, 75% of the village headmen forecasted an increase in poppy cultivation in their villages in 2004, while 7% foresaw a stable production and only 2% expected a decline.

Graph 2: ***Reported 2003-2004 opium poppy cultivation trends in % of all headmen interviewed (n = 308)***



Restricting the results to the headmen who reported on trends in poppy cultivation (n = 257), 89% of them expected an increase in opium poppy cultivation in their villages in 2004. Similarly to the farmers' interviews, headmen in eastern Afghanistan predicted a relatively lesser rise in opium poppy cultivation than in other parts of the country. Expected declines were reported from a few headmen of villages located in Eastern Afghanistan (notably in Wardak province). Above average increases were again reported from village headmen in northern Afghanistan.

Table 2: ***Reported 2003-2004 opium poppy cultivation trends in % of headmen who answered the question (n = 257)***

Region (province)	Increase	Stable	Decline
Eastern (Nangarhar, Kunar, Nuristan, Laghman, Kapisa, Parwan, Kabul, Wardak, Logar, Paktya, Khost, Paktika)	73.5%	17.7%	8.8%
North eastern (Badakhshan, Takhar, Kunduz)	87.7%	12.3%	0.0%
North western (Badghis, Faryab, Jawzjan, Sari Pul, Balkh, Samangan, Baghlan)	100.0%		
Central (Ghor, Uruzgan, Ghazni, Bamyan)	89.1%	10.9%	0.0%
Southern (Zabul, Kandahar, Hilmand, Nimroz, Farah, Hirat)	97.4%	2.6%	0.0%
Country total	**89.1%**	**8.5%**	**2.4%**

2.1.2 Opium producing villages in 2004

The number of villages likely to produce opium poppy in 2004 can be estimated based on the interviews with the headmen. 85% of the headmen (262 out of 308 villages) expect opium cultivation to take place in 2004 in their village (or 84% if weighted for strata and region). If

these proportions are extrapolated to UNODC's sampling frame of villages in opium producing regions (13,980 villages), there could be some 11,800 villages producing opium poppy in Afghanistan in 2004[2] (range: 11,600-12,000 based on a 95% confidence interval). With slightly more than 30,700 villages in the country (according to UNDP's Afghanistan Information Management System (AIMS)), opium production is likely to take place in 4 out of 10 villages in 2004. The proportion ranges from 24% in Central Afghanistan to 57% in southern Afghanistan. In the last census survey conducted by UNODC in 2000 prior to the Taliban's opium poppy ban, a total of 6,645 opium growing villages were identified (equivalent to opium production taking place in 2 out of 10 villages). This suggests an increase by 77% (range: 75%-80%), equivalent to an average annual growth in the number of villages producing opium of 15% over the 2000-2004 period.

Table 3: ***Number of villages expected to cultivate opium poppy in Afghanistan in 2004***

Region (province)	No. of villages in the sampling frame	Proportion expected to cultivate opium in 2004	Number of villages expected to cultivate opium poppy in 2004	Total number of villages in Afghanistan (according to AIMS)
Eastern (Nangarhar, Kunar, Nuristan, Laghman, Kapisa, Parwan, Kabul, Wardak, Logar, Paktya, Khost, Paktika)	3,863	79.8%	**3,082**	8,081
North eastern (Badakhshan, Takhar, Kunduz)	943	78.4%	**739**	2,871
North western (Badghis, Faryab, Jawzjan, Sari Pul, Balkh, Samangan, Baghlan)	1,947	97.1%	**1,891**	4,262
Central (Ghor, Uruzgan, Ghazni, Bamyan)	2,349	84.7%	**1,990**	8,393
Southern (Zabul, Kandahar, Hilmand, Nimroz, Farah, Hirat)	4,878	83.5%	**4,072**	7,099
Country total	**13,980**	**84.2%**	**11,775**	30,706

Such growth rates are also in line with survey results reported for the year 2003: 40% of the villages producing opium in 2003 only started production after the year 2000. This is equivalent to an increase in the number of opium producing villages by 67% over the 2000-2003 period. Data from both the farmers' intention survey as well as from UNODC's 2003 Opium Survey suggest that there were close to 11,000 villages producing opium in 2003 in Afghanistan.

In recent years, the lowest proportions of "new" opium producing villages could be found in the two main opium producing regions of the country[3], in eastern Afghanistan (31% of the villages producing opium in 2003 started producing after the year 2000) and in southern Afghanistan (35%). The highest proportion of new opium producing villages were found in North-West Afghanistan (57% of the village headmen interviewed reported that opium production in these villages only started after 2000).

The number of opium producing villages in Afghanistan also appears to escalate: 10% of the villages which produced poppy in 2003 started in 2002, and 21% of the villages producing in 2003 only started in 2003. This reflects an ongoing spread of cultivation in geographical terms. Looking at the villages which only started opium production in 2003, the lowest proportion of new opium producing villages was found in southern Afghanistan (12% of those producing in 2003), and the highest in North-West Afghanistan (33%).

[2] An opium producing village is defined as a village in which at least 1 farmer plants opium poppy.

[3] According to UNODC's Afghanistan Opium Survey 2003 (applying the regional grouping used in this Farmer's Intention Survey), 27,900 ha were under poppy cultivation in eastern Afghanistan (35% of the total), 22,800 ha in southern Afghanistan (28%), 13,200 ha in north-eastern Afghanistan (16%), 11,500 ha in central Afghanistan (14%) and 5,100 ha in north-western Afghanistan (6%).

Table 4: ***Year opium poppy cultivation started (% of villages cultivating opium poppy in 2003)***

Region (province)	After 2000	of which	
		in 2002	in 2003
Eastern (Nangarhar, Kunar, Nuristan, Laghman, Kapisa, Parwan, Kabul, Wardak, Logar, Paktya, Khost, Paktika)	31%	3%	24%
North eastern (Badakhshan, Takhar, Kunduz)	49%	n.a.	28%
North western (Badghis, Faryab, Jawzjan, Sari Pul, Balkh, Samangan, Baghlan)	57%	10%	33%
Central (Ghor, Uruzgan, Ghazni, Bamyan)	49%	19%	18%
Southern (Zabul, Kandahar, Hilmand, Nimroz, Farah, Hirat)	35%	13%	12%
Country total	40%	10%	21%

A further escalation can be expected for 2004. Analyzing the results of villages in poppy cultivation regions of Afghanistan which had not planted opium poppy so far, 36% of their headmen reported that they expected cultivation to start in their villages in 2004. Interviews with farmers who had not grown so far revealed even higher proportions of non-poppy farmers planning to experiment with poppy cultivation in 2004.

Table 5: ***Intentions to start opium poppy cultivation in 2004***

	n	Poppy cultivation will start in 2004	% of interviews
Headmen of opium-free villages	25	9	36%
Non-poppy farmers	137	59	43%
Villages in which all three interviewed farmers did not grow poppy previously	72	37	51%

In several interviews with the "maliks" (local leaders/headmen), the latter claimed that they had the authority and power in the village to prevent farmers from growing opium poppy. However, they would only make use of that power if sufficient alternative sources of income could be secured for the farmers. (There was no information to judge whether these claims could be upheld in reality).

2.2 FACTORS INFLUENCING CHANGE IN CULTIVATION IN 2004

2.2.1 Main reasons / justifications for cultivating opium poppy in 2004

One of the key issues addressed in this survey concerned the quantification of the reasons why farmers engage in opium poppy cultivation and why other farmers refrain from becoming involved. While most of the reasons had already been identified in previous research[4], their relative importance was identified for the first time in this survey.

[4] See UNDCP's Strategic Studies on Afghanistan and UNODC, *The Opium Economy in Afghanistan – An International Problem,* New York 2003.

Based on interviews with the headmen[5], the main reasons for farmers to engage in opium poppy cultivation have been :

1. the use of poppy cultivation as an instrument to reduce poverty (30% of all replies), followed by
2. the high opium prices (28%)
3. the possibility to use opium for *salaam* (18%), i.e. the possibility to obtain credit by selling a future opium harvest to traders in exchange for immediate cash.

In other words, the main reasons for the cultivation of poppy are seen by the headmen in the existence of (i) widespread poverty in the country, (ii) the financial attractiveness of opium production and (iii) the lack of a proper credit system. These three items covered more than three quarters of all the reasons / justifications put forward by the headmen. Poverty and high opium prices dominated the discussion on the reasons for poppy cultivation across all regions of Afghanistan, followed by *salaam*. *Salaam* arrangements seem to play a minor role only in North-West Afghanistan, i.e. in villages where opium cultivation is a rather recent phenomenon.

The next most frequently mentioned reason was the desire to purchase luxury items (7%). It seems to play a significant role for the new opium producing villages of North-West Afghanistan, but a rather limited role for villages in the traditional opium producing regions of eastern and southern Afghanistan. (The existence of large numbers of small-scale poppy farmers in eastern Afghanistan, more than in the north-western provinces, may explain some of the differences in the responses).

Other reasons concerned expectations of compensations in case of eradication (6%) (important in North-East Afghanistan but of low significance in southern Afghanistan), followed by "scarcity of agricultural land" (2%) (i.e. availability of only limited areas of irrigated land per family; this was particularly pronounced in eastern Afghanistan) and shortage of water (2%), (reflecting the fact that opium poppy is less dependent than other crops on water) and external pressures to grow opium (1.9%). Other reasons, representing 1% or less of the responses included the high cost of weddings, farmers' indebtedness, the low prices of other agricultural crops, high cost of agricultural inputs, unemployment and a lack of external assistance. In several parts of the country, farmers had apparently been promised by the local/provincial authorities in late 2002 various kinds of assistance if they refrained from growing opium poppy. Farmers claimed that these promises were not kept and thus did not see a reason to forego lucrative income opportunities in 2004.

The low prices of other agricultural crops were partly blamed by the persons interviewed on the Afghan government (such as creating a monopoly and purchasing cotton at low prices) and on the international community, notably the United Nations World Food Programme, which distributed bread produced out of wheat imported from abroad. The wheat price is indeed lower than it used to be a few years ago while a number of agricultural input prices – mostly due to higher opium production - were reported to have increased. According to WFP statistics, the low wheat price, however, has more to do with the good Afghan wheat harvest in 2003 and rising commercial wheat imports from abroad rather than with the distribution of bread (produced out of foreign wheat) to marginalized sections of Afghan society. There are also indications that large scale opium/heroin exports contributed to the stabilization of the Afghan currency, thus keeping prices of imported wheat low and putting a strong pressure on Afghan wheat prices to remain low as well.

[5] 262 out of 308 headmen forecasted production to take place in their villages in 2004.

Table 6: ***Main reasons for cultivating opium poppy in 2004 (% of headmen responses)***

Reasons	Regions					Afghanistan
	Eastern	North eastern	North western	Central	Southern	
Poverty alleviation	**33.3%**	24.0%	26.0%	28.2%	32.7%	30.1%
High sale price of opium	27.6%	20.8%	24.0%	27.4%	**32.7%**	27.8%
Possibility of "salaam"	17.8%	**21.9%**	10.4%	19.4%	20.9%	18.1%
Purchase of luxury items	0.4%	6.3%	**20.1%**	7.3%	3.6%	6.5%
Expected compensation from eradication	6.2%	**16.7%**	6.5%	4.0%	2.5%	5.9%
Scarcity of agricultural land	**4.9%**	3.1%	-	1.6%	1.8%	2.4%
Shortage of water	**7.1%**	1.0%	1.9%	-	0.4%	2.4%
External pressure to grow	-	2.1%	**3.2%**	-	1.1%	1.1%
High cost of wedding	-	-	-	**4.8%**	0.7%	0.9%
Indebtedness	-	1.0%	-	**4.0%**	0.7%	0.9%
Low price of other crops	-	-	**1.9%**	0.8%	1.4%	0.9%
High cost of agricultural inputs	-	-	**2.6%**	-	0.7%	0.7%
Unemployment	1.3%	-	-	**2.4%**	-	0.7%
No assistance from NGOs and Gvt	-	**2.1%**	-	-	0.4%	0.3%
Other	1.3%	1.0%	3.2%	-	0.4%	1.1%
Grand Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

An almost identical question regarding the reasons/justifications for opium poppy cultivation was also posed directly to the farmers. It returned almost identical results, thus indicating that headmen are indeed well informed about opinions in the village. Overall, 801 farmers explained in detail their reasons/justifications for producing opium in 2004. (i) Poverty alleviation (31%) and (ii) high sale price of opium (30%) were again the two main reasons quoted for growing opium poppy, followed by (iii) the possibility of *salaam* arrangements (18%). Similar to the results of the headmen interviews, farmer interviews also showed that *salaam* arrangements were least frequently quoted as a reason for growing opium poppy in North-West Afghanistan, but are apparently common in most other parts of the country.

The next most prominent reasons were the desire to purchase luxury items (7%) (notably in North-West Afghanistan), expectations of compensations from eradication (6%) (notably in North-East Afghanistan), the property of opium poppy to require only little water (2%) (this was particularly highlighted as a reason to grow poppy in Eastern Afghanistan), external pressure to grow (2%) (almost 10% of the farmers in North-West Afghanistan quoted this as a reason), scarcity of agricultural land (1%) (notably mentioned in Eastern Afghanistan) and indebtedness (1%).

Graph 3: ***Main reasons for growing opium poppy in 2004 based on farmers' interviews***

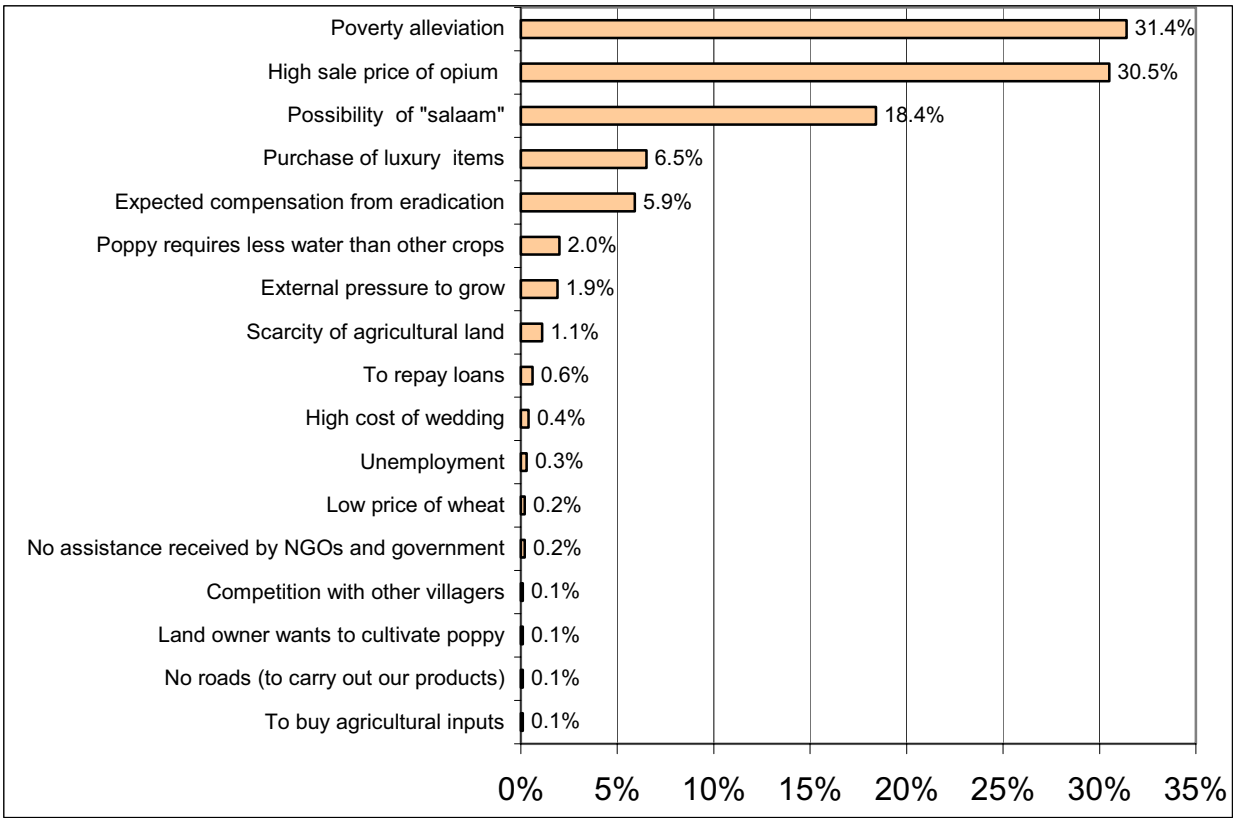


Table 7: ***Main reasons for cultivating opium poppy in 2004 (% of farmers' responses)***

