



PAL Internal Document No. 2

**Diversity and Dilemma:  
Understanding Rural Livelihoods and Addressing the  
Causes of Opium Poppy Cultivation in Nangarhar  
and Laghman, Eastern Afghanistan**



**A Report for  
the Project for Alternative Livelihoods (PAL)  
in Eastern Afghanistan**

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December 2004

## Table of Contents

<b>1. Introduction</b>	<b>1</b>
<b>1.1. Objective</b>	<b>1</b>
<b>1.2. Background</b>	<b>1</b>
<b>1.3. Methodology</b>	<b>2</b>
The conceptual approach	2
Selection of fieldwork sites	2
Problems during implementation	3
<b>2. Access to Labour and Land</b>	<b>5</b>
<b>2.1. The Household: How many people need clothing and feeding and what do they contribute?</b>	<b>5</b>
How many are there in the household?	5
And what is their contribution to the household economy?	6
<b>2.2. Drawing on other source of labour: what is the contribution and costs of hired labour?</b>	<b>8</b>
What tasks is hired labour used for and where does it come from?	8
And what does it cost?	9
<b>2.3. Land Tenure: Whose land is it and what's my share?</b>	<b>10</b>
Do I have sufficient land of my own?	10
How much will I have to pay to cultivate more land?	11
<b>2.4. Cultivated land: What is available?</b>	<b>11</b>
What is the maximum area that can be cultivated?	11
<b>How many people is that per unit of land?</b>	<b>12</b>
<b>3. On-Farm Income</b>	<b>14</b>
What combination of crops should be considered?	14
What are the options for winter crops?	20
If a summer crop is possible what should be grown?	22
<b>3.2. Wheat production: Is there enough to meet the families needs?</b>	<b>22</b>
Is self-sufficiency even an option?	22
<b>3.3 Crop Sales: What is sold and for what income does it generate?</b>	<b>24</b>
Calculating the value of crop sales	24
Who sells what?	25
<b>3.4. Livestock: What is the value of the animals owned and sold?</b>	<b>29</b>
Who owns what?	29
How many and what are they worth?	29
<b>4. Off-Farm and Non-Farm Income</b>	<b>34</b>
Wage labour: What are the opportunities for supplementing on-farm income?	34
What does this mean in terms of cash income?	36
<b>5. Access to Credit</b>	<b>38</b>
Credit and the role opium poppy plays in obtaining it	38
Have I got loans to repay from the last twelve months?	39
Where can I obtain a loan and why do I need it?	39
How much have I accumulated in debts over the years?	42
How will I repay these loans?	42
What happens if I don't pay?	44

<b>6. Total Potential Cash Income</b>	<b>46</b>
How much and where is it derived from?	46
What about per capita income?	47
<b>7. Household Expenditures</b>	<b>49</b>
<b>7.1. What is my monthly expenditure and what do I spend it on?</b>	<b>49</b>
Last month's expenditure?	49
Major items of expense over the last year?	51
Total annual expenditure	53
<b>8. Total Annual Savings</b>	<b>56</b>
So what does this leave me with?	56
<b>9. Key Findings</b>	<b>60</b>
Access to Labour	60
Access to Land	61
Cropping Patterns	62
Food Security	62
On-Farm Income	63
Off and Non-Farm Income	63
Credit	64
Potential Annual Cash Income	64
Annual Expenditure	65
Annual Savings/Deficit	66
<b>10. Conclusion</b>	<b>67</b>

## Annex

### Annex 1: Individual Interviews (questionnaires)

#### List of Tables

	Page
<b>Table 1:</b> Economically Active Members of Household by Socio-economic Group	5
<b>Table 2:</b> Economically Active Members of the Household Differentiated by Sex and Age	7
<b>Table 3:</b> Average Amount of Cultivated Land per Household	12
<b>Table 4:</b> Average Number of Household Members per Jerib	13
<b>Table 5:</b> Proportion of Respondents Cultivating Different Crops	17
<b>Table 6:</b> Proportion of Land Dedicated to Different Crops During the Winter and Summer	21
<b>Table 7:</b> Proportion of Households Selling Different Crops	27
<b>Table 8:</b> Total Maximum Potential Annual Income From Crop Sales	28
<b>Table 9:</b> Proportion of Respondents Owning Livestock by Type	30
<b>Table 10:</b> Proportion of Households Selling Livestock Over the Last 12 Months and the Average Total Value of Sales	31
<b>Table 11:</b> Average Number and Value of Livestock per Household	33
<b>Table 12:</b> Proportion of Households with Off Farm and Non Farm Income Opportunities	35
<b>Table 13:</b> Total Average Household Off and Non Farm Income and Sources as a Proportion of Total	37
<b>Table 14:</b> Number and Amount of Seasonal Loans over the previous 12 Months	40
<b>Table 15:</b> Levels of Accumulated Debt Amongst Respondents	43
<b>Table 16:</b> Total Cash Income	48
<b>Table 17:</b> Average Household Monthly Expenditures and Items of Expenditure by Percentage	50
<b>Table 18:</b> Average Household Expenditures on Major Items Over the Last Year and Items of Expenditure by Percentage	52
<b>Table 19:</b> Total Average Annual Household Expenditure	56
<b>Table 20:</b> Annual Household Savings/Deficit	57
<b>Table 21:</b> Proportion of Annual Income Required for Debt Repayment	60

### Abbreviations and Acronyms

AKDN	Aga Khan Development Network
ALWG	Alternative Livelihoods Working Group
AREU	Afghan Research and Evaluation Unit
CADG	Central Asia Development Group
CDC	Community Development Committees
CN	Counter Narcotics
CoAR	Coordination of Afghan Relief
DAI	Development Alternatives Inc.
DFID	Department for International Development
EC	European Commission
GAA	German Agro Action
GTZ	Deutsche Gesellschaft fuer Technische Zusammenarbeit, GmbH
MAAH	Ministry of Agriculture and Animal Husbandry
MISFA	Micro Finance Investment and Support for Afghanistan
MRRD	Ministry of Rural Rehabilitation and Development
NEEP	National Emergency Employment Program
NPP	National Priority Program
NSP	National Solidarity Program
NSS	National Surveillance System
PAL	Project for Alternative Livelihoods in Eastern Afghanistan
RALF	Research Alternative Livelihoods Fund
RFQ	Request for Quotation
UK	United Kingdom
UNDCP/ ONDCP	United Nations Drug Control Program
UNODC	UN Office on Drug and Crime
US	United States of America
USAID	United States Agency for International Development

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## EXECUTIVE SUMMARY

This Study highlights that increases in opium poppy cultivation cannot be isolated from the wider socio-economic, political and environmental conditions that prevail in eastern Afghanistan today. The continuing drought, growing population pressure, changes in the balance between household cash and food requirements, and the lack of secure alternative sources of income have all coincided to create the environment in which fewer and fewer households in eastern Afghanistan believe they can meet their basic needs without recourse to opium poppy cultivation. The situation for many households is further exacerbated by a need for both seasonal and long terms loans and the dominance of an informal credit system in which preferential access is given to those that cultivate opium poppy.

Indeed, the Study suggests that whilst opium poppy cultivation has allowed the wealthier socio-economic groups to prosper through the generation of a surplus cash income that can subsequently be reinvested in opium through the provision of credit or perhaps through greater involvement in the trade downstream, it has only provided the majority with a coping strategy to manage their income deficits and accumulated debts. When these factors are combined with a political environment in which both the physical security and the property rights of individuals cannot be protected, it should be of little surprise that households increasingly give preference to short term-low risk livelihood strategies, such as opium poppy cultivation, over longer term agricultural and non agricultural investments where the returns cannot be guaranteed.

The detailed data produced by this Study illustrates the depth and nature of socio-economic differentiation amongst those households engaged in opium poppy cultivation in Nangarhar and Laghman. It reveals that opium poppy cultivation is most concentrated amongst those households with limited access to both cultivable land and irrigation. These households also experience the highest rates of population densities and levels of food insecurity. For these households, wheat or indeed vegetable or fruit crops are not viable livelihood strategies. The data also suggest that whilst off and non-farm income opportunities provide valuable sources of cash income for those households with the greatest proportion of land dedicated to opium poppy much of this is insecure wage labour that is often derived from working as hired labour during the opium poppy harvest. For this group the dependency on opium poppy cultivation is absolute.

**Kommentar:** Might be a good spot to add the field work and CoAR at least as a footnote

**Kommentar:** Land fragmentation?

**Kommentar:** Here somewhere the impact of imported wheat

However, for the land-wealthy, the Study reveals increased opium poppy cultivation and a greater share of the final yield due to inequitable land tenure arrangements, have been combined with greater diversity in on-farm, off-farm and non-farm income opportunities. Opium sales, whilst still a significant proportion of total cash income, are pooled with the income derived from the sale of other agricultural products and livestock. Non-farm incomes are not only higher but also more secure and diverse, drawing on government salaries, transport and the retail trade. Yet even amongst this group, the Study suggests per capita annual cash income is still only just over the recognised level of absolute poverty of US\$ 300. The provision of loans, the sale of opium in the winter season when farm-gate prices traditionally rise, and greater involvement in the trade provide this group with an opportunity to significantly increase per capita income.

**Kommentar:** has?

**Kommentar:** than what?

The Study also warns of the significant impact that a dramatic reduction in opium poppy cultivation might entail. Aside from a potential reduction in cash income of between 50 and 90% for a substantial proportion of households in the eastern zone who cultivate opium poppy on their land (be it owned, leased or sharecropped), the loss of the wage labour opportunities associated with its cultivation would entail a shortfall of 3.2 million labour days and US\$11.7 million in daily wages in Nangarhar alone. With the loss of such a significant portion of household income comes an inability to meet both basic needs and debt repayments. Whilst the latter invokes the sale of land, commodities and daughters into marriage, these rarely result in the full repayment of outstanding loans. Migration in search of wage labour opportunities, or simply to avoid the violence and intimidation associated with unpaid debts, is an inevitable consequence.

And this situation is not without its precedent. The Taliban ban on opium poppy cultivation in 2001 created widespread rural unemployment and a level of indebtedness and subsequent asset stripping, that many households in the region have still not yet fully recovered from. Indeed, some might argue that this particular policy initiative contributed to the level of dissatisfaction amongst the rural population, making the eventual overthrow of the Taliban in October 2001 relatively popular.