	Region					Afghanistan
	Eastern	North eastern	North western	Central	Southern	
No. of farmers providing reasons for cultivation in 2004	267	60	108	93	273	801
Reasons						
Poverty alleviation	32.2%	25.9%	29.7%	29.6%	**33.9%**	31.4%
High sale price of opium	28.7%	20.6%	29.1%	34.1%	**34.6%**	30.5%
Possibility of "salaam"	18.2%	**23.9%**	7.0%	19.1%	21.9%	18.4%
Purchase of luxury items	5.7%	7.8%	**16.5%**	5.1%	2.9%	6.5%
Expected compensation from eradication	5.7%	**16.9%**	6.2%	4.1%	3.2%	5.9%
Poppy requires less water than other crops	**5.1%**	0.8%	0.3%	0.3%	0.5%	2.0%
External pressure to grow	0.2%	1.2%	**9.5%**	-	1.2%	1.9%
Scarcity of agricultural land	**2.7%**	-	-	0.6%	0.4%	1.1%
To repay loans	-	-	-	**3.8%**	0.5%	0.6%
High cost of wedding	-	-	-	**2.9%**	-	0.4%
Unemployment	0.6%	**0.8%**	-	-	-	0.3%
Low price of wheat	-	0.4%	**0.8%**	-	0.3%	0.2%
No assistance from NGOs and Government	**0.4%**	-	-	-	0.1%	0.2%
To buy agricultural inputs	-	**0.8%**	-	-	0.1%	0.1%
Land owner wants to cultivate poppy	0.1%	-	-	-	0.1%	0.1%
No roads (to carry out our products)	-	-	0.6%	-	-	0.1%
Competition with other villagers	0.2%	-	-	-	-	0.1%
Other	0.1%	0.8%	0.3%	0.3%	0.3%	0.3%
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

2.2.2 Reasons for not cultivating opium poppy

Headmen from a total of 45 villages (out of 308 surveyed) reported that they did not anticipate opium production to take place in their village in 2004 and provided explanations as to the question why farmers in their village would not plant opium poppy in 2004. Their answers were interesting as they provided an indication of what are the main factors likely to inhibit opium production.

The most important inhibiting factors are the religious argument that the growth of opium poppy is against Islam (17%)[6], followed by fear of imprisonment (16%), fear or eradication (16%) and the fact that a ban on opium poppy cultivation is in place in Afghanistan (15%). These four factors together account for 65% of all the reasons put forward by the headmen.

A less significant role is played by climatic and soil conditions (7%), such as shortage of water or the opposite (moisture content of land is too high), or that land was sour or, generally, bad weather conditions. Other reasons (4%) included the lack of a permission by the landowner to grow opium poppy, the closeness of the land to the governor's office and an agreement with the authorities not to grow opium poppy.

Given the low number of non-growing villages for some regions in this sample (1 village in North-West Afghanistan, 3 villages in North-East Afghanistan, 7 villages in central Afghanistan), the presentation of a percentage distribution of the reasons given at the regional level seems to be misleading. Thus only the actual replies are presented at the regional level, while the percentage distribution is also presented for the total sample (five regions combined).

Table 8: ***Reasons for not cultivating opium poppy (headmen answers)***

	Regions					Total	in %
	Eastern	North eastern	North western	Central	Southern		
Number of village headmen reporting	18	3	1	7	16	45	
Reasons							
Poppy growing is against Islam	15	1	1	6	8	31	17%
Fear of imprisonment	17	3	1	3	6	30	16%
Fear of eradication	18	-	1	4	6	29	16%
Poppy ban	18	-	1	3	6	28	15%
Climatic/soil conditions	-	-	-	4	8	12	7%
Other	1	-	1	1	4	7	4%
Total	**87**	**7**	**6**	**28**	**54**	**182**	**100%**

Farmers who were not planning to grow opium poppy in 2004 were also asked to provide information on their motivations. Again, the answers showed a similar picture. The main reason for the farmers not to produce opium is the fact that it is against Islam (24%). However, data also show that, in the traditional opium growing areas of eastern and southern Afghanistan, this argument is no longer the main one. In contrast, it continues to play an important role in northern and central Afghanistan. The next most important reasons were the opium poppy ban proclaimed by the government in 2002 (23%), the fear of eradication (17%) and of fines or imprisonment (16%). These four factors together accounted for 80% of all reasons put forward by the farmers for not growing opium poppy.

Further reasons concerned climatic / soil conditions (11%) (such as weather conditions that resulted in water shortages or water excesses in 2003, the emergence of poppy diseases, etc.), the proximity of the village to authorities' offices (2%), poor results with opium production in 2003 (2%), (notably in new production areas of central Afghanistan), lack of familiarity with opium production (1%), lack of permission from landowners to grow opium (1%) and a

[6] One answer that opium growth is "against humanity" was also included in this category.

conviction that opium is harmful to mankind (1%). Other reasons (1%) included a deliberate decision of some farmers to refrain from growing poppy – as long as they were able to feed their family – and expectations to get assistance if they refrained from producing opium.

Graph 4: ***Main reasons for not growing opium poppy in 2004 (farmers' answers)***

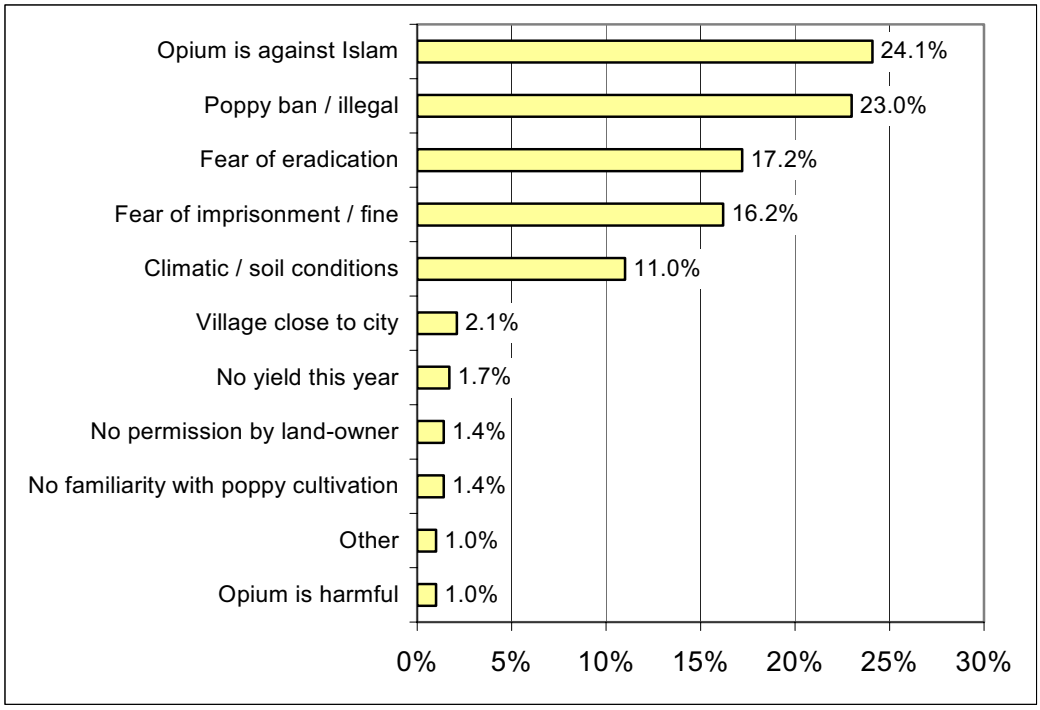


Table 9: ***Reasons for not cultivating opium poppy in 2004 (farmers' answers)***

	Regions					Total
	Eastern	North eastern	North western	Central	Southern	
Number of farmers providing reasons for not growing opium poppy	12	12	14	27	45	110
Opium is against Islam	12.8%	33.3%	31.1%	28.8%	19.0%	24.1%
Poppy ban / illegal	25.6%	22.2%	31.1%	20.0%	21.0%	23.0%
Fear of eradication	20.5%	11.1%	15.6%	17.5%	18.0%	17.2%
Fear of imprisonment / fine	20.5%	33.3%	13.3%	13.8%	13.0%	16.2%
Climatic / soil conditions	2.6%	-	-	10.0%	23.0%	11.0%
Village close to city	7.7%	-	6.7%	-	-	2.1%
No yield this year	-	-	-	6.3%	-	1.7%
No familiarity with poppy cultivation	5.1%	-	-	2.5%	-	1.4%
No permission by land-owner	2.6%	-	-	-	3.0%	1.4%
Opium is harmful	-	-	2.2%	-	2.0%	1.0%
Other	2.6%	-	-	1.3%	1.0%	1.0%
Grand Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

2.2.3 Awareness of the opium poppy ban and willingness to respect it

One interesting question in this context was whether the large majority of farmers was actually aware of the opium poppy ban declared by the Government in 2002. This potentially sensitive question was only discussed with a smaller number of farmers during in-depth interviews. 77% of the farmers confirmed that they were aware of the ban; only 4% claimed that they were not aware of it. Almost a fifth of the farmers did not want to provide any answers to this question.

Table 10: ***Awareness of the opium poppy ban among farmers (n = 99)***

Awareness	%
Aware	77%
Not aware	4%
No reply	19%
Total	**100%**

Regarding the source of information on the ban, the radio appears to have played a key role. Two thirds of the farmers reported that they knew of the poppy ban from the radio. In 14% of all cases, the district administrator, and in 12% the mullah, were the source of information. In discussing the issue of the ban with some local governors, it became clear that they were personally strongly involved in communicating the poppy ban to farmers in 2002, promising the farmers assistance that they would obtain from Kabul if they adhered to the ban. However, most of these promises could not be kept. Interviews with local authorities suggested that a lesser effort was thus made at the local level to propagate the opium ban in 2003[7].

Table 11: ***Source of information of the opium poppy ban***

Source of information	In %
Radio/TV	66%
District administrators	14%
Mullah	12%
Villagers	4%
Village elders	3%
Neighbours	1%
Total	100%

The next question was whether farmers were ready to adhere to the opium ban. A relatively high proportion (33%) of the farmers interviewed claimed that they would be ready to respect it. However, acceptance was not unconditional. Farmers linked their compliance to the provision of alternative development efforts by the government or the international community. Assuming that such assistance was not forthcoming over the next few months, a number of farmers announced, nonetheless, that they planned to grow opium in 2004. Thus, only 21% of the farmers interviewed in the sub-sample actually claimed that they would refrain from growing opium poppy in 2004. Moreover, since 19% of the farmers in the sub-sample did not cultivate opium poppy in 2003, the number of farmers who would be willing to stop poppy cultivation appears very limited.

Table 12: ***Declared willingness to respect the opium poppy ban (n=99)***

Willing to respect the opium poppy ban	In %
Yes	33%
No	62%
n/a	5%
Total	**100%**

Table 13: ***Declared intention to cultivate opium poppy in 2004 (n=99)***

Planning to cultivate opium poppy in 2004	In %
No	21%
Yes	74%
n/a	5%
Total	**100%**

[7] CND, in contrast, initiated 3 public awareness campaigns on the ban in 2003.

2.2.4 Changes in poppy cultivation and area of land under cultivation

One interesting question is whether opium poppy increases have to be expected primarily among big or among small farmers.

The table below shows that intentions to expand opium poppy cultivation in 2004 were stronger among 'large farmers'[8]. The average intended expansion in this group (118%) is significantly higher than among small-scale farmers[9]. In the latter group, intended average expansion of opium poppy cultivation amounted to 68% on average.

Table 14: ***Area of land under cultivation in 2003 and intended change in 2004 (in jeribs)***

Area under cultivation per farmer (any crop)	Average poppy area per farmer in 2003	Average poppy area per farmer in 2004	Change
more than 50 jeribs	10.9	23.8	118%
>10 to 50 jeribs	3.6	7.6	112%
>5 to 10 jeribs	2.0	3.4	71%
5 jeribs or less	1.1	1.9	68%

However, if the area under poppy cultivation in 2003 is taken as a basis for analysis, data show that farmers who had grown 5 jeribs or less of opium poppy in 2003 announced the most significant increases in poppy cultivation in 2004 (+108%). Farmers who already planted more than 10 jeribs of opium poppy in 2003 intended to increase it by 52% on average.

Table 15: ***Area of land under poppy cultivation in 2003 and intended change in poppy cultivation in 2004 (in jeribs)***

Poppy cultivation per farmer	Average poppy area per farmer in 2003	Average poppy area per farmer in 2004	Change
more than 10 jeribs	17	26	52%
> 5 to 10 jeribs	8	13	63%
5 jeribs or less	2	4	108%

These seemingly contradictory results point to the role of an important underlying factor in the expansion of poppy cultivation : the availability of land. Many farmers who already cultivated more than 10 jeribs of poppy in 2003 simply do not have enough land left to increase poppy cultivation much further in 2004. In contrast, many farmers who only recently started poppy cultivation can still shift a significant share of their land from cereals to opium poppy.

2.2.5 Changes in poppy cultivation and external assistance

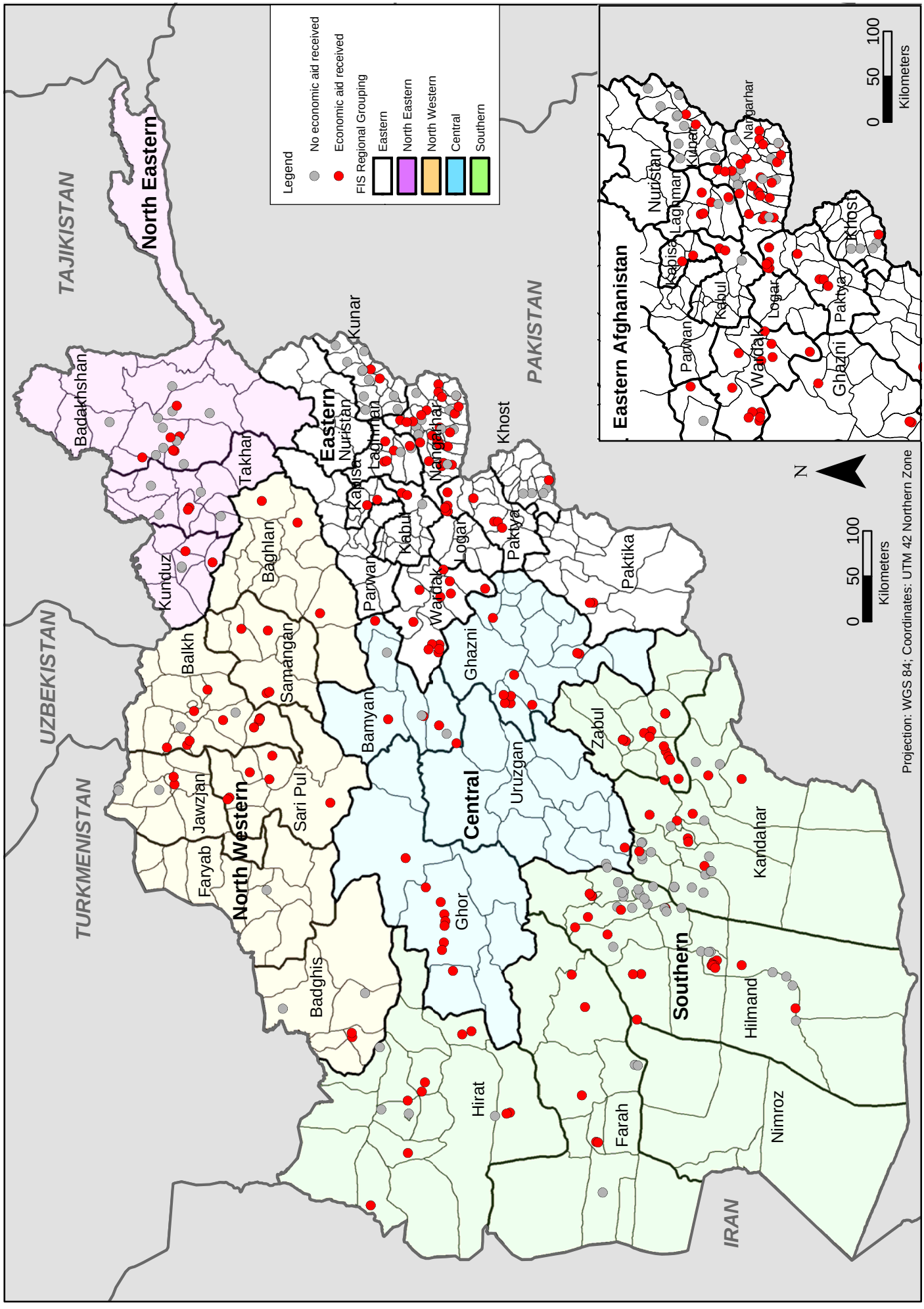
Another interesting question is whether socioeconomic aid provided so far acts as an impediment to the expansion of opium poppy cultivation.