The Study recognises that opium poppy cultivation represents an unsustainable livelihood strategy. It places people outside the legal system, constraining their access to government services, increasing the likelihood of arrest and imprisonment, and making them vulnerable to the violence and intimidation by non-state actors. Moreover, where opium poppy cultivation is over extended and impacts on traditional practices of crop rotation, yields of both opium and licit crops are significantly reduced. Ultimately, as in other source countries, its cultivation will constrain the diversification of on-farm, off-farm and non-farm income opportunities.

However, reducing such widespread opium poppy cultivation can only be undertaken as part of wider process of nation building and reconstruction. This not only means enforcing the rule of law and reducing the legal space in which those opposed to the state can operate but creating the appropriate legal and economic environment in which legal livelihood opportunities can be promoted. And here lies the dilemma. How to build a nation state when an illegal industry fuels corruption, ‘crowds-out’ the legal economy, and funds the very forces that seek to perpetuate regional power bases and warlordism? And recognising that the elimination of the opiate industry is an essential part of extending the writ of the nation state, how can the state eliminate opium poppy cultivation when such a large proportion of the population in some of the most populous and perhaps politically and economically influential provinces of the country are so dependent on the crop for their livelihood? The Study concludes that in such a fragile environment there is little space for dramatic policy responses. Instead, there is a need for a more informed approach that recognise the different motivations and factors that influence opium poppy cultivation and target development and law enforcement interventions accordingly. It is argued that whilst more complex, such a targeted approach is more likely to deliver on both drug control and development objectives, which ultimately will contribute to delivering a more secure and stable Afghanistan.

## 1. Introduction

### 1.1. Objective

To develop a clearer understanding of the diversity in rural livelihood strategies in Nangarhar and Laghman and the different roles that opium poppy plays within these livelihood strategies.

### 1.2. Background

In April 2004 the Deutsche Gesellschaft fuer Technische Zusammenarbeit GmbH International Services (GTZ IS) began the Project for Alternative Livelihoods (PAL) in Eastern Afghanistan, covering the provinces of Nangarhar, Laghman and Kunar. This is a three-year project funded by the European Commission (EC) and implemented in partnership with the Ministry of Rural Rehabilitation and Development of the Government of the Islamic Republic of Afghanistan. The overall budget for the project is € 9 million and its long term goal is to *'contribute to the reduction of poverty and thus facilitate the change from an opium-based economy to an alternative economic and social system by assisting communities and individuals in the planning and implementation of alternative livelihoods measures and other important rural development activities'*

This particular Study was commissioned to contribute to the development of the analytical framework on which this livelihoods programme should be built. It also offers detailed baseline data by which the programme (and the activities of those implementing in the field) can be assessed.

The Study seeks to convey the dynamics of household decision-making. To help achieve this it is structured in the style of a series of questions that the household might consider when making decisions over the allocation of resources. By doing so, the Study attempts to map out the different resources that households can draw on and how these differ by socio-economic group, district, opium poppy and non opium poppy cultivating households, and by farm size. Similarly, it looks at the cash income that the household as a unit generates and how this income is subsequently used to meet basic needs, invest in productive enterprises, purchase consumer items and service seasonal and accumulated debts. Ultimately, the Study calculates the potential net cash income that households earned over the 12 months prior to the fieldwork.

The Study contains considerable detail on rural livelihoods and the degree of socio-economic differentiation in Nangarhar and Laghman, much of it quantitative. Whilst some might consider it somewhat excessive, both policy makers and development practitioners should recognise the current paucity of data on rural livelihoods and the continuing reliance on aggregates statistics and anecdote with regard to livelihood strategies, particularly with regard to some of the discussions on the motivations and factors that influence opium poppy cultivation.<sup>1</sup> Development plans aimed at improving the lives and livelihoods of the rural population, as well as delivering a

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<sup>1</sup> For a good assessment of what is known regarding rural livelihood strategies in Afghanistan see Grace, J and A. Pain. Rethinking Rural Livelihoods in Afghanistan AREU Synthesis Paper Series, June 2004. AREU, Kabul; and Christopolos, Ian. Out of Step? Agricultural Policy and Afghan Livelihoods, AREU Issues Paper Series, May 2004. AREU, Kabul

sustainable reduction in opium poppy cultivation cannot be designed in a analytical vacuum. Whilst some initial work has been done in Badakhshan,<sup>2</sup> and now parts of Nangarhar, inter and intra regional diversity dictates that there is a need for more work in other parts of the country if the Government of Afghanistan and the international community are to develop effective plans for producing a sustainable reduction in opium poppy cultivation, as well as ensure both national drugs and rural livelihoods policies are evidence-based. This report represents just one part of the constantly evolving jigsaw puzzle.

### 1.3. Methodology

#### **The conceptual approach**

In a country as diverse as Afghanistan, culturally, geographically and indeed, even within the livelihood sector, it has always seemed rather counter-intuitive to attempt to generate an idealised ‘average’ farmer on which to base development and counter-narcotics strategies. Even within a province such as Nangarhar there are considerable differences in the assets households have at their disposal and consequently the nature and composition of their livelihood strategies. For instance, the livelihood options available to a landowner in the district of Kama with a large amount of well-irrigated land and a shop in the local bazaar managed by one of his sons, whilst his other collects a government salary, are very different from those available to a landless farmer in Rodat district, where the prevailing drought has reduced his already limited yield on the land he share crops, and where his four children under five years of age and his sick wife can offer no real assistance on the farm.

This Study works with this kind of diversity, exploring how the different assets different households can draw upon may influence them in their livelihood strategies and their decision to cultivate opium poppy. The focus of the Study is the household, defined as ‘a group of individuals sharing income and expenditure and that are living within the same compound’. In total 186 indepth interviews were conducted generating considerable qualitative and quantitative data on such diverse issues as household composition; landholdings and tenure arrangements; on-farm, off-farm and non-farm incomes; cropping patterns; source of irrigation; expenditures (both monthly and items of major expenditure over the last year); and seasonal and accumulated debts.

This data was subsequently cleaned, analysed and grouped by district, socio-economic group, poppy cultivation, size of landholding, intensity of opium poppy cultivation, and source of irrigation as a means of identifying the different causal factors behind opium poppy cultivation and how these might differ according to the different assets these different groups of households have at their disposal.

#### **Selection of fieldwork sites**

The selection of districts for fieldwork was based on a number of criteria, including socio-economic status (both poor and wealthy), a history of external development

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<sup>2</sup> Pain, Adam. The Impact of the Opium Poppy Economy on Household Livelihoods: Evidence from the Wakhan Corridor and Khustak Valley in Badakhshan. Kabul: AKDN,2003; and ‘Coping Strategies, Accumulated Wealth and Shifting Markets: The Story of Opium Poppy Cultivation in Badakhshan 2000-2003’. A Report for the Agha Khan Development Network by David Mansfield, January 2004

activity, levels of opium poppy cultivation (both high and low), and ultimately the practicability of working in these districts given the prevailing security situation, both in terms of the implementation of the Livelihoods Study and for future delivery. These criteria resulted in the selection of seven districts along the Kabul River, the districts of Mehtarlam and Qarghai in the province of Laghman and the districts of Surkhrud, Kama, Rodat, Bati Kot and Shinwar in Nangarhar.

The search for diversity was also reflected within each district covered by the Study. Three villages were selected on the basis of proximity to the district and provincial centre (remote and accessible), access to water (canal/river irrigated and karez/spring irrigated), and overall socio-economic status. Initially the field team held group meetings in each village to gain a sense of the overall patterns of socio-economic diversity within the village and establish basic demographic data. Subsequently indepth interviews were conducted with nine respondents in each village, with three households from each category of landlord, owner cultivator and landless selected for interview. Each interview was conducted on a one to one basis.

The fieldwork was undertaken by a team of Afghan national staff from the Non Government Organisation, Coordination for Afghan Relief, from 1<sup>st</sup> to 22<sup>nd</sup> of September 2004. This team have considerable experience in undertaking both quantitative and qualitative research in rural Afghanistan, particularly regarding the role of opium poppy in rural livelihood strategies that dates back to before 2000.

### **Problems during implementation**

Whilst the team attempted to comply with the research methodology and interview three households from each socio-economic group in each village selected this was not always possible. In particular, it was noted during the fieldwork that those households considered the wealthiest in the village were often not available for interview. This group typically resided in Peshawar, Kabul or Jalalabad, leaving their land in the hands of the extended family or leasing their land to others on a permanent basis.

The fieldwork team also had some concerns over the accuracy of respondent's reports over how much opium they sold in the last twelve months. Whilst a fall in yields in the 2003/04 cropping season could go some way to explaining the low level of reported sales, it was generally felt by the team that there was a degree of under reporting in this particular area. Eradication efforts (as limited as they were in 2003/04), counter narcotics law enforcement operations within the province of Nangarhar, and speculation over the potential for future law enforcement interventions were blamed for the growing sensitivities respondents had over sharing information on opium sales.

To counter the potential for under reporting on the sale of opium, a potential maximum total cash income was derived, based on the assumption that each household sold all the opium they produced within the calendar year. Clearly this is not always the case as previous research has shown wealthier households may retain stocks to sell during the winter months, when prices have risen, whilst the resource

poor may sell their entire opium poppy crop up to two years in advance.<sup>3</sup> As such, the figures for maximum potential total cash income may represent an overestimate and should be treated as an upper limit.

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<sup>3</sup> ‘The Economic Superiority of Illicit Drug Production: Myth and Reality - Opium Poppy Cultivation in Afghanistan’. Paper prepared for the International Conference on Alternative Development in drug control and cooperation, Feldafing, January 7-12, 2001 by David Mansfield.

## 2. Access to Labour and Land

### 2.1. The Household: How many people need clothing and feeding and what do they contribute?

#### **How many are there in the household?**

For the purpose of this Study the definition of a household was in accordance with that used by the National Surveillance system (NSS) as ‘a group of individuals sharing income and expenditure and that are living within the same compound’. As such, a household may contain a number of families, indeed almost two thirds (63%) of those interviewed did, and therefore the number of persons was found to vary significantly, varying from 2 to 52. For the sample as a whole, there was on average 14.7 persons living in each household. Of these household members 46% were adults and 54% were children. The split between males and females was exactly 50:50.

Whilst household demographics remained relatively constant household sizes were found to vary when respondent were grouped by socio economic status and area of cultivated land. For instance, those respondents categorised as landlords were found to have an average of 17 persons whilst the landless reported only 12.8 persons per household. Similarly, those respondents with 20 jeribs<sup>4</sup> of cultivated land or more had 22.9 members per household compared with an average of 11 persons per household for those interviewed with 2.5 jeribs of land or less.