Aggregating various types of assistance received into the category of "economic & food aid", 61% of the village headmen reported that their village had received such assistance over the 2002-2003 period. (For the regional distribution of villages that received aid, see map on the next page).

[8] 'Large farmers' have been defined, for the purpose of this study, as farmers cultivating more than 50 jeribs of land with any crop. One jerib is equal to 0.2 hectares.

[9] ' Small scale farmers' have been defined, for the purposes of this study, as farmers cultivating 5 jeribs of land or less with any crop.

Economic aid (including food aid) received in 2002/2003 in villages surveyed as reported by headmen



Note: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.
In the Central region, for security reasons, GPS data could not be collected in all the villages surveyed. Of the 308 villages where the FIS took place, geographical coordinates of 282 villages were collected.

Data suggest that the intended increases in poppy cultivation in villages that received such aid would only be slightly smaller than in villages that did not. In the case of the provision of agricultural inputs (such as fertilizers or pesticides) however, the average anticipated increase in poppy cultivation in 2004 is exactly the same for villages that did not receive such assistance as for villages which did. In the case of food aid, road construction, assistance to improve water supply or assistance to returnees, the anticipated growth of poppy cultivation in 2004 is slightly lower in villages that received assistance over the last two years than in those that did not. Overall, the differences (except for food aid) are, however, not large enough to be statistically significant (at $\alpha = 0.05$).[10]

Table 16: ***Intended changes in the area under poppy cultivation (2003-04) according to type of external assistance***

Type of assistance	Number of villages answering (n=306)			Average change in jeribs 2003-2004*		Z value for the difference test between the means of two populations**
	No aid received	Aid received	% of villages receiving aid	No aid received	Aid received	
Economic/food aid, Including	**120**	**186**	**61%**	**6.9**	**5.2**	**1.3**
- Food aid	275	31	10%	6.2	2.7	4.4
- Economic aid, including	126	180	59%	6.6	5.3	1.1
- road construction	176	130	42%	6.7	4.7	1.9
- agricultural inputs (fertilizers etc.)	221	85	28%	5.9	5.9	0.0
- water supply	274	32	10%	5.9	5.3	0.5
- assistance to returnees	297	9	3%	5.9	5.5	0.2

** Average reported change in jeribs per three farmers interviewed in a village*
*** If Z <-1.96 or Z >1.96 then there is a significant difference between the two populations at α = 0.05*

In other words, for most types of external assistance provided so far, the impact seems to have been neutral or, at best, only marginally positive, when it comes to inhibiting the expansion of opium poppy cultivation. However, the overall level of economic assistance received so far in rural Afghanistan has been relatively limited. The deteriorating security situation in several poppy growing regions of the country hampered the delivery of development assistance in 2003. The assistance has also generally not been conceived and delivered as a way to address the multifunctional role of opium poppy in the livelihood strategies of Afghan farmers. This perception of a certain inadequacy between interventions so far and the government's opium poppy elimination objective was further strengthened by reports from the interviewers and discussions with local authorities. They both revealed that aid recipients have so far not made a connection between past socioeconomic assistance and expected compliance with the opium production ban.

2.2.6 Changes in poppy cultivation and eradication

Another interesting question relates to eradication and its impact on the expansion of Afghanistan's opium economy. Two opposite hypothesis can be made: eradication frustrates the willingness of farmers to continue growing poppy or eradication has led to shortfalls in income which farmers will try to compensate by increasing opium cultivation in 2004.

[10] The term 'not statistically significant' indicates in this context that the differences found between the two populations drawn from the sample were not large enough to be able - with 95% confidence – to predict that they would have to be also present in the sampling frame (i.e. the overall number of villages in poppy growing regions of Afghanistan).

In 19% of the villages surveyed (59 out of 308 villages)[11], some eradication took place in 2003 (See map on next page for regional distribution). The analysis shows that the average anticipated growth of poppy cultivation in villages where eradication took place in 2003 (on average 8.3 jeribs for the three farmers interviewed per village) is larger than the average increase in villages that were not effected by eradication (5.5 jeribs). This could lend support to hypothesis 2, as formulated above. However, a difference test between the means of two populations shows that the differences in the samples are not large enough to be statistically significant for the population as a whole (at $\alpha = 0.05$). This suggests that there is no statistical evidence that past eradication efforts have prompted an expansion of opium poppy cultivation. Likewise, no statistically significant differences could be found for the various regions of Afghanistan. One can note than in one region of the country (eastern Afghanistan) the anticipated growth of the area under poppy cultivation in the villages affected by eradication in 2003 was actually lower than in villages not affected. Again, these differences are, however, not statistically significant. Overall, past eradication interventions thus seem to have had little or no impact on farmers' declared intentions to grow opium poppy in 2004.

Table 17: ***Intended change in the area under opium poppy cultivation (2003-2004) and eradication in 2003***

	Expected changes in jeribs*			
	No eradication	**Eradication**	**No information provided**	**Total**
Average change in jeribs 2003-2004	5.5	8.3	3.0	5.9
Number of villages	228	59	21	308

**Average reported change in jeribs for the three farmers interviewed in the village*

Table 18: **Average change in poppy cultivation for villages where opium fields were eradicated/not eradicated in 2003**

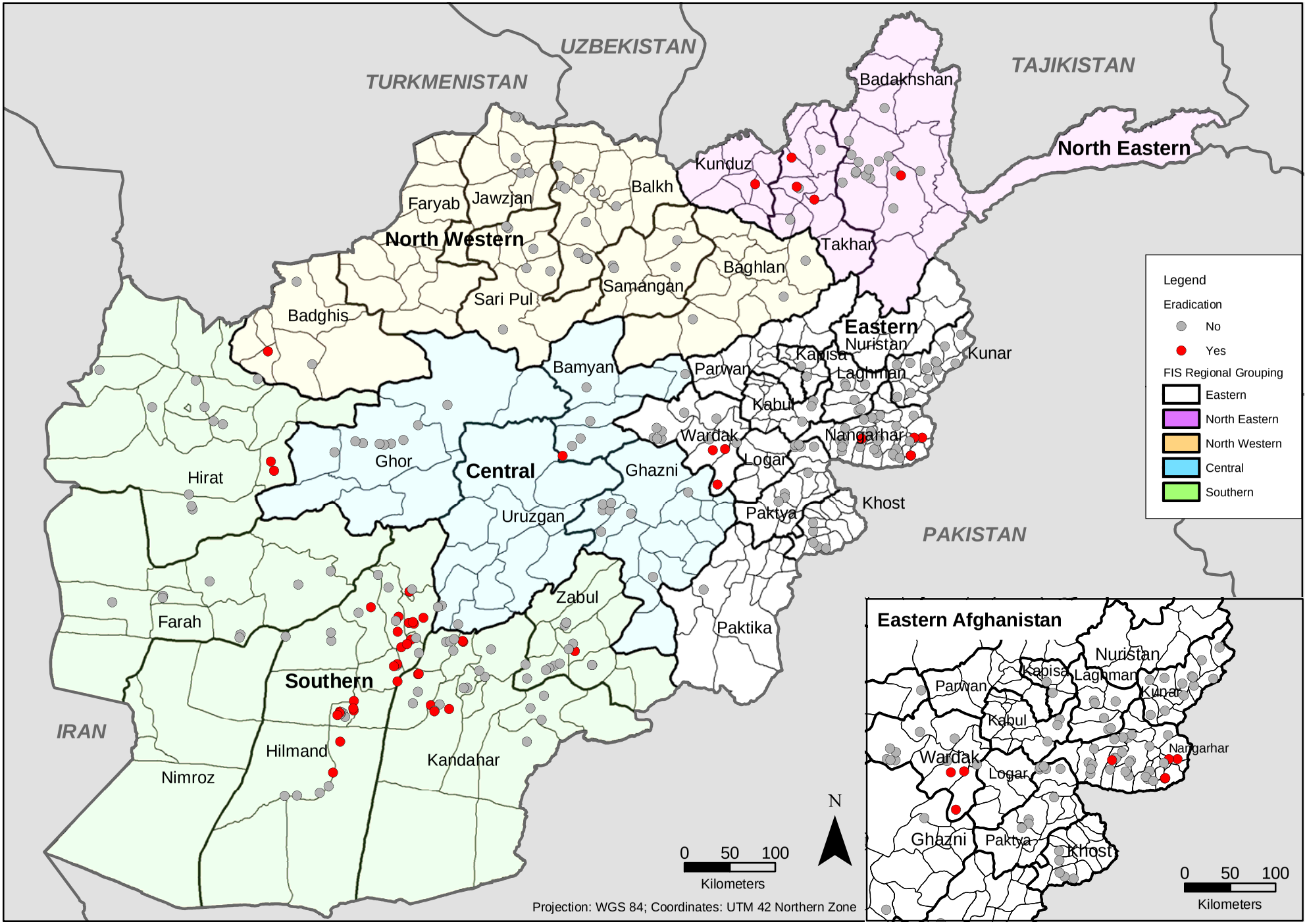
Region (province)	**Expected change in jeribs* 2003-2004, when**		**Z value for the difference test between the means of two populations****
	No eradication in 2003	**Eradication in 2003**	
Eastern (Nangarhar, Kunar, Nuristan, Laghman, Kapisa, Parwan, Kabul, Wardak, Logar, Paktya, Khost, Paktika)	3.2	1.2	1.3
North eastern (Badakhshan, Takhar, Kunduz)	9.2	23.1	-1.4
North western (Badghis, Faryab, Jawzjan, Sari Pul, Balkh, Samangan, Baghlan)	5.7	14.3	-0.7
Central (Ghor, Uruzgan, Ghazni, Bamyan)	1.8	1.8	0.1
Southern (Zabul, Kandahar, Hilmand, Nimroz, Farah, Hirat)	8.4	9.2	0.3
Afghanistan	**5.5**	**8.3**	**-1.5**

** Average reported change in jeribs for the three farmers interviewed in a village*
*** If Z <-1.96 or Z >1.96 then there is a significant difference between the two populations at α = 0.05*

Taken together, the results of the survey on the potential impact of economic aid and of eradication suggest that the short-term benefits of opium production continue to largely outweigh its potential risks.

[11] This proportion would appear to be in line with UNODC's 2003 Opium poppy survey which showed an area of 80,000 ha under poppy cultivation after eradication and Afghan Government reports which suggested that about 21,000 ha were eradicated in 2003.

Eradication in 2003 in villages surveyed as reported by headmen



Note: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.
In the Central region, for security reasons, GPS data could not be collected in all the villages surveyed. Of the 308 villages where the FIS took place, geographical coordinates of 282 villages were collected.

2.3 PROFILE OF POPPY GROWING AND NON-GROWING FARMERS

2.3.1 Proportion of poppy growing and non-growing farmers

Out of the 922 farmers interviewed in the 308 villages in poppy growing regions across Afghanistan, 785 farmers were growing poppy (85%), 137 farmers had not grown poppy (15%). The largest proportions of opium growers were found in eastern and southern Afghanistan, the two main opium growing regions. The largest proportions of non growing farmers in the sample are found in northern Afghanistan, reflecting the lower concentration of opium poppy cultivation in many of the provinces in that region. Climatic conditions, the agricultural calendar and the headmen's willingness to assist, may have also played a role. The debriefing sessions revealed that interviewers were sometimes directed by the headmen to interview farmers who were known in the village to have some experience in poppy growing. In other cases, interviewers - once in a village - were looking for farmers working in the fields. In many parts of eastern and southern Afghanistan October was the time when farmers prepared their fields for sowing poppy in November. Poppy farmers are thus likely to have been over-represented in the sample. The same applied to other regions of the country as well, though in some parts of the mountainous regions of northern Afghanistan (notably in the North-East), sowing of poppy takes place later. In such villages there was a somewhat lower likelihood to encounter poppy farmers in the fields. Nonetheless, it can be assumed that the proportion of poppy growing farmers in the interviews exceeded the actual proportion in the population.

Table 19: ***Farmers in the sample (of 308 villages) growing/not growing opium poppy***

Region (province)	Poppy growers	Non-growers of poppy	Total in sample	Proportion of growers	Proportion of non-growers
Eastern (Nangarhar, Kunar, Nuristan, Laghman, Kapisa, Parwan, Kabul, Wardak, Logar, Paktya, Khost, Paktika)	260	19	279	93%	7%
North eastern (Badakhshan, Takhar, Kunduz)	52	26	78	67%	33%
North western (Badghis, Faryab, Jawzjan, Sari Pul, Balkh, Samangan, Baghlan)	91	32	123	74%	26%
Central (Ghor, Uruzgan, Ghazni, Bamyan)	94	29	123	76%	24%
Southern (Zabul, Kandahar, Hilmand, Nimroz, Farah, Hirat)	288	31	319	90%	10%
Total	**785**	**137**	**922**	**85%**	**15%**

The assumption that opium poppy farmers are overrepresented in the sample of farmers interviews seems to be also confirmed by the information obtained through interviews with the village headmen. According to these interviews, the average proportion of opium poppy growing farmers (families) in the 308 villages located in opium poppy growing regions of Afghanistan was 27%, ranging from 5% in the newly producing areas of North-West Afghanistan to more than 40% in the traditional eastern and southern regions of the country. Almost the same proportion of poppy growing families to overall families (26%) was found in UNODC's 2003 Opium Survey, based on a sample of more than 1700 villages.

The proportion of poppy growing families among all rural regions of Afghanistan is, however, still lower. According to UNODC's 2003 Opium Survey on Afghanistan there were some 264,000 families involved in opium poppy cultivation in 2003. This would be equivalent to about 9% of the farming families (estimated at around 3 million)[12] in the country.

[12] The number of (nuclear) families (consisting of a man, a wife and children) in the rural areas of Afghanistan was estimated at 2.96 million according to the FAO/WFP joint Crop and Food Supply Assessment Mission in 2001. Assuming an average size of 6 people per family the average rural population was estimated at 17.8 million people.

Table 20: ***Distribution of population in the sample of the 308 villages, based on information from headmen***

Region (province)	Estimated number of families	Estimated number of families growing poppy	Proportion of poppy growing families	Proportion of non-growing families
Eastern (Nangarhar, Kunar, Nuristan, Laghman, Kapisa, Parwan, Kabul, Wardak, Logar, Paktya, Khost, Paktika)	16,746	6,887	41%	59%
North eastern (Badakhshan, Takhar, Kunduz)	5,578	1,759	32%	68%
North western (Badghis, Faryab, Jawzjan, Sari Pul, Balkh, Samangan, Baghlan)	23,241	1,193	5%	95%
Central (Ghor, Uruzgan, Ghazni, Bamyan)	6,804	2,659	39%	61%
Southern (Zabul, Kandahar, Hilmand, Nimroz, Farah, Hirat)	11,230	4,592	41%	59%
Total	**63,599**	**17,090**	**27%**	**73%**

2.3.2 Area of land under cultivation by poppy growing and non-growing farmers

Comparing the size of land under cultivation of poppy and non-poppy growers, based on the data from 922 farmers surveyed, suggests that the land under cultivation by non-poppy growers (2.6 ha on average) is in the sample slightly larger than the land of poppy growers (2.1 ha). However, this difference in the sample was not large enough to be considered statistically significant at $\alpha = 0.05$.