The number of families living within each household was also found to vary by socio-economic group, with those households categorised as landlords containing on average 2.6 families, compared to 2.1 families amongst owner-cultivators and 1.9 families amongst those households who did not own land. The average number of families per household for the sample as a whole was 2.2. Those with 20 jeribs or more had 3.5 families per household whilst those households with 2.5 jeribs of cultivated land or less contained only 1.6 families.

	Average number of persons per household economically active	On Farm		Off and Non Farm	
		Full Time (%)	Part Time (%)	Full Time (%)	Part Time (%)
Landlord	4.6	28	34	34	5
Owner cultivator	4.8	34	48	18	2
Landless	4.7	40	46	13	2
<b>All</b>	<b>4.8</b>	<b>34</b>	<b>43</b>	<b>20</b>	<b>3</b>

<sup>4</sup> A Jerib is 2,000 square metres, the equivalent of approximately one fifth of a hectare.

### **And what is their contribution to the household economy?**

Respondents were asked about the contribution the members of their household made to the household economy (see Table 1). They were asked to differentiate between the contribution of male and female members, as well as adults and children, and the nature of their contribution - be it on-farm or non-farm, full time or part time.

This breakdown reveals an interesting, if not altogether unsurprising, picture in which a greater proportion of household members from those households identified as owner-cultivators and landless are involved in on-farm work than those respondents categorised as landlords. , Whilst conversely a greater proportion of economically active household members from those households categorised as landlords were more likely to be involved in off and non-farm income opportunities than those from poorer socio-economic groups. It also reveals that women and children from those respondents categories as landless are more likely to contribute to on-farm activities on a part time basis than those respondents from the landlord class (see Table2).

Indeed, further enquiries regarding the use of family labour, in particular the role children played in on-farm activities, revealed that almost one fifth (17%) of respondents withdrew their children from school during peak periods of agricultural activity. In total there were 56 occasions when children were removed from school to work on the household land, 70% for the purpose of weeding opium poppy, 25% for the opium poppy harvest, 2% for planting opium poppy and 3% for threshing wheat.

The labour intensive nature of opium poppy cultivation, requiring approximately 70 person days of work per jerib compared to only 8 days for wheat,<sup>5</sup> has made access to unremunerated family or cheap labour critical to minimising production costs.<sup>6</sup> Moreover, it is not only that the crop requires a large amount of labour but also the timing of labour inputs is critical, especially during the harvest period when a delay in lancing can have a significant impact in the final yield of the crop.<sup>7</sup> Given the preference for allocating child labour to poppy cultivation respondents typically removed their children from school in February (30%), March (38%), April (5%), and (May 21%).

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<sup>5</sup> This figure, derived from the Socio-Economic Baseline for UNDCP's Target Districts in Afghanistan in 1998 (unpublished), is consistent with estimates provided by other analysts in South and South East Asia. See '*Alternative Development: The Modern Thrust of Supply Side Policy*' by David Mansfield in the United Nations Bulletin on Narcotics, Vol. LI, Nos. 1 and 2, 1999.

<sup>6</sup> 'The Economic Superiority of Illicit Drug Production: Myth and Reality - Opium Poppy Cultivation in Afghanistan'. Paper prepared for the International Conference on Alternative Development in drug control and cooperation, Feldafing, January 7-12, 2001 by David Mansfield; 'What is Driving Opium Poppy Cultivation? Decision Making Amongst Opium Poppy Cultivators in Afghanistan in the 2003/4 Growing Season' by David Mansfield A Paper for the UNODC/ONDCP Second Technical Conference on Drug Control Research, 19 –21 July 2004.

<sup>7</sup> 'Two days' delay in starting to incise technically ripe capsules results in a loss of 7%, and 'six days' delay of 30%, of the latex.' See G. Shuljgin (1969) '*Cultivation of the opium poppy and the oil poppy in the Soviet Union*' in the United Nations Bulletin on Narcotics. Vol. No. 1: p1-8.

Table 2: Economically Active Members of the Household Differentiated by Sex and Age								
	Adults				Children			
	On Farm		Off and Non-Farm		On Farm		Off and Non-Farm	
	Full Time (%)	Part Time (%)	Full Time (%)	Part Time (%)	Full Time (%)	Part Time (%)	Full Time (%)	Part Time (%)
Landlord	95	49	88	82	5	51	12	18
Owner cultivator	99	47	100	97	1	53	0	18
Landless	100	44	97	50	0	56	3	50
<b>All</b>	<b>99</b>	<b>46</b>	<b>94</b>	<b>77</b>	<b>2</b>	<b>54</b>	<b>6</b>	<b>23</b>
	Male				Female			
	On Farm		Off and Non-Farm		On Farm		Off and Non-Farm	
	Full Time (%)	Part Time (%)	Full Time (%)	Part Time (%)	Full Time (%)	Part Time (%)	Full Time (%)	Part Time (%)
Landlord	100	59	97	64	0	41	3	36
Owner cultivator	100	59	100	100	0	41	0	0
Landless	100	49	100	75	0	51	0	25
<b>All</b>	<b>100</b>	<b>57</b>	<b>99</b>	<b>81</b>	<b>0</b>	<b>44</b>	<b>1</b>	<b>19</b>

A further analysis of the data suggests wealthier socio-economic groups (who were also most likely to have their children in school in the first place) were the least likely to withdraw their children from school for agricultural activities. For instance only 2% of those categorised as landlords removed their children from school during peak periods of agricultural activity, compared to 18% of owner cultivators and 25% of the landless.<sup>8</sup>

This tendency to make greater use of the labour available within the family amongst resource poor respondents reflects the fact that the disparity in returns on opium across the different socio-economic groups involved in its cultivation. For instance, under the prevailing land tenure systems those households who are employed as sharecroppers only receive one third to a maximum of one half of the final opium crop despite making by far the biggest contribution to the total cost of production through their provision of the majority of the labour days required.<sup>9</sup> Previous research in both Afghanistan and other opium producing areas has shown that this group in particular has preferred to cultivate a level of opium poppy that is commensurate with the family labour supply and has been reluctant to hire labour unless absolutely necessary.<sup>10</sup>

## 2.2. Drawing on other source of labour: what is the contribution and costs of hired labour?

### **What tasks is hired labour used for and where does it come from?**

Four-fifths (80%) of those interviewed reported that they hired labour during periods of peak agricultural activity. Whilst the vast majority of these respondents hired labour on more than one occasion, practically all of them (96%) hired labour to work on opium poppy. Over one half of all respondents (56%) hired labour for both weeding and harvesting opium poppy, reflecting the labour intensity of the crop. Moreover, 83% of the 295 reported incidents of hired labour were for opium poppy cultivation, 38% for weeding opium poppy and 45% to work on the opium poppy harvest. Hiring labour to work on the rice crop was the next most popular activity with 9% of all reported cases of hired labour, followed by the wheat harvest (6%), harvesting and weeding okra (1%) and the weeding of maize (1%).

Of those that hired labour 27% were landlords, 46% were owner cultivators and 28% owned no land at all. However, by socio-economic group this constituted 85% of landlords, 80% of owner cultivators and 77% of the landless.

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<sup>8</sup> Given that those households without land landless are the least likely to have children attending school this figure may well under-report the number of households where the children worked on opium poppy cultivation.

<sup>9</sup> Labour costs constitute 80-90% of the total cost of opium poppy production. A sharecropper will provide all of the unpaid labour required for production and pay 50% of the total costs of the hired labour required. See Kusvie, V. 'Cultivation of the opium poppy and opium poppy production in Yugoslavia' in the United Nations Bulletin on Narcotics, Vol. 1, 1960, No. 1, p. 5-13; and 'Coping Strategies, Accumulated Wealth and Shifting Markets: The Story of Opium Poppy Cultivation in Badakhshan 2000-2003'. A Report for the Agha Khan Development Network by David Mansfield, January 2004

<sup>10</sup> 'In India [opium poppy cultivation] is a family affair – every member of the family is involved.' Akhtar Hussain and J.R. Sharma, The Opium Poppy, (Luknow, Central Institute of Medicinal and Aromatic Plants, 1983, p. 6).

Those respondents that hired labour reported that 51% of those employed came from their village. A further 28% came from the same province but not the same district, whilst 18% came from another province and 3% of those employed came from another country, namely Pakistan. Where those who hired labour reported that it came from a district within the province, 11 different districts were cited, these were: Achin, Khogiani, Chapahar, Jalalabad, Surkhrud, Hesarak, Alingar, Shinwar, Deh Bala, Nazian and Bati Kot. A further 9% were described as coming from Nangarhar with no specific district cited. Despite the diversity in origin of hired labour two thirds of those hired as labour came from the three districts in which opium poppy probably has the longest history in Nangarhar - Khogiani (36%), Achin (17%) and Shinwar (13%).

Whilst the majority of hired labour came from neighbouring districts, perhaps not surprisingly labour from Khogiani seemed to travel more widely working in Rodat, Bati Kot, Kama, and Surkhrud and Shinwar, of which only the district of Surkhrud is adjacent. Labourers from Hesarak were also not restricted to neighbouring districts, working in Rodat, Bati Kot and Shinwar.

#### **And what does it cost?**

From the data it was also possible to derive the average hired labour costs incurred by respondents for both weeding and harvesting opium poppy, Whilst the average day rate for weeding was US\$2.4, the rate for labour at harvest time increased to US\$6, possibly due to the level of demand at the time and the relatively skilled nature of the task. The market power of itinerant harvesters is also reflected in the costs of meals incurred by employers, where those hired for the harvest received meals worth on average US\$ 1.15 per day compared to meals of an equivalent value of US\$0.60 per day for those weeding opium poppy. This reflects the fact that itinerant harvesters are typically provided with three 'good' meals per day as opposed to those paid for weeding opium poppy who whilst fed do not generally receive meat.<sup>11</sup>

Perhaps the high costs per day of employing wage labour during the harvest explains why on average respondents hired labour for only 6.25 person days per jerib for the harvest and 18 person days per jerib for weeding, resulting in average hired labour costs to the household of US\$ 54 per jerib for weeding and US\$45 per jerib for the opium poppy harvest. Certainly, the higher daily cost of hired labour combined with the potential for theft of the gum by itinerants during the harvest,<sup>12</sup> as well as the duration of the weeding season (January to March) when other non-farm income opportunities might be available, would all contribute to households giving greater preference to the use of hired labour during the weeding season and maximising the use of family labour during the harvest.