If the regional data are weighted according to the sampling frame, average landholdings of non-poppy farmers fall to 2.2 ha. Average landholdings of poppy growing farmers remain unchanged at 2.1 ha. (See Table 21). This shows that there is no significant difference between poppy and non-poppy farmers in terms of average size of land under cultivation.

The results of this survey with regard to the size of land under cultivation appear to be also in line with results from other research undertaken in Afghanistan. An almost identical size of the average land under cultivation (2.15 ha) can be derived for Afghanistan as a whole, taking the country's total size of arable land (6,536,971 ha) and dividing it by the 2003 estimate of 3.04 million farming families (see Table 22); if calculations are based on the concept of extended families ('farming households'), the average size increases to about 6 ha (which by international standards is still rather small).[13]

Table 21 also shows that regional differences in land size are far more pronounced than the differences between poppy and non poppy farmers, with the smallest land holdings found in eastern Afghanistan and the largest landholdings in northern Afghanistan (notably in North-West Afghanistan). Such patterns are also confirmed in FAO's data set (see Table 22).

Similarly, the 2003 Livestock Census preliminary report estimated a total of 3.04 million families living in the rural areas of Afghanistan. However, the number of farms or rural households, which often represent the extended family is estimated at no more than 1.07 million. (See Ministry of Agriculture and Animal Husbandry (Information Management and Policy Unit) and Food and Agriculture Organization of the United Nations (Hector Maletta, Raphy Favre), *Agriculture And Food Production In Post-War Afghanistan*, Kabul August 2003).

[13] Ministry of Agriculture and Animal Husbandry (Information Management and Policy Unit) and Food and Agriculture Organization of the United Nations (Hector Maletta, Raphy Favre), *Agriculture And Food Production In Post-War Afghanistan*, Kabul August 2003.

Table 21: ***Average area under cultivation per family for all crops (n=922)***

	non-poppy growers in jeribs	poppy growers in jeribs	non-poppy growers in ha	poppy growers in ha	difference in %
Eastern (Nangarhar, Kunar, Nuristan, Laghman, Kapisa, Parwan, Kabul, Wardak, Logar, Paktya, Khost, Paktika)	3.2	5.6	0.6	1.1	76%
North eastern (Badakhshan, Takhar, Kunduz)	13.5	13.5	2.7	2.7	0%
North western (Badghis, Faryab, Jawzjan, Sari Pul, Balkh, Samangan, Baghlan)	23.7	20.8	4.7	4.2	-12%
Central (Ghor, Uruzgan, Ghazni, Bamyan)	5.7	4.4	1.1	0.9	-23%
Southern (Zabul, Kandahar, Hilmand, Nimroz, Farah, Hirat)	14.1	12.9	2.8	2.6	-9%
Afghanistan (unweighted)	12.9	10.4	2.6	2.1	-20%
Afghanistan (weighted)	11.0	10.6	2.2	2.1	-3%

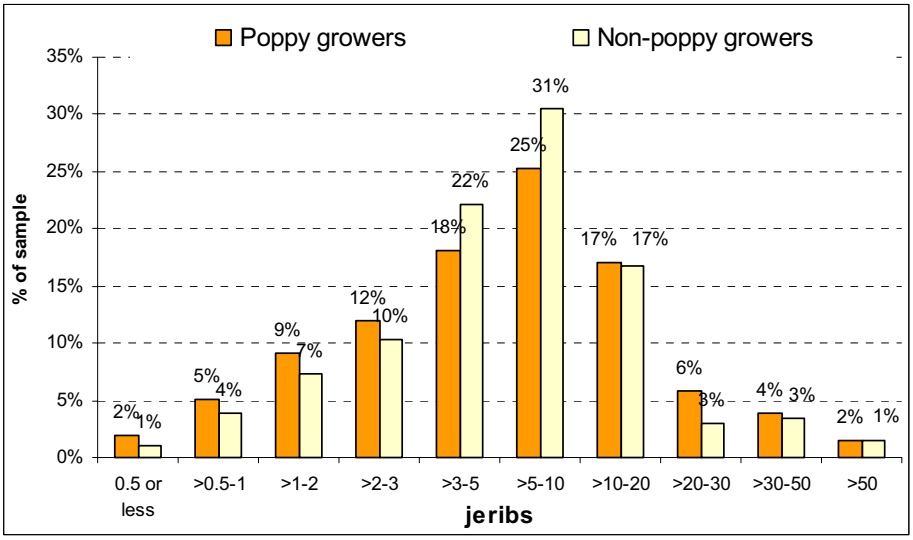
Table 22: ***Average area under cultivation in Afghanistan per family – regional distribution according to FAO***

Region	Farms / households	Total land under cultivation (in ha)	Average size land per farm (in ha)	Average size of land per family* (in ha)
North (Faryab, Jawzjan, Sari Pul, Balkh, Samangan)	177,504	2,683,606	15.12	5.3
Northeast (Badakhshan, Takhar, Kunduz, Baghlan)	164,134	1,644,215	10.02	3.5
West (Farah, Hirat, Badghis)	196,371	1,311,017	6.68	2.3
West-Central (Ghor, Bamyan)	75,463	258,314	3.42	1.2
Central (Kapisa, Parwan, Kabul, Wardak, Logar)	104,796	265,205	2.53	0.9
South (Ghazni, Paktika, Paktya, Khost)	72,871	487,726	6.69	2.3
East (Nangarhar, Kunar, Nuristan, Laghman)	125,946	154,496	1.23	0.4
Southwest (Zabul, Kandahar, Hilmand, Uruzgan, Nimroz)	146,183	951,242	6.51	2.3
Afghanistan	1,063,268	6,536,971	6.15	2.2

* *Estimates based on a ratio of 2.86 families per household (3.04 million families representing 1,063,268 households in Afghanistan's rural areas).*
Source: Ministry of Agriculture and Animal Husbandry (Information Management and Policy Unit) and FAO, Agriculture And Food Production In Post-War Afghanistan, Kabul August 2003.

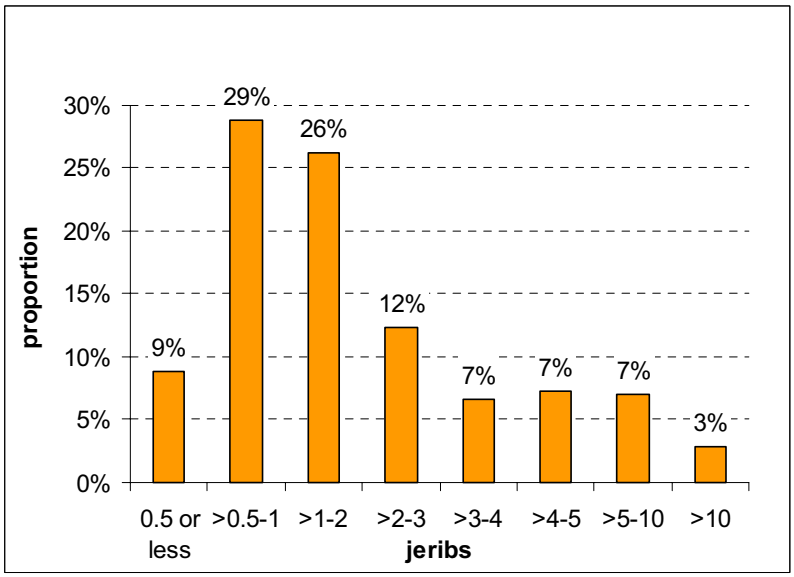
If the patterns of landholdings are analysed according to size, most land-holdings of poppy farmers and non-poppy farmers fall in between the range of 5 to 10 jeribs (1-2 ha). More than 70% of both poppy growers and non-poppy growers have landholdings of 10 jeribs or less. There is a higher proportion of poppy farmers among land-holders of 3 jeribs or less, while for landholdings between 3 and 10 jeribs there are proportionally more non-poppy growers. No difference is found for landholdings between 10 and 20 jeribs. For larger landholdings of more than 20 jeribs one finds again proportionately more poppy farmers. In other words, data from this sample suggest that there is a concentration of poppy cultivation among small-scale farmers as well as among large-scale farmers while among average size land-holders non-poppy growers are over-represented.

Graph 5: ***Poppy growers and non-poppy growers, distribution of landholdings***



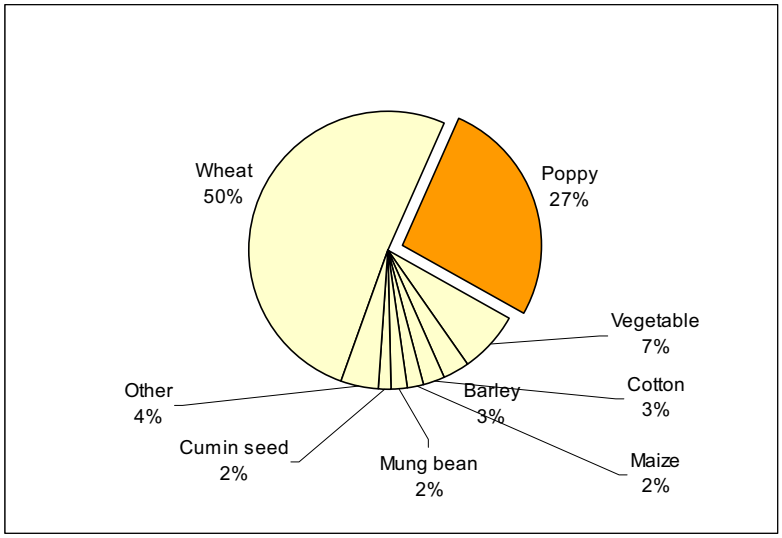
The "trim-mean" of the area under poppy cultivation (i.e. the average after excluding 5% of the lowest and 5% of the highest results) amounted to 1.7 jeribs (0.3 ha) per farmer. 64% of the poppy farmers used 2 jeribs (0.4 ha) or less for poppy cultivation purposes. Most poppy farmers used between 0.5 and 1 jerib for such purposes. The proportion of large-scale farmers, dedicating more than 10 jeribs (2 ha) for opium production, was 3%.

Graph 6: ***Distribution of land under poppy cultivation per farmer in 2003***



Opium poppy farmers dedicated on average 27% of their land to poppy cultivation in 2003. Opium poppy was thus the second most frequently planted crop after wheat in the poppy growing regions of the country where the survey took place.

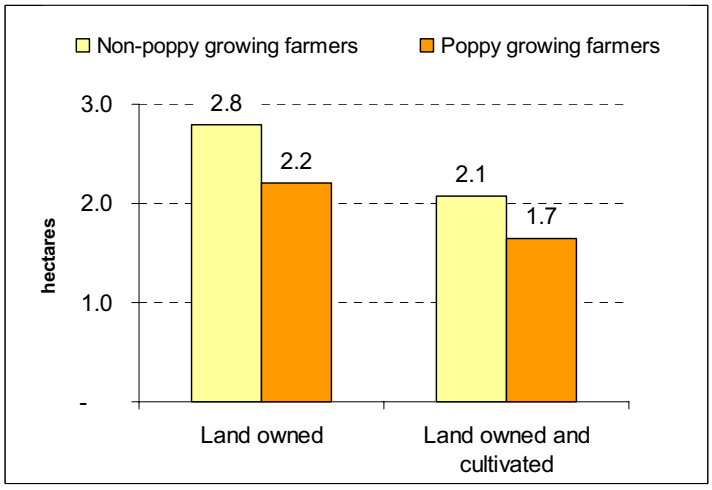
Graph 7: ***Distribution of the area under cultivation of poppy farmers in 2003 (n=701)***



2.3.3 Land ownership

The analysis of the landownership reveals that non-growing poppy farmers, on average, own more land (2.8 ha) than poppy farmers (2.2 ha). This difference – though more pronounced than in the case of comparisons based on 'overall land under cultivation' or 'land owned and cultivated' – is still not statistically significant (at $\alpha = 0.05$). However, if the comparison is made between 'traditional poppy farmers', defined as poppy farmers who started cultivation prior to 2002, and the rest, the difference becomes more pronounced (2 ha, on average, of land for 'traditional poppy farmers' and 3 ha, on average, for the rest) and statistically significant. In other words, poppy farmers used to belong primarily to the category of farmers with smaller landholdings. In recent years, however, the distinction has increasingly become blurred.

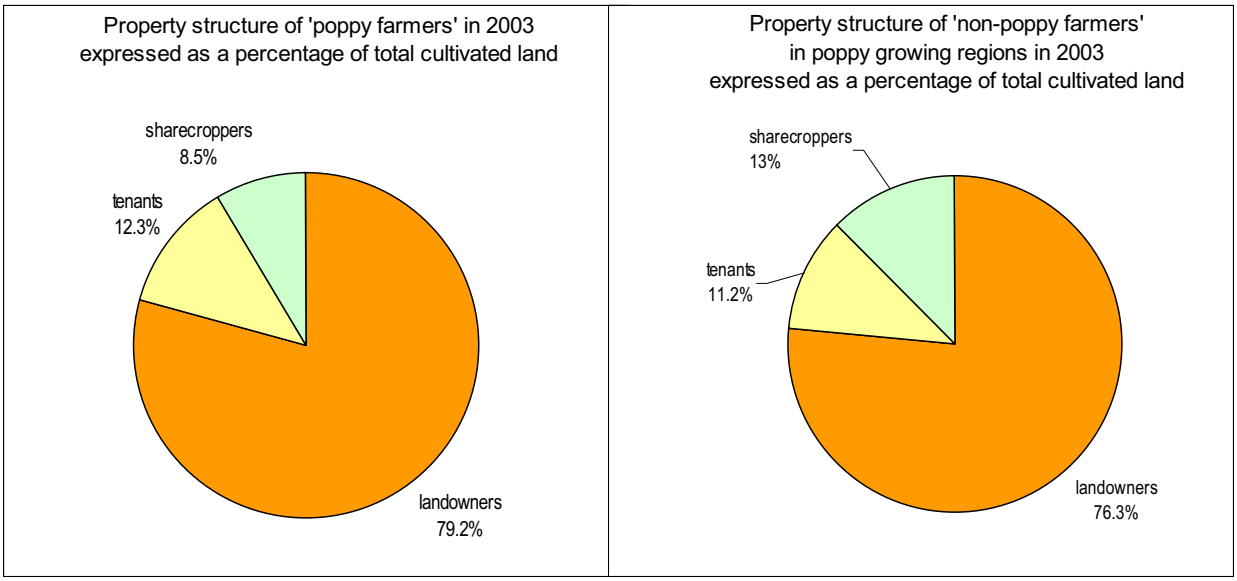
Graph 8: ***Average size of 'land owned' and of 'land owned and cultivated' in poppy growing areas of Afghanistan (based on interviews with 922 farmers)***



The interviews with the farmers also revealed that the large majority of the land under cultivation in the poppy growing regions of Afghanistan is owned by the farmers themselves (close to 80% among poppy farmers). There was no statistically significant difference between poppy and non-poppy growing farmers in this regard. When it comes to other forms of power of disposal over land some differences can be noticed. Sharecropping is more common among non-poppy growing farmers (13% of the cultivated land used in this form, versus 9% in the case of poppy

growing farmers). Holding land as a tenant appears to play a marginally more important role among poppy farmers (12% of the land of 'poppy farmers' is cultivated by tenants, versus 10% in the case of non-poppy growing farmers).

Graph 9: ***Property structure of poppy and non-poppy farmers***



The largest proportion of landholdings cultivated and owned among poppy farmers are found in North-Western Afghanistan where 90% of the land is owned by the farmers who cultivate the land; the lowest proportion of land owned among poppy farmers is found in eastern Afghanistan (65%). In the North of the country, the proportion of poppy farmers owning the land which they cultivate is higher (75% and 90% for North-East and North-West Afghanistan, respectively) than the corresponding ratios among non poppy farmers (61% and 80%, respectively). The opposite is true for the South (landownership of 80% of the land cultivated by poppy farmers, less than for non-poppy farmers (91%)). In the East and in the Centre of the country, the proportions of land owned are almost identical between poppy and non-poppy farmers. The highest proportion of tenants among poppy farmers are encountered in eastern Afghanistan, followed by southern Afghanistan. Sharecropping among poppy farmers is most widespread in north-eastern and in eastern Afghanistan.