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<sup>11</sup> UNODC Strategic Study#4: Access to Labour: The Role of Opium in the Livelihood Strategies of Itinerant Harvesters Working in Helmand Province, Afghanistan. Final Report, June 1999. UNODC Afghanistan Programme, Islamabad.

<sup>12</sup> UNODC Strategic Study#1: An Analysis of the Process of Expansion of Opium Poppy Cultivation to New Districts in Afghanistan. Preliminary Report, August 1998. UNODC Afghanistan Programme, Islamabad.

Based on an average input of 24.25 person days, hired labour constitutes approximately one third of the total person days required for the cultivation of one jerib of opium poppy. Were these levels of employment and daily wage labour rates to be typical across Nangarhar during the 2003/2004 season an estimated 3.4 million person days<sup>13</sup> of off-farm employment would have been created by opium poppy cultivation in the province, generating around US\$ 11.7 million in daily wages - not an insignificant level of economic activity in its own right.

### 2.3. Land Tenure: Whose land is it and what's my share?

#### **Do I have sufficient land of my own?**

Almost 72% of those interviewed owned some land (N 133). Of these around about one third (N 47) were classified as landlords on the basis that they were one of the households in the village that owned the largest amount of land and also employed others to work on their land on either a sharecropping or tenancy basis. The largest group (N 86) were owner cultivators who made up 46% of the sample as a whole. Just over a quarter of respondents (28%) owned no land at all.

However, as with previous studies, fieldwork revealed that these three broad categories masked a far more complex picture of land tenure arrangements.<sup>14</sup> For instance, amongst the group classified as owner cultivators 11% were involved in sharecropping arrangements, 7% had mortgaged their land to others, and 7% were renting land. To make matters even more complex, 6% of owner cultivators were found to engage in two or more land tenure systems. The vast majority of this group, however, simply worked on their own land (77%).

Even amongst those owner cultivators that had mortgaged their land the security of their landownership varied. Whilst some respondents still worked on their own land but had mortgaged a part of their land to others in order to repay debts (5%) others had mortgaged all their land (2%) and only obtained further land through entering a sharecropping arrangement. Previous research has suggested under these circumstances the likelihood of households paying off their debt and regaining full ownership over their land is unlikely.<sup>15</sup> One respondent in Shinwar had even mortgaged his water rights in order to obtain sufficient money to pay for his son to marry. This left him with no irrigation for his limited landholding (of only one seventh of one jerib) and subsequently due to the drought, no crop.

Amongst those classified as landless, 85% obtained land through sharecropping arrangements, 13% leased land and 4% accessed land on both a tenancy and sharecropping basis. Other fieldwork in Afghanistan has shown that landowners typically favour employing sharecroppers rather than leasing their land to others due to the better returns they accrue on sharecropped land, particularly when opium poppy

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<sup>13</sup> This uses UNODC's estimate for the province of Nangarhar of 28,000 hectares of opium poppy for the 2003/04 season. UNODC Afghanistan Opium Poppy Survey 2004. UNODC, Kabul.

<sup>14</sup> 'Coping Strategies, Accumulated Wealth and Shifting Markets: The Story of Opium Poppy Cultivation in Badakhshan 2000-2003'. A Report for the Agha Khan Development Network by David Mansfield, January 2004

<sup>15</sup> 'What is Driving Opium Poppy Cultivation? Decision Making Amongst Opium Poppy Cultivators in Afghanistan in the 2003/4 Growing Season' by David Mansfield A Paper for the UNODC/ONDCP Second Technical Conference on Drug Control Research, 19 -21 July 2004

is cultivated. Of those interviewed 48% of households were involved in a sharecropping arrangement, either employing sharecroppers (13%) or working as a sharecropper themselves (34%). This compares with only 11% of those interviewed who either rented out their land or leased it from someone else.

#### **How much will I have to pay to cultivate more land?**

The level of rent charged on a given piece of land ranged from 140 to 490 kilogrammes of wheat per jerib during the winter season and 175 to 280 kilogrammes of maize per jerib during the summer season. Typically the higher levels of rent were found in the district of Qarghai where respondents blamed tenants from Khogiani, who had moved to the area wishing to grow opium poppy, for pushing up the cost of leasing land. It was reported that this had caused some resentment in the areas, as rents were now generally higher than the average yield of the land.<sup>16</sup>

It was also suggested that Khogiani farmers gained preferential access to sharecropped land in the district of Kama. Respondents reported that there were a number of cases of farmers from Khogiani providing loans to landowners to secure their employment as sharecroppers. It was reported that these loans, typically of between US\$ 1,000 and US\$1,500, were only to be repaid once the sharecropping arrangement between the two parties ended. It was also suggested that as long as the Khogiani farmer was employed as a sharecropper for more than one season the loan was considered interest free. Whilst such an arrangement might be profitable when opium prices are particularly high, it remains to be seen whether this will continue if opium falls back to its price in the mid 1990 levels.

Across the districts sharecroppers typically obtained one third to one half of the final opium crop, depending on the inputs each party provided.<sup>17</sup> However, there were a number of landowners in the district of Qarghai who reported they received four fifths of the final yield of land sharecropped by others, however, this was typically for wheat cultivation.