Table 23: ***Distribution of land under cultivation (n = 922 farmers)***

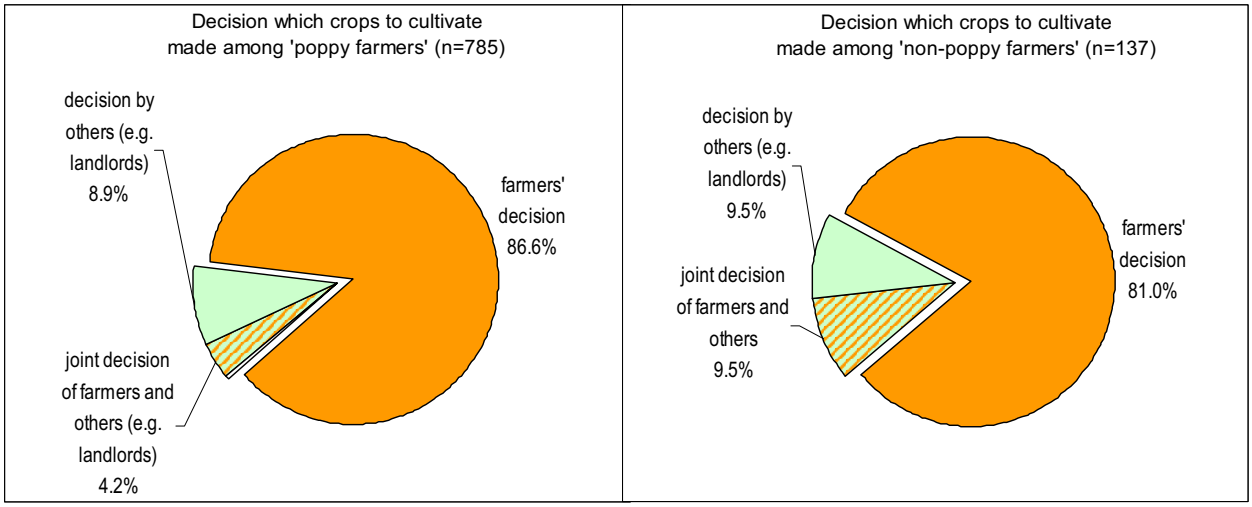
	Poppy growers (n=785)			Non-poppy growers (n=137)		
Region (province)	**Land-owners**	**Tenants**	**Share-croppers**	**Land-owners**	**Tenants**	**Share-croppers**
Eastern (Nangarhar, Kunar, Nuristan, Laghman, Kapisa, Parwan, Kabul, Wardak, Logar, Paktya, Khost, Paktika)	65%	18%	18%	66%	11%	23%
North eastern (Badakhshan, Takhar, Kunduz)	75%	6%	19%	61%	13%	26%
North western (Badghis, Faryab, Jawzjan, Sari Pul, Balkh, Samangan, Baghlan)	90%	2%	8%	80%	10%	10%
Central (Ghor, Uruzgan, Ghazni, Bamyan)	81%	10%	8%	80%	5%	15%
Southern (Zabul, Kandahar, Hilmand, Nimroz, Farah, Hirat)	80%	17%	3%	91%	7%	2%
Total	79%	12%	9%	77%	11%	13%

2.3.4 Parties responsible for decision making

The survey also attempted to identify who – among the various players - actually took the decision what to plant. Some anecdotal information had suggested that farmers might be also forced into growing poppy. It was thus interesting to find out how frequently this phenomenon was actually encountered among Afghan farmers.

The rather surprising result of the survey was that the overwhelming majority - 87% of the poppy farmers and 81% of the non-poppy farmers - reported that they decided on their own what to plant on the land at their disposal (i.e. on the land which they own, rent, or on which they work as a sharecropper). This suggests that the property structure plays a major role for the decision making process. 4% of the poppy farmers reported that they have taken the decision jointly with others; only 9% of the farmers reported that someone else had made the decision for them. In most cases this is the landlord; in a few cases, the decision to plant opium seems to have been 'influenced' by local commanders. However, the debriefing sessions with the interviewers revealed that most local commanders, though often involved in various facets of the opium trade, are in general not (directly) involved in farmers' decisions to plant opium poppy. Given high income prospects, and thus strong economic incentives for farmers, local commanders have apparently not seen any need to coerce farmers to plant opium.

Graph 10: ***Decision which crops to cultivate***



The highest proportion of poppy farmers' decisions, taken by the farmers themselves, of what to plant, were reported by farmers from North-West Afghanistan (96%); the lowest were reported from farmers in North-East Afghanistan and from South Afghanistan (83%). The highest proportion of 'decisions by others' were reported from poppy farmers in southern Afghanistan (14%). Most 'joint decisions' (farmers and another party) among poppy farmers were taken in North-East Afghanistan (12%).

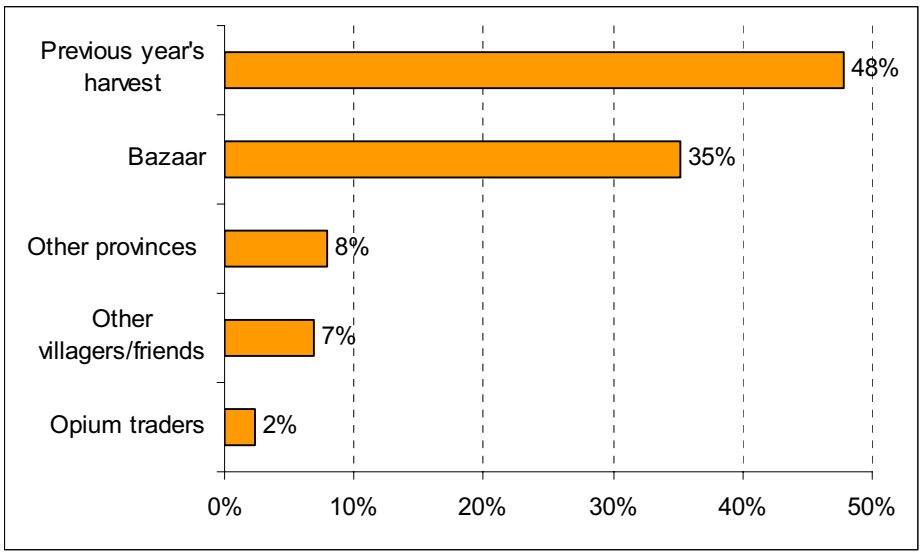
Table 24: ***Decisions among farmers which crops to cultivate – regional distribution (n = 922)***

	Poppy farmers (n = 785)			Non-poppy farmers (n = 137)		
Region (province)	**farmers' decisions**	**decision by others (e.g. landlords)**	**joint decisions of farmers and others**	**farmers' decisions**	**decision by others (e.g. landlords)**	**joint decisions of farmers and others**
Eastern (Nangarhar, Kunar, Nuristan, Laghman, Kapisa, Parwan, Kabul, Wardak, Logar, Paktya, Khost, Paktika)	86%	7%	6%	84%	-	16%
North eastern (Badakhshan, Takhar, Kunduz)	83%	4%	12%	58%	12%	31%
North western (Badghis, Faryab, Jawzjan, Sari Pul, Balkh, Samangan, Baghlan)	96%	1%	3%	94%	-	6%
Central (Ghor, Uruzgan, Ghazni, Bamyan)	91%	9%	-	79%	21%	-
Southern (Zabul, Kandahar, Hilmand, Nimroz, Farah, Hirat)	83%	14%	3%	87%	13%	-
Total	**87%**	**9%**	**4%**	**81%**	**9%**	**9%**

2.3.5 Sources of poppy seeds

One precondition for planting opium poppy is the availability of poppy seeds. One question of the survey thus aimed at identifying the sources of poppy seeds. Though this question was only asked to a limited number of farmers, the answers appear to be rather representative and in line with information provided by the interviewers at the debriefing sessions. Almost half of the farmers used last year's harvest as a source for the poppy seeds. Another 35% bought seeds from the local bazaars. The ' import' of poppy seeds from other provinces exists, but is mostly limited to new opium producing areas. The most frequently mentioned provinces as source for such kind of ' imports' were Nangarhar, Badakhshan and Kandahar. Farmers in Herat, for instance, reported that they planned to defy the poppy ban in 2004 and already had bought the poppy seeds from Kandahar. The role of opium traders in supplying poppy seeds, in contrast, appears to be limited. Just 2% of the farmers interviewed reported that they obtained the poppy seeds directly from opium traders.

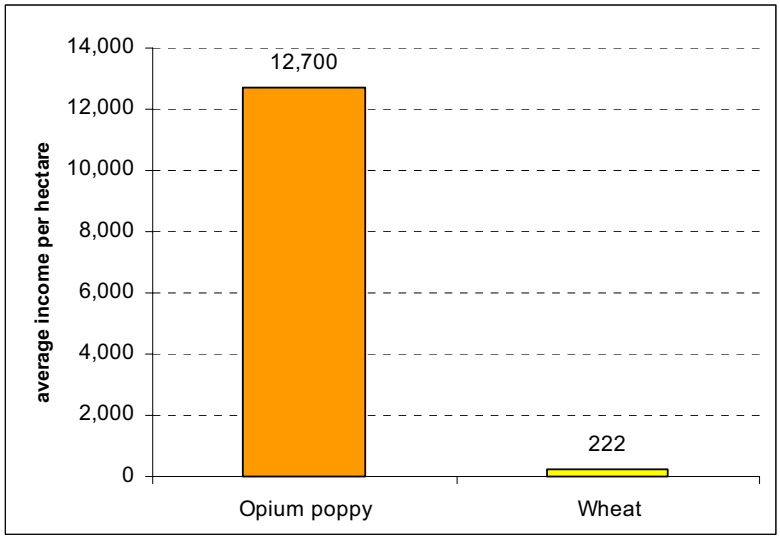
Graph 11: ***Sources of poppy seeds (n=88)***



2.3.6 Income: poppy versus wheat

According to UNODC's 2003 Afghanistan Opium Survey, the yield amounted to, on average, almost 45 kg of opium per hectare in 2003 (or close to 9 kg per jerib). (45.4 kg/ha on irrigated land, 29 kg/ha on rain-fed land; almost 97% of global poppy cultivation took place on irrigated land in 2003). The average farm-gate price (weighted by the area under poppy production) stood at harvest time at US$283 per kilogram of opium. An Afghan farmer could thus reckon, on average, with a gross income of some US$12,700 per hectare under poppy cultivation. On rain-fed land average income amounted to, on average, US$8,200 per ha. Given the average size of land under poppy cultivation of slightly more than 0.3 ha, the average gross income of a poppy farmer was around US$3,900 if he sold all of his opium production immediately at harvest time (when prices were rather high). Interviewers of the Farmers Intentions Survey reported that, in general, poor farmers sold all of their opium immediately, while those better-off kept some of the opium as a saving, usually expecting opium prices to rise in the months after harvest (though this was not the case in 2003). Based on discussions with the farmers, most interviewers estimated roughly that, overall, some 80% of the opium may have been sold immediately and that the rest was kept in stock by the farmers.

Graph 12: ***Gross income from the cultivation of opium poppy and wheat in Afghanistan in 2003 (in US$/ha)***



Sources: UNODC, Afghanistan Opium Survey 2003, Oct. 2003 and FAO/FAAHM/WFP, *National Crop Output Assessment,* July 2003.

Average income from one hectare under wheat cultivation is substantially lower. According to the *National Crop Output Assessment*[14]*,* the average yield was 1.9 tons of wheat per hectare (2.85 tons per ha on irrigated land and 1.09 tons per ha on rain-fed land). The average farm-gate price (weighted by production output) amounted to US$117 per metric ton. Thus, one hectare under cultivation of wheat yielded US$222 on average, which is less than 2% of the income from one hectare under poppy cultivation. On irrigated land, an Afghan wheat farmer could reckon with a gross income of US$333 per ha, equivalent to 2½ % of the income from growing poppy; on rain-fed land a farmer could count with a gross income of US$128 per ha, equivalent to 1½ % of the income from the cultivation of one ha under poppy cultivation on rain-fed land.

Even though opium prices showed a clear downward trend in 2003, prices were still close to US$250 per kg, on average, in October 2003. These are still very high prices by historical standards; for years, opium prices in Afghanistan fluctuated between US$30 and US$100. They

[14] FAO/FAAHM/WFP, *National Crop Output Assessment,* July 2003.

only started rising above these levels following the Taliban's opium production ban issued in mid 2000.

Table 25: ***Opium price per kg, reported by farmers in October 2003***

Region (province)	Area under poppy cultivation in 2003	in %	US$
Eastern (Nangarhar, Kunar, Nuristan, Laghman, Kapisa, Parwan, Kabul, Wardak, Logar, Paktya, Khost, Paktika)	27,878	35%	269
North eastern (Badakhshan, Takhar, Kunduz)	13,185	16%	142
North western (Badghis, Faryab, Jawzjan, Sari Pul, Balkh, Samangan, Baghlan)	5,058	6%	159
Central (Ghor, Uruzgan, Ghazni, Bamyan)	11,535	14%	268
Southern (Zabul, Kandahar, Hilmand, Nimroz, Farah, Hirat)	22,827	28%	297
	80,483	100%	
Average opium price (weighted by area under cultivation in 2003)			**249**

Profitability considerations based on perceived opium prices are important as many farmers actually take in October the decision which crop to sow for the next harvest in spring. The average expected gross income from one hectare of opium poppy fell thus only slightly from US$12,700 at harvest time (April/May for most Afghan farmers) to about US$11,200 by October 2003. The expected gross income from cultivating wheat was thus still equivalent to less than 2% of the potential gross income from planting opium poppy. Even if farmers calculated with opium prices of 'just' US$200 per kg for 2004[15], their expected gross income would still have amounted to US$9000 per ha; the expected gross income from the plantation of wheat would only be equivalent to about 2½% of this figure.

This makes it clear that, based on short-term economic profitability considerations Afghan farmers cannot be convinced to refrain from growing opium poppy. This is true though a number of cost items, such as labour, fertilizers, ' taxes' , bribes etc., are in general larger for opium poppy than for other crops, and would still have to be deducted to arrive at the net income. In many parts of Afghanistan, for instance, the interviewers reported that poppy farmers had to pay around 1/10th of their opium harvest to local commanders, either in kind or in cash. In some parts of the country the proportion could go as high as 40% (reported, for instance, from some villages in North-western Afghanistan for ethnic groups that were different from those of the local commander). The actual amounts depended often on personal relationships with the local commanders; the better the personal connection, the lower the contribution to make. In some other parts of the country - notably in mountainous villages of northern Afghanistan - no taxes were charged; however, farmers did not get the permission to sell their opium at the regional bazaars; only selected traders were allowed to enter the villages to whom the farmers had the opportunity to sell their opium. The traders had to pay some money to the local commanders for the right to enter the village. In return, the opium prices they paid to the farmers were lower than the market price. In other cases (notably reported from southern Afghanistan), local eradication teams asked for bribes, so that they would not eradicate a

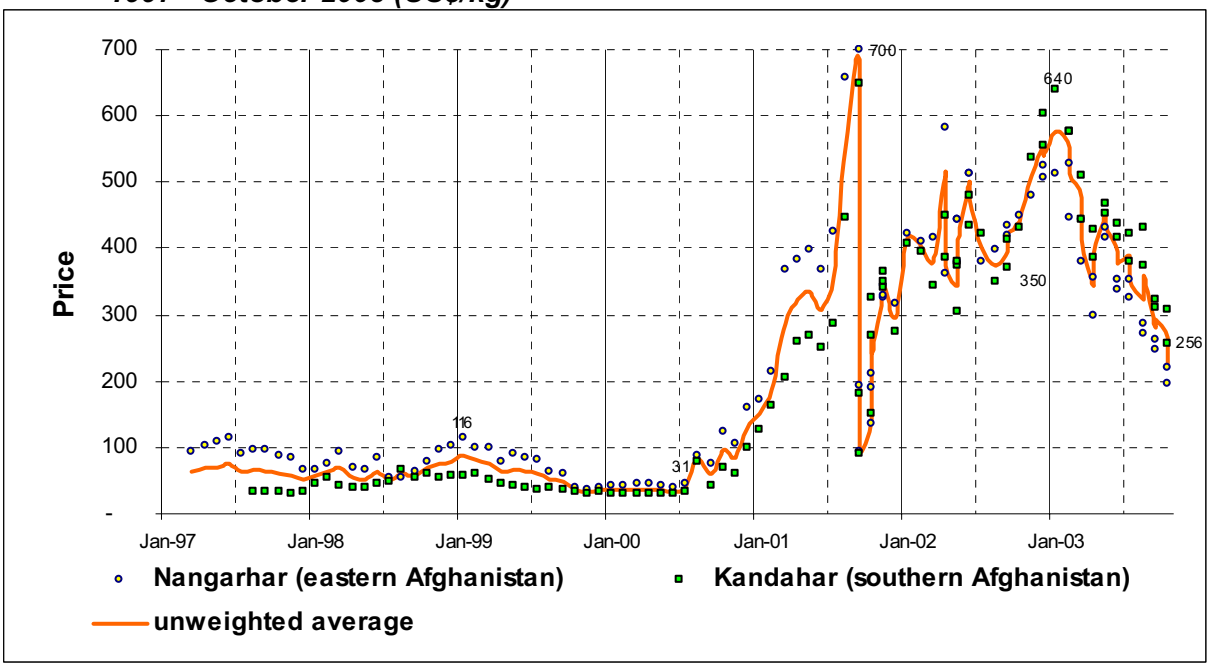
[15] The actual average farm-gate price in October is likely to have been lower than US$250 as farmers typically recalled the prices which they received when selling their opium. This may also explain why average prices reported by farmers in southern, eastern and central Afghanistan appear to be relatively high while the prices of farmers in northern Afghanistan who generally had a later harvest and thus sold their opium more recently - showed lower figures. Indeed, the ongoing panel interviews with farmers in Kandahar and Nangarhar showed a fall in fresh opium prices to about US$200 by the end of October. Even though the actual farm-gate prices in October were thus probably less than the US$250 per kg reported by farmers in the 'Farmers Intention Survey' , the perceived high price levels of opium appear, nonetheless, to have played an important role for the farmers' decision to expand opium production in 2004.

farmer's poppy field. In addition, some farmers (mostly reported from southern Afghanistan) had to pay fines for having planted poppy in 2003.

Nonetheless, no other crop can currently compete with opium poppy and bring Afghan farmers similar financial benefits. Income from growing poppy enabled a number of Afghan farmers to repair their houses and purchase goods such as tractors, motorcycles, cars, satellite dishes, etc. in recent years.

In order to render wheat (at current price levels) competitive with opium, opium prices would have to fall to levels of US$10 per kg or less - which appears unrealistic. Past experience has shown that at price levels around US$50 per kg of opium and higher prices for other crops, alternative development programmes, providing farmers with better yields and a mix of income opportunities, can become financially attractive options for farmers. For the time being and other things being equal, however, the economic parameters are still too far off from such a situation to give alternative development efforts alone a chance to reduce opium poppy cultivation.

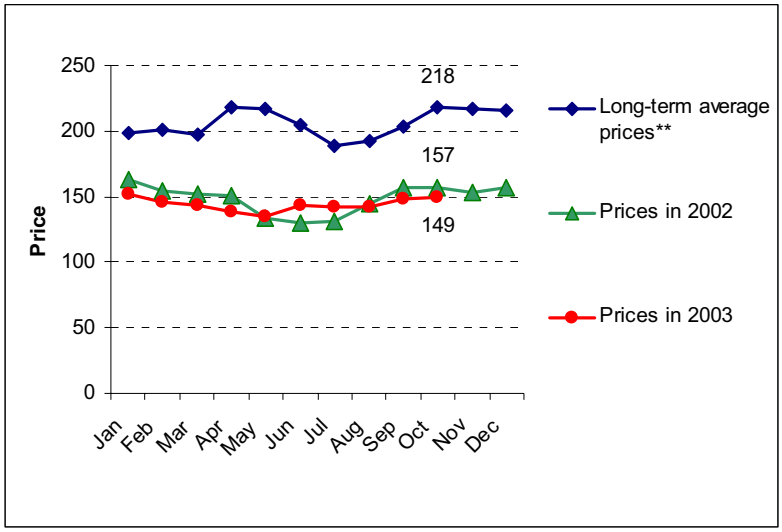
Graph 13: ***Prices of dry opium in Nangarhar and Kandahar quoted by local traders, March 1997 - October 2003 (US$/kg)***



Source: UNODC Field Office / ICMP, Monitoring of opium production in Afghanistan.

Wheat prices are currently very low in Afghanistan. Retail wheat prices in Afghanistan (average price reported from Kabul, Kandahar, Jalalabad, Mazar-E-Sharif, Herat and Faizabad) were in 2003 some 30% lower than the long-term average (average nominal retail prices over the 1996-2002 period) according to WFP, and, in October, some 9% less than a year earlier. Prices of agricultural inputs, however, are now higher than in previous years. Against this background many farmers asked for government interventions to raise wheat prices in Afghanistan, including the proposal that the international community, notably the World Food Programme, should consider purchasing some of its wheat requirements from Afghan sources.

Graph 14: ***Average (retail) wheat prices in Afghanistan (US$/ton)****



** unweighted average of prices in Kabul, Kandahar, Jalalabad, Mazar-E-Sharif, Herat and Faizabad*
*** long-term price: 1996-2002 nominal monthly average retail prices*
Source: WFP, "Food Aid, Wheat Prices and Poppy Cultivation in Afghanistan: Is there a link?" (Draft), November 2003.

For a limited number of farmers (n = 99), in-depth interviews were conducted to establish their actual (net-)income levels; 96 farmers (97% of those interviewed) provided answers to this question; 79 farmers (82%) were poppy growers (i.e. farmers who cultivated at least part of their land with poppy), 17 (18%) were non-poppy growers. Given the rather small size of these sub-samples, and the possibility that (poppy) farmers may have been inclined to under-estimate their annual income (e.g. in order not to raise suspicion in case they had not paid all of their taxes to the local commanders), the possibilities to extrapolate these results to the national level remain limited. Nonetheless, the analysis of these data reveals some interesting results, which could be regarded as indicative for the income situation of poppy and non-poppy farmers.

According to these self-reports, poppy farmers earned, on average, some 75% more than non-poppy farmers. The net income of poppy farmers in this sample was, on average, around US$2,100. The corresponding average net income for non-poppy growers stood at about US$1,200. This difference is still substantial and statistically significant, but it is less than one would expect by comparing the potential gross income levels from poppy and wheat.

However, the analysis of the land under cultivation shows that in the sub-sample the areas under cultivation reported by non-poppy farmers were substantially larger than in the overall farmers intention survey. The average size of land under cultivation in the sub-sample of non-poppy growers was almost twice as high as the average size of land of non-poppy growers in the overall survey. Assuming a proportional relationship between size of land and income, average income of a non-poppy growing farmer in Afghanistan is likely to amount to less than US$700. A slightly different approach was used for adjusting the income of poppy growers to the national average. Here it was assumed that the key determining factor for the income of poppy farmers was not total land, but the land dedicated to poppy cultivation. The analysis of the two samples showed that the average size of land under poppy cultivation was almost a fifth larger in the overall sample than in the sub-sample of the in-depth interviews. This raises the likely average (net-) income of poppy farmers to around US$2500, more than 3 ½ times the income of non-poppy farmers.

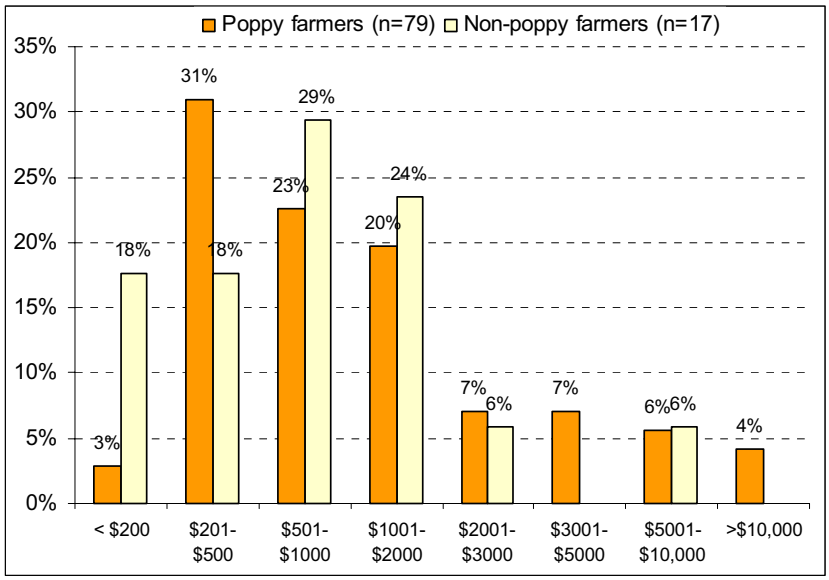
Table 26: ***Average annual (net -) income of farmers (n = 96)***

	Poppy growers	Non-poppy growers
Net income (unadjusted for size of land)	**US$2,128**	**US$1,217**
Number of farmers	79	17
Adjustment ratios (for differences in area under cultivation)*	1.18	0.55
Land size adjusted average annual (net-) income	**US$2,520**	**US$669**

* *The average size of land cultivated of by non-poppy farmers was 2.8 ha in the quantitative survey; in the sub-sample of the in-depth interviews, the average size of land was 5.1 ha; the adjustment ratio is thus 0.55 (2.8/5.1). The unweighted area under poppy cultivation was, on average, 0.57 ha; in the sub-sample for the in-depth interviews, the area was 0.48 ha; the adjustment ratio for poppy growers was thus 1.27 (0.57/0.45).*

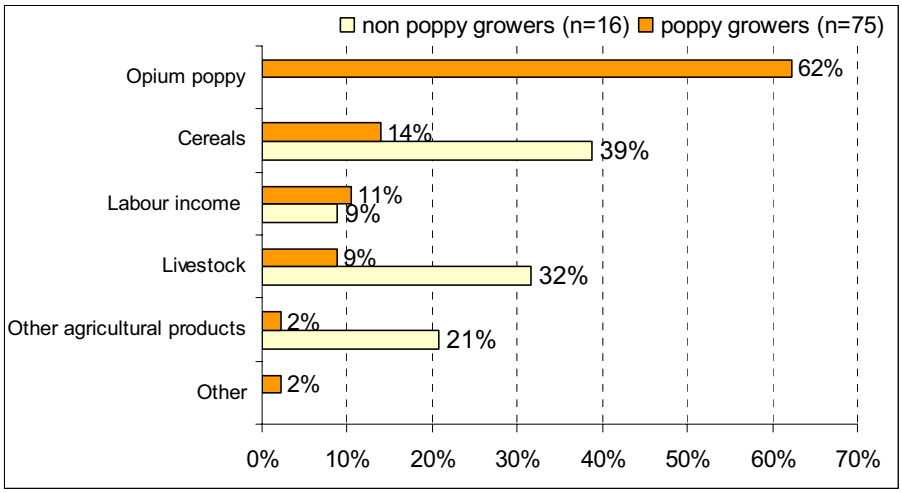
Nonetheless, it would be wrong to qualify all poppy farmers as 'rich' and all non-poppy farmers as 'poor'. Returning to the unadjusted data set, the highest proportion of poppy farmers in this sample (31%) actually earned only between US$200 and US$500 a year. The highest proportion of non-poppy growing farmers (29%) earned slightly more: between US$500-US$1000. However, there was a larger proportion of 'high income earners' among poppy growers: 24% of the poppy growers earned more than US$2000; the corresponding share among non-poppy growers was just 12%.

Graph 15: ***Net income of poppy and non-poppy farmers in poppy growing regions in US$***



In the in-depth interviews farmers were also asked to break down their overall income according to source. These data show that for 'poppy farmers' - as one could expect - opium poppy is the main source of income, accounting for more than 60% of total income, followed by income from cereals and income from labour wages. The interviews with non-poppy growing formers revealed that most income is derived from the production of cereals, followed by income from livestock and income from other agricultural products. Given the very small sample of non-growing poppy farmers interviewed - any further statement based on this small dataset would be highly speculative; the actual proportions among non-poppy growing farmers in Afghanistan may well differ from those found in this sub-sample. However, the ranking of the sources of income should probably be the same.

Graph 16: ***Sources of income of farmers (n=91) in poppy growing regions***



2.3.7 Labour cost for poppy / non-poppy farmers

As part of the survey, farmers were also asked to provide information on the daily wages in the poppy growing regions. This information is not only relevant for determining the labour costs arising to farmers, but also for drug control related developmental activities in the country aiming at siphoning-off labour at harvest time. Availability of labour at harvest time is indeed one of the potential bottlenecks in opium production as the labour intensiveness of the lancing process compels many farmers to look for outside help.

The survey found that the daily wages in the poppy growing regions rose to about US$2.7, on average, in 2003. (Data for 2002 suggested that average daily wages in Afghanistan ranged between US$1 and US$2 and were thus substantially lower)[16]. Average daily wages paid for wheat harvesting – which often takes place at similar periods as the poppy harvest – amounted to US$3.3, on average. The daily wages paid by poppy farmers for lancing/gum collection were more than twice as high (US$6.8 on average). This reflects the fact that a certain know-how is needed to effectively lance opium poppy, as well as the huge demand for external assistance during the poppy harvest, which drives up labour cost. Some farmers reported that during the times of the poppy harvest a severe labour shortage developed as itinerant labourers moved away to the main poppy growing areas. A side effect was that some wheat farmers – who also depended on external assistance during the harvest time – did not find sufficient labour to harvest all of their wheat fields. Some NGOs reported that during the poppy harvest no labour could be found for their development projects. Road construction projects had to be temporarily stopped. Similarly, schools reported difficulties to continue their classes during this period as parents moved their children temporarily out of school to help on the poppy fields.

Average prices paid for lancing/gum collection were particularly high in central Afghanistan (US$9.4 on average) where poppy cultivation is still a rather new phenomenon and a qualified workforce for such tasks is not always readily available. Very high wages for such purposes were also paid in north-eastern Afghanistan (US$9 on average). In contrast, in eastern Afghanistan, where opium poppy cultivation has a long tradition, wages paid for lancing/opium gum collection were substantially lower (US$4.1), though still twice as high as the average daily wage for unskilled labour (US$2.1).

In general, a positive correlation between the amount of daily wages for lancing/opium gum collection and daily wages in general could be observed in the poppy growing regions of Afghanistan, suggesting that the demand for itinerant labour by poppy growers is increasingly determining the overall wage levels as well.

[16] UNODC, *The Opium Economy in Afghanistan – An International Problem*, New York, January 2003.

Table 27: ***Average daily wages in poppy growing regions in 2003 in US$***

Region (province)	Daily wages (for unskilled labour)	Average daily wages for wheat harvesting	Average daily wages for lancing/opium gum collection
Eastern (Nangarhar, Kunar, Nuristan, Laghman, Kapisa, Parwan, Kabul, Wardak, Logar, Paktya, Khost, Paktika)	2.05	2.43	4.05
North eastern (Badakhshan, Takhar, Kunduz)	3.68	5.08	8.94
North western (Badghis, Faryab, Jawzjan, Sari Pul, Balkh, Samangan, Baghlan)	2.82	3.30	6.59
Central (Ghor, Uruzgan, Ghazni, Bamyan)	2.83	3.09	9.40
Southern (Zabul, Kandahar, Hilmand, Nimroz, Farah, Hirat)	2.88	2.84	8.09
Country average	**2.69**	**3.01**	**6.77**

2.3.8 Credit and loans

One important parameter, identified in previous research, impacting on opium production in Afghanistan, has been the issue of loans, notably ' salaam' arrangements, i.e. the advance sale of opium prior to harvest, which actually obliges farmers to plant and harvest opium in order to repay their debts. The '*salaam* price' which farmers receive for their future harvest depends on a number of factors, such as the time period between the advance sale and the harvest, the credit-worthiness of the farmer and the actual harvest and price expectations of traders. In the discussions at the debriefing sessions, interviewers reported that the current price, which farmers obtained from selling next year's opium in advance, amounted to between 50%-60% of current opium market prices (equivalent to interest rates of 66% to 100% for a period of six to seven months, assuming stable opium prices). Farmers who enter into such arrangements have to supply the agreed amounts of opium. The risk of subsequent price changes is borne by the trader. Other forms of credit available to (opium) farmers are the delayed payment of commodities from shopkeepers or traders (with shopkeepers charging higher prices on such commodities and farmers repaying their debts after harvest) as well as interest free loans from immediate or extended family members[17]. The underlying problem is that charging interest on loans - under strict interpretation of Islamic law - is not allowed. The first two kinds of arrangements, mentioned above, *de-facto* circumvent this rule. Indirectly they also tend to favour the cultivation of opium poppy. Following the end of the Taliban regime, the granting of 'normal loans' (including the use of interest rates) has become possible in Afghanistan. But other types of credit arrangements, notably those mentioned above, continue to play an important role. This is also a reflection of the fact that the credit sector as such is still very much under-developed in rural Afghanistan.

Loans taken out in 2003

This survey tried to shed some more light on the overall importance of loans taken out by farmers in poppy growing regions of Afghanistan. To the question whether the farmers interviewed took out a loan in 2003, 47% responded positively (i.e. they had taken out a loan in 2003). If results are broken down between poppy and non-poppy growers, the analysis suggests that taking out a loans is more common among poppy growers than among non-poppy growers, indirectly confirming the importance of cultivating opium poppy as a basis for obtaining credit in rural Afghanistan. Half of the poppy growers but only a third of non-poppy growers obtained a credit in 2003.

[17] The mechanisms of such loans have been described in detail in UNDCP, *Afghanistan Strategic Study #3, The Role of Opium as a Source of Informal Credit*, January 1999 and are summarized in UNODC*, The Opium Economy in Afghanistan – An International Problem*, pp. 117-124.

The highest proportion of farmers taking out a loan was found in southern Afghanistan (66% among poppy growing farmers); the lowest proportion was encountered in central Afghanistan (9% among poppy growers) where poppy cultivation is still a rather new activity.

Table 28: ***Proportion of farmers in poppy growing regions who took out a loan in 2003***

	Poppy growers (n= 782*)	Non-Poppy growers (n = 137*)
Eastern (Nangarhar, Kunar, Nuristan, Laghman, Kapisa, Parwan, Kabul, Wardak, Logar, Paktya, Khost, Paktika)	43%	16%
North eastern (Badakhshan, Takhar, Kunduz)	54%	19%
North western (Badghis, Faryab, Jawzjan, Sari Pul, Balkh, Samangan, Baghlan)	9%	31%
Central (Ghor, Uruzgan, Ghazni, Bamyan)	56%	10%
Southern (Zabul, Kandahar, Hilmand, Nimroz, Farah, Hirat)	66%	74%
Total (unweighted)	**50%**	**32%**

* *Number of valid answers (Yes/No)*

In terms of sources of credit, almost half of all loans, calculated in terms of number of loans, were taken out from traders/shopkeepers. This applied to both poppy and non-growing farmers. Opium traders accounted for almost a fifth of all loans taken out by poppy farmers. The bulk of loans taken out by opium traders as well as some of the loans taken out from traders/shop keepers concerned *salaam* arrangements.

Data also showed that non-poppy growing farmers did not have access to the financial resources of opium traders. Similarly, local commanders only granted credit to opium growers. The proportion of farmers obtaining credit from NGOs was very small. In relative terms, it was higher for non-poppy growers than for poppy growers. The same applied to loans received from relatives.

Table 29: ***Sources of the loans (based on the number of loans) that farmers took out in poppy growing regions***

Source of loan	Poppy growers (n = 390*)	Non-poppy growers (n = 44*)
Traders/Shopkeepers	**46%**	**48%**
Opium traders	18%	-
Fellow villagers	12%	5%
Relatives	7%	14%
Landowners	2%	9%
Local commanders	1%	-
NGOs	1%	7%
Others	14%	18%
Total	**100%**	**100%**

* *Number of farmers who took out a loan in 2003*

If the analysis is based on the overall amounts of the loans taken out by farmers, data show that almost 60% of the loans came from traders/shopkeepers in the case of non-poppy farmers. In the case of poppy farmers this proportion amounts to just over 40%; almost 30% comes from opium traders. These data suggest that traders/shop keepers play the key role in providing short-term financial assistance to farmers. Opium traders are another important source of credit in rural Afghanistan, though not the most important one. Taking opium growing and non-growing farmers together, about a quarter of all loans came from opium traders.

Regional differences are, however, important. In eastern Afghanistan almost half of all loans in the poppy growing regions came from opium traders, more than from any other source. Opium traders also play an important role in southern Afghanistan, but not in the rest of the country. Reports of local commanders being a source of credit came mainly from North-East Afghanistan.

NGOs were only in a position to provide 0.1% of total loan requirements. 8% of total loans came from relatives.

Table 30: ***Sources of the loans - based on the amounts of the loans - that farmers took out in poppy growing regions***

Source of loan	Poppy growers	Non-poppy growers	Total
Traders/Shopkeepers	**42%**	**57%**	**43%**
Opium traders	**28%**	**-**	**26%**
Others	11%	11%	11%
Fellow villagers	10%	11%	10%
Relatives	8%	14%	8%
Landowners	0.9%	7.6%	1.3%
Local commanders	0.4%		0.3%
NGOs	0.1%	0.3%	0.1%
Total	**100%**	**100%**	**100%**
Average size of loan	**US$724**	**US$461**	**US$699**

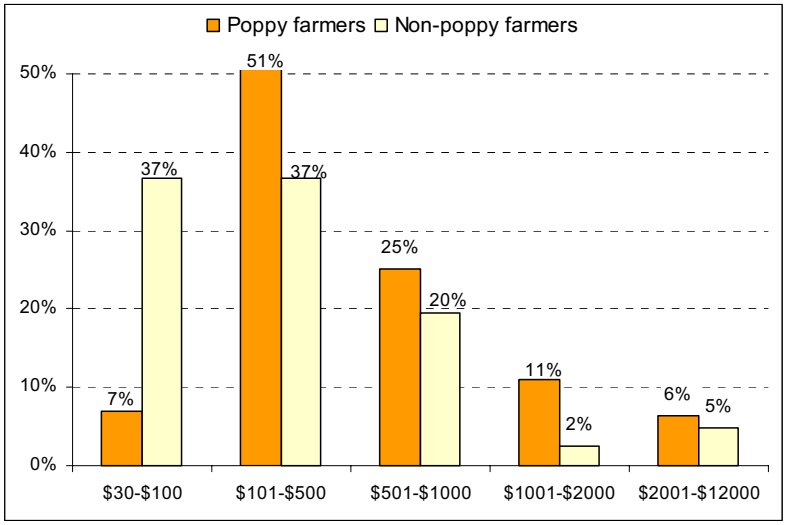
If the amounts of the loans are analyzed, it becomes obvious that poppy farmers took out, on average, significantly higher amounts (almost 60% more) than non-poppy farmers. The average loan of a poppy farmer in 2003 amounted to more than US$700, equivalent to 9 months work as an unskilled labourer, or more than a quarter of average annual income of a poppy farmer. The largest loans were taken out from opium traders (US$1,100 on average). The average loan received from an NGO was significantly smaller (about US$100, on average, for a farmer in the poppy growing regions).

Table 31: ***Average amount of loans received in 2003 in US$***

Source of loan	Poppy growers	Non poppy growers	Total
Opium traders	**1,101**		**1,101**
Relatives	836	429	762
Traders/Shopkeepers	658	536	645
Fellow villagers	619	1,055	637
Others	568	251	528
Landowner	415	359	393
Local commanders	340		340
NGOs	121	50	97
Average	**724**	**461**	**699**

The loans taken out by Afghan farmers in 2003 ranged from US$30 to US$12,000 in the sample. More than 50% of the loans of poppy farmers fell into the range of US$100-US$500. 58% of the loans taken out by poppy farmers and 74% of the loans taken out by non-poppy farmers amounted to less than US$500. These data suggest that the bulk of the loans taken out by farmers can be considered to be micro-loans. Only 16% of the loans of poppy farmer and 7% of the loans of non-poppy farmers exceeded US$1000.

Graph 17: ***Distribution of loans taken out by farmers (n = 431) in poppy growing regions in 2003***



Outstanding loans

Farmers were also asked whether they still had outstanding loans from previous years. 29% of the farmers interviewed confirmed that they still had such outstanding loans. The average amount of outstanding loans was around US$700 per farmer. The highest outstanding loans were reported from southern Afghanistan, followed by farmers from eastern Afghanistan; the lowest outstanding loans were reported by farmers from North-West Afghanistan. Poppy farmers, who had taken out a loan, had on average US$740 in loans outstanding; non-poppy farmers around US$460. Poppy farmers had thus, on average, 60% higher debts than non-poppy farmers. Data thus show that (a) cultivation of poppy facilitates access to credit, but (b) cultivation of poppy also increases the likelihood of indebtedness. Farmers are then often trapped. They have to increase poppy production in order to repay their debts.

Table 32: ***Outstanding loans from previous years among farmers (n = 919) in poppy growing regions***

Region (province)	Proportion of all farmers having outstanding loans	Average amount of outstanding loan per farmer in US$
Eastern (Nangarhar, Kunar, Nuristan, Laghman, Kapisa, Parwan, Kabul, Wardak, Logar, Paktya, Khost, Paktika)	32%	625
North eastern (Badakhshan, Takhar, Kunduz)	40%	351
North western (Badghis, Faryab, Jawzjan, Sari Pul, Balkh, Samangan, Baghlan)	14%	126
Central (Ghor, Uruzgan, Ghazni, Bamyan)	24%	380
Southern (Zabul, Kandahar, Hilmand, Nimroz, Farah, Hirat)	33%	1,063
Total (unweighted)	**29%**	**709**

Table 33: ***Outstanding loans from previous years among poppy and non-poppy farmers (in US$)***

Region (province)	Poppy growers (n =709)	Non-poppy growers (n = 137)
Eastern (Nangarhar, Kunar, Nuristan, Laghman, Kapisa, Parwan, Kabul, Wardak, Logar, Paktya, Khost, Paktika)	625	-
North eastern (Badakhshan, Takhar, Kunduz)	372	283
North western (Badghis, Faryab, Jawzjan, Sari Pul, Balkh, Samangan, Baghlan)	163	94
Central (Ghor, Uruzgan, Ghazni, Bamyan)	415	161
Southern (Zabul, Kandahar, Hilmand, Nimroz, Farah, Hirat)	1,059	1,118
Country (unweighted)	**740**	**456**

Most loan agreements (that had not yet been repaid) were entered in 2002 (the most recent year), for both poppy and non-poppy growers. The number of unpaid loan arrangements from years prior to 2002 is rather small for non-poppy farmers (35% of all unpaid loan arrangements). In contrast, 64% of all outstanding loan arrangements among poppy growers date back to years prior to 2002.

Table 34: ***Periods mentioned when previous loan arrangements were entered into***

Year	Poppy growers	Non poppy growers
1997	0.4%	0%
1998	4%	0%
1999	6%	4%
2000	21%	8%
2001	33%	23%
2002	**36%**	**65%**
Total	100%	100%

If the distribution of unpaid loans in terms of outstanding amounts is looked at, it can be seen that there are still substantial amounts of unpaid loans dating back to 1998 (19% of all outstanding loans among poppy farmers), indirectly confirming previous UNDCP research that linked the massive increase of opium poppy cultivation in 1999 to the strong rise in outstanding loans in 1998. Bad weather conditions in combination with unfulfilled ' salaam' arrangements in 1998 had prompted many farmers to expand opium production in 1999 to pay off their debts. In contrast, hardly any loans from 1999 remained unpaid.

The overall highest level of unpaid loans goes back to 2001, the second year of the drought and the year of the Taliban's poppy ban. 16% of all outstanding loans were taken out in 2002, or, put in other words, 84% of all outstanding loans date back to years prior to 2002 (75% among non-poppy growers).

Table 35: ***Distribution of outstanding loans***

Year	Poppy growers	Non-poppy growers	Total
1997	1%	-	1%
1998	19%	-	18%
1999	3%	2%	2%
2000	32%	0.3%	30%
2001	29%	73%	32%
2002	**16%**	**25%**	**16%**
Total	100%	100%	100%

The largest individual loans, which have not been fully repaid, can be found for 1998. The largest individual loans taken out by non-poppy farmers date back to 2001, the year of the drought.

Table 36: ***Outstanding loans from previous years - average amount of loans per farmer (in US$)***

Year taken	Poppy farmer	Non-poppy farmer	All farmers
1997	1,089	-	1,089
1998	3,933	-	3,933
1999	340	240	332
2000	1,272	34	1,243
2001	657	1,481	721
2002	312	179	289
Total	**740**	**456**	**709**

New loans taken out in 2003 were larger than the overall stock of unpaid loans from previous years. Notably poppy farmers were engaged in taking out new loans. Loans taken out by poppy farmers were almost 75% larger than their stocks of existing loans. Making for a moment the unrealistic assumption that no debt repayments had taken place in 2003, total potential indebtedness per farmer who had taken out loans in 2003 or earlier, could have amounted to about US$1100 per poppy farmer and US$340, on average, for a non-poppy farmer. Given high prices for opium poppy and a good opium harvest in 2003 it appears, however, unlikely that the overall level of debt per 31 December 2003 rose significantly as compared to a year earlier.

Table 37: ***Maximum potential indebtedness* in US$ in 2003***

	Poppy growers	Non-poppy growers	Grand Total
Previous outstanding loans (sample data)	162,051	12,317	174,367
New loans taken out in 2003 (sample data)	282,485	18,889	301,374
Total potential maximum indebtedness (sample data)	444,536	31,206	475,742
No. of farmers (sample)	782	137	919
No. of farmers who took out a loan in 2003 and/or in previous years (sample)	390	92	434
Average maximum potential indebtedness of farmers who took out a loan	***1,140***	***339***	***1,096***

* *maximum potential indebtedness is defined as the overall amount of debt, disregarding debt repayments that had taken place in 2003.*

Repayment strategies

Whatever the actual level of indebtedness, debts need to be repaid. In-depths interviews were conducted with a limited number of farmers to discuss their repayment strategies (n=63 of which 60 were poppy growers). More than half of these farmers saw their repayment strategy in growing poppy and/or expanding their opium production in the following year. About 60% of the farmers who will grow/expand opium production to repay their loans, plan to make use of *salaam* arrangements, selling their opium prior to harvest and repay their debts with the funds thus obtained. Other repayment strategies mentioned have been to sell land and other belongings, to work (as itinerant labourers and/or making children work), to sell live-stock or other kind of agricultural production, to have daughter(s) married (to obtain the dowry) and to sell existing opium stock.

Table 38: ***Repayment strategies (based on in-depth interviews; n = 63)***

Repayment strategy	%
Grow/increase poppy cultivation next year	**56%**
Sell land or belongings	16%
Work	11%
Sell livestock or agricultural production	6%
Have daughter married	5%
Sell opium stock	3%
Other	3%
Total	**100%**

Loans planned to be taken out in 2004

A further question related to expectations on loans to be taken out in 2004. Overall 45% of the farmers interviewed reported that they expected to take out a loan in 2004. (This is overall about the same proportion as farmers reporting to have taken out loans in 2003). Notably farmers in southern and eastern Afghanistan are likely to take out new loans in 2004.

In contrast to previous years, however, it may be noted that in proportional terms there does not seem to be any longer a clear difference between poppy and non-poppy growing farmers at the national level. This means that (so-far) non-poppy growers foresee that they would be increasingly forced to take out loans in 2004 (partly a result of low prices of other agricultural commodities) which will make them increasingly vulnerable to start growing poppy in order to repay their debts. In the North and in the East proportionally more non-poppy growing farmers announced to take out a loan than poppy growing farmers. The opposite is still true for central Afghanistan. The proportions in the South are more or less the same among poppy and non-poppy farmers.

Table 39: ***Proportion of farmers planning to take out a loan in 2004***

Region (province)	Poppy growers	Non-poppy growers	Total
Eastern (Nangarhar, Kunar, Nuristan, Laghman, Kapisa, Parwan, Kabul, Wardak, Logar, Paktya, Khost, Paktika)	51%	63%	52%
North eastern (Badakhshan, Takhar, Kunduz)	33%	46%	37%
North western (Badghis, Faryab, Jawzjan, Sari Pul, Balkh, Samangan, Baghlan)	11%	50%	21%
Central (Ghor, Uruzgan, Ghazni, Bamyan)	48%	10%	39%
Southern (Zabul, Kandahar, Hilmand, Nimroz, Farah, Hirat)	53%	55%	53%
Total (unweighted)	**46%**	**44%**	**45%**

3 Methodology

Objectives

The first objective of the Afghanistan farmers' intentions survey 2003/2004 was to provide a tentative forecast of the trend of opium poppy cultivation in Afghanistan in 2004. The actual estimation of the level of opium poppy cultivation and opium production in the country is made during the Annual Opium Survey implemented from March to September each year (report published in October).

In Afghanistan, there are regional differences in the opium poppy growth calendar, but most of the fields are planted in the autumn, around November, and harvested in the spring, around April/May. The survey was therefore implemented at the time when the farmers were about to decide on what to plant on their fields for the 2003/2004 agricultural season .

It should be noted that the survey was based on the intentions expressed by the farmers, which might differ from the subsequent planting decision. The survey was conducted shortly prior to sowing time and the farmers may have changed their decisions after being interviewed. Moreover, some of the farmers might have exaggerated their intentions, either as a protest against what they perceive as broken promises to provide them with assistance , or to prompt the central government and the international community to offer them financially attractive alternatives to poppy cultivation.

The second objective of the survey was to understand the factors influencing the changes in opium poppy cultivation in 2004. Data were collected on the motivations of the Afghan farmers to cultivate or not opium poppy in 2004, their awareness of the opium poppy ban and their willingness to respect it and whether or not external factors like government assistance and eradication measures in the recent past had an impact on the farmers' decision to cultivate opium poppy.

As a third objective, this survey also endeavoured to further the understanding on some key issues related to opium poppy cultivation in Afghanistan. It collected data to better understand the socio-economic profiles of the opium farmers - including the type of land ownership, the farmers' annual income and their need for credit.

The 2003/2004 Farmers' Intentions Survey was based on interviews of a random sample of 308 village headmen and 922 farmers. In addition, more in-depth interviews were conducted with a limited number of farmers (n=99) in 33 villages on issues such as the income of farmers, debt repayment strategies or the opium poppy ban. The interviews were conducted by 40 local surveyors supervised by CND and UNODC staff. The survey was organised in five regions under which all the opium growing areas were grouped and the interviews took place between 7 October and 4 November 2003. The surveyors were selected based on their previous experience with UNODC surveys, their knowledge of local customs and their acceptance by the local communities. They received training prior to the field work and each surveyor was debriefed individually.

Sampling frame

The sampling frame for the farmers' intentions survey was a list of 13,980 villages built from two sources. The first one was the list of villages established by UNODC during the census opium surveys that took place between 1994 and 2001. That list was complemented by village names from UNDP's Afghanistan Information Management System (AIMS) to establish a village list in districts not previously surveyed by UNODC opium surveys.

For the country as a whole, there are 30,706 villages in the AIMS database, but the farmers' intentions survey focused on areas where poppy cultivation had been reported in the past through UNODC surveys or recently through anecdotal information. Districts where there was no or little evidence of opium poppy cultivation, or districts with only small opium poppy cultivation but difficult to access for security reasons, were not included in the sampling frame, and were therefore not sampled.

Each village of the list fell under one of the official district and province units, the boundaries of which were defined and gazetted in 1984 and known as the 32 Province/329 Districts (32P/329D) model. This enabled the unambiguous aggregation of the village data to higher administrative levels.

For the purpose of the survey, the provinces were grouped in five regions (Eastern, North eastern, North western, Central and Southern) based on geographical and agricultural characteristics.

The sampling frame was stratified into three strata: the villages reported growing opium poppy between 1994 and 2000[18] ("Growing"), the villages reported not growing between that period ("Non-growing") and the villages for which there was no information on the opium growing status ("Unknown"). The latter strata was mainly made of villages from the AIMS database.

The objective of the stratification was to ensure that there were enough villages sampled within each of these three categories of villages.

Table 40: ***Number of villages in the sampling frame, by region and strata***

Region (provinces)	Strata			
	Growing	Non-growing	Unknown	Total
Eastern (Nangarhar, Kunar, Nuristan, Laghman, Kapisa, Parwan, Kabul, Wardak, Logar, Paktya, Khost, Paktika)	2,193	880	790	3,863
North eastern (Badakhshan, Takhar, Kunduz)	733	210		943
North western (Badghis, Faryab, Jawzjan, Sari Pul, Balkh, Samangan, Baghlan)	578	200	1,169	1,947
Central (Ghor, Uruzgan, Ghazni, Bamyan)	380	565	1,404	2,349
Southern (Zabul, Kandahar, Hilmand, Nimroz, Farah, Hirat)	2,872	1,419	587	4,878
Country total	**6,756**	**3,274**	**3,950**	**13,980**

The strata "unknown" of the North eastern region was empty.

Sample selection

The sampling strategy was to survey 2.5% of the villages in the sampling frame, i.e. 347 villages. The villages were randomly selected from each strata according to the following distribution: 3% of the villages known to grow opium poppy in the past, 2% of the villages known not to grow poppy in the past, and 2% of the villages for which there was no information available. The sample size was determined on the basis of statistical requirements, timing constraints (desirability of completing the field work before the farmers would start planting their opium fields) and logistic/budget constraints (number of qualified surveyors who could be recruited within available resources).

The security situation, mainly in the provinces of Kandahar, Uruzgan and Zabul of the Southern region, prevented the surveyors to survey 39 of the villages initially targeted. The 308 villages actually surveyed represented 2.2% of the villages included in the sampling frame.

[18] The year 2001 was considered exceptional and therefore the information on the village opium growing status collected that year was not considered .

The break down of the actual distribution of the sample by regions and strata is presented in the tables below.

Table 41: ***Sample size by region and strata (number of villages)***

Region (provinces)	Strata			
	Growing	Non-growing	Unknown	Total
Eastern (Nangarhar, Kunar, Nuristan, Laghman, Kapisa, Parwan, Kabul, Wardak, Logar, Paktya, Khost, Paktika)	56	19	18	93
North eastern (Badakhshan, Takhar, Kunduz)	23	3		26
North western (Badghis, Faryab, Jawzjan, Sari Pul, Balkh, Samangan, Baghlan)	16	4	21	41
Central (Ghor, Uruzgan, Ghazni, Bamyan)	11	4	26	41
Southern (Zabul, Kandahar, Hilmand, Nimroz, Farah, Hirat)	78	19	10	107
Country total	**184**	**49**	**75**	**308**

Table 42: ***Sample proportion (in percent of sampling frame) by region and strata***

Region (provinces)	Strata			
	Growing	Non-growing	Unknown	Total
Eastern (Nangarhar, Kunar, Nuristan, Laghman, Kapisa, Parwan, Kabul, Wardak, Logar, Paktya, Khost, Paktika)	2.6%	2.2%	2.3%	2.4%
North eastern (Badakhshan, Takhar, Kunduz)	3.1%	1.4%		2.8%
North western (Badghis, Faryab, Jawzjan, Sari Pul, Balkh, Samangan, Baghlan)	2.8%	2.0%	1.8%	2.1%
Central (Ghor, Uruzgan, Ghazni, Bamyan)	2.9%	0.7%	1.9%	1.7%
Southern (Zabul, Kandahar, Hilmand, Nimroz, Farah, Hirat)	2.7%	1.3%	1.7%	2.2%
Country total	**2.7%**	**1.5%**	**1.9%**	**2.2%**

The headman of each village sampled was interviewed.

After the headmen interviews, the surveyors were instructed to interview three farmers per village. A total of 922 farmers were interviewed. The surveyors were instructed to select randomly the farmers from a village list of households, or along an imaginary transect running through the village, the first farmer being selected at the beginning of the transect, the second in the middle and the third at the end.

The debriefing sessions (see below under "implementation") revealed two shortcomings in the random selection process that could lead to an over-representation of the opium growing farmers in the sample: the first one is that in some villages the surveyors were directed by the headmen to interview farmers who were known in the village to have some experience in poppy growing. The second one is that in some cases, the surveyors, once in a village, were looking for farmers working in the fields. In many parts of eastern and southern Afghanistan, October was the time when farmers were preparing their fields for sowing opium poppy later in November.

This remark should be kept in mind when assessing the proportion of poppy growing and non-growing farmers in the opium growing regions of Afghanistan.

In addition, more in-depth interviews were conducted with a limited number of farmers (n=99) in 33 villages on issues such as the income of farmers, debt repayment strategies or the opium poppy ban. The idea was to learn more from these farmers, through semi-structured interviews covering various aspects of the opium economy than would have been possible by filling in a structured questionnaire. This required to spend more time with each farmer. The distribution of the villages per region for this approach was similar to the one used for the structured interviews.

This more qualitative-oriented component of the survey can thus be seen as a ' sub-sample' of the quantitative survey. Theoretically, the two samples should show largely identical results. This turned out to be was the case for most questions asked in both approaches, with the exception of the question on landownership. The subsequent analysis of the farmers' profile revealed that farmers in the smaller sample tended to have, on average, larger land at their disposal, than farmers in the larger sample. In contrast, the average area of land per farmer under poppy cultivation , was slightly smaller in the smaller sample.

Table 43: ***Distribution of the sample of villages where semi-structured interviews were conducted***

Region (province)	Number of villages in the Smaller sample (semi-structured interviews)	in % of all villages in the sample	Number of villages in the larger sample (structured interviews)	in % of all villages in the sample
Eastern (Nangarhar, Kunar, Nuristan, Laghman, Kapisa, Parwan, Kabul, Wardak, Logar, Paktya, Khost, Paktika)	9	27%	93	30%
North eastern (Badakhshan, Takhar, Kunduz)	2	6%	26	8%
North western (Badghis, Faryab, Jawzjan, Sari Pul, Balkh, Samangan, Baghlan)	5	15%	41	13%
Central (Ghor, Uruzgan, Ghazni, Bamyan)	5	15%	41	13%
Southern (Zabul, Kandahar, Hilmand, Nimroz, Farah, Hirat)	12	36%	107	35%
Total	**33**	**100%**	**308**	**100%**

Implementation

Data was collected using structured questionnaires translated into Dari or Pashtu[19]. A questionnaire was designed for the headmen and another one for the farmers. In 33 villages the surveyors performed semi-structured interviews and used modified versions of the questionnaires to record theirs discussions with the interviewees. This qualitative information provided additional insight to the issues covered by the survey.

The village headmen questionnaires included questions on the village demography, the opium cultivation levels in the previous years and intentions for 2004, the reasons for cultivating or not cultivating opium poppy, the opium poppy planting calendar, the government or international assistance received and whether or not any eradication of opium poppy fields had taken place in 2003.

In addition, the surveyors also recorded the GPS location of the villages surveyed. Out of the 308 villages surveyed, GPS points were acquired in 298 villages (GPS could not be used by surveyors for security reasons in some parts of Central Afghanistan). The GPS recording were used as a post survey check of the surveyors whereabouts.

The farmers' questionnaires included questions on the landownership type, the year the farmers started to cultivate opium poppy, the crops cultivated during the 2003 agricultural season and intended to be cultivated in 2004, the reasons for cultivating or not cultivating opium poppy, the daily wages for unskilled labor (road, construction, etc), wheat harvesting and opium poppy harvesting, and the farmers level of indebtedness.

[19] The questionnaires are available upon request.

In villages where semi-structured interviews were performed, the farmers were also asked about their annual income.

The UNODC regional coordinators were trained in Kabul in survey techniques, filling of the questionnaires and use of the GPS by the UNODC survey coordinator and CND technical staff, under the supervision of the UNODC Regional Illicit Crop Monitoring Expert. The regional coordinators then trained the 40 local field surveyors in Nangarhar, Kandahar, Balkh and Badakhshan.

The surveyors were selected based on their previous experience with UNODC surveys, their knowledge of local customs and their acceptance by the local communities. This was already the case in previous UNODC surveys in Afghanistan, but has proved increasingly important since 2001, when opium poppy cultivation became an illegal activity subject to eradication and farmers more suspicious of individuals inquiring about their cultivation of opium poppy. This survey also took place at the time of a deteriorating security situation in rural Afghanistan that prompted many international organisations to limit or even stop their activities in the country. In this context, the dedication of the surveyors was extremely commendable.

The field work took place from 07 October until 04 November 2003, starting in the Eastern region and finishing in the North eastern region.

Table 44: ***Dates of the Farmers' Intentions Survey by region***

Region (provinces)	From	To
Eastern (Nangarhar, Kunar, Nuristan, Laghman, Kapisa, Parwan, Kabul, Wardak, Logar, Paktya, Khost, Paktika)	07 October	25 October
North eastern (Badakhshan, Takhar, Kunduz)	12 October	04 November
North western (Badghis, Faryab, Jawzjan, Sari Pul, Balkh, Samangan, Baghlan)	12 October	04 November
Central (Ghor, Uruzgan, Ghazni, Bamyan)	12 October	29 October
Southern (Zabul, Kandahar, Hilmand, Nimroz, Farah, Hirat)	11 October	26 October

After they had completed the survey, each of the 40 surveyors was debriefed individually. The debriefing sessions took place in Jalalabad, Kandahar, Mazar-E-Sharif and in Faizabad. During these sessions, conducted jointly by CND and UNODC staff from Kabul and Headquarters, the surveyors were given the opportunity to provide additional information to that contained in the questionnaires. In addition, interviews with local authorities and several international organisations were made in Kabul, Jalalabad, Kandahar, Herat, Mazar-E-Sharif and Baghlan, in order to gain a better understanding of the overall socio-political situation as it relates to the issue of opium poppy cultivation this year, trafficking activities and the attitudes of local authorities towards opium poppy cultivation.

The debriefing sessions and the interviews of local authorities proved very useful for the interpretation of the results of the farmers' intentions survey and to put them into context.

Analysis

The data were entered in a database through a tailored MS-Access interface. The raw data was transferred on Excel worksheets, screened for errors and aggregated at regional and country levels using Excel pivot tables.

The regional results were qualified as "weighted" when their means or proportion were weighted against the size of the sampling frame strata as follow:

$$\bar{x} = \frac{\sum \bar{x}_i N_i}{\sum N_i}$$

where

$\bar{x}$ = weighted average or proportion at regional level.
$\bar{x}_i$ = simple average or proportion for strata i.
N_i = size of sampling frame for strata i.

When qualified as "unweighted", the results referred to the simple average of all observations for a region.

It was found that the weighted and unweighted results were usually very similar because there were practically no difference between the observations of the different strata within a region.

Similarly, the results at the national level were calculated either weighted against the size of the regional sampling frame or unweighted as a simple average of all observations.

To determine whether the averages of two samples were significantly different, simple statistical hypothesis tests about the difference between the means of two populations from independent samples were performed, using the following conventions and parameters:

μ1 = the mean for the population 1
μ2 = the mean for the population 2

Ho = μ1 – μ2 = 0, "Null hypothesis", there is no significant difference between the means of the two populations

Ha = μ1 – μ2 $\neq$ 0, "Alternative hypothesis", there is a significant difference between the means of the two populations.

$$z = \frac{(\bar{x}_1 - \bar{x}_2) - (\mu_1 - \mu_2)}{\sqrt{\sigma_1^2 / n_1 + \sigma_2^2 / n_2}}$$

We used s_1^2 and s_2^2 as estimates of σ_1^2 and σ_2^2 to compute the test statistic.

For a 5% probability of rejecting the null hypothesis when it is true (i.e. type I error, α = .05), and thus using $z_{\alpha/2} = z_{.025} = 1.96$, the rejection rule is:

Reject Ho if z< -1.96 or if z > + 1.96