#### 2.4. Cultivated land: What is available?

##### **What is the maximum area that can be cultivated?**

When analysing the amount of cultivated land it is important to distinguish between single crop and double crop areas, particularly during periods of drought such as in 2004 (see Table 3). The average amount of total land cultivated (i.e. both summer and winter crops) for the sample as a whole was 14.4 jeribs just less than 3 hectares of land. Of the socio-economic groups, owner-cultivators were found to cultivate the least amount of total land with only 8.2 jeribs, of which 5.4 jeribs was cultivated during the winter season. Not surprisingly, those classified as landlords cultivated the largest amount of land with 25.4 jeribs in total and 16.1 jeribs during the winter season.

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<sup>16</sup> Ibid. Footnote 4.

<sup>17</sup> Typically a sharecropper in Afghanistan receives one fifth of the final yield for licit crops and one third of the final yield for opium. However, where the final crop is distributed evenly between both landowner and sharecropper the costs of cultivation are also equally distributed, except for unremunerated family labour which the sharecropper and their family are expected to provide.

**Table 3: Average Amount of Cultivated Land per Household**

	Total Land (Jeribs)	Winter Land (Jeribs)
All	14.4	8.9
Landlord	25.4	16.1
Owner cultivator	8.8	5.4
Landless	13.6	8.4
Mehtarlam	17.5	9.1
Rodat	7.8	7.3
Kama	18.6	9.4
Surkhrud	11.2	9.3
Bati Kot	16.2	10.4
Qarghai	19.3	9.3
Shinwar	9.9	7.5
Single crop	9.5	9.5
Double crop	16.0	8.8

Between the districts the total amount of cultivated land varied considerably from 7.8 jeribs in Rodat, with only 7.3 jeribs in the winter season, reflecting the impact of the drought on respondents there, to Qarghai, where double cropping is more common, and a total of 19.3 jeribs were cultivated (with 9.3 jeribs in the winter season).

Clearly those respondents who double cropped had more land under cultivation than those households that only obtained a single crop, at 16 jeribs and 9.5 jeribs respectively. However, in the winter season those respondents with only a single crop had the advantage with 9.5 jeribs of cultivated land compared with 8.8 jeribs of land for those households with a double crop.

#### **How many people is that per unit of land?**

When the number of persons per household is considered in conjunction with the amount of land cultivated during the winter season it is possible to see the density of population in certain areas and amongst specific socio-economic groups (see Table 4). For instance, Rodat and Shinwar stand out as areas with particularly high population densities with 3.7 persons per jerib. As do those respondents (often in Rodat and Shinwar but not exclusively) that monocrop opium that reported 3.6 persons per jerib of cultivated land.

Perhaps not surprisingly those respondents with 2.5 jeribs of land or less had the highest density of population with 5.5 persons per jerib of cultivated land. A stark contrast with the 0.9 persons per jerib of cultivated land enjoyed by those households with 20 jeribs or more of cultivated land during the winter season. The high number of persons per unit of cultivated land on such small landholdings would not only facilitate opium poppy cultivation due to the availability unremunerated family labour, but leave households with little choice but to maximise the production of cash crops in order to meet the household's basic needs (see wheat self sufficiency below).

<b>Table 4: Average Number of Household Members per Jerib</b>	
	<b>Average number of household members per /jerib</b>
<b>All</b>	<b>2.7</b>
Landlord	1.4
Owner cultivator	3.5
Landless	2.8
Mehtarlam	2.5
Rodat	3.7
Kama	2.5
Surkhrud	2.5
Bati Kot	2.4
Qarghai	2.2
Shinwar	3.7
Single crop	2.9
Double crop	2.7
20 jeribs of cultivated land or more	0.9
10 jeribs of cultivated land or more	1.3
5 jeribs of cultivated land or less	4.4
2.5 jeribs of cultivated land or less	5.5
Non poppy growers	2.6
Poppy growers	2.8
100% of winter land poppy	3.6
More than 75% of land with poppy	3.2
Less than 50% of land with poppy	2.3
Less than 25% of land with poppy	2.4
Irrigated by tubewell	2.5

### **3. On-Farm Income**

#### 3.1 Cropping Decisions: One season or two?

##### **What combination of crops should be considered?**

Respondents in the districts covered by the Study cultivated 18 different field crops and vegetables. These included opium poppy, wheat, maize, rice, clover, onion, cotton, sugar cane, okra, lentil, cauliflower, mung bean, carrot, spinach, potato, cucumber, egg plant and gandaneh (see Table 5). Other crops such as tomatoes, radish and lettuce were also cultivated by those interviewed but these were cultivated on small plots of land and purely used for household consumption

The most commonly cultivated crop was opium poppy with 94% of all those interviewed allocating some of their land to the crop. Indeed, apart from Mehtarlam (73%) and Surkhrud (85%), every respondent reported that they cultivated opium poppy, regardless of socio-economic group or land size.

Wheat was the next most popular crop with 68% of respondents indicating that they dedicated some of their land to the crop. The number of households cultivating wheat varied by the amount of cultivated land with only 51% of households with 2.5 jeribs or less cultivating wheat compared to 94% of respondents with 20 jeribs or more. This low level of cultivation amongst the land poor is also reflected in the number of households cultivating wheat across the different socio-economic groups, where 81% of those households classified as landlords were found to cultivate wheat compared to only 60% of those termed landless. Wheat was also more commonly grown in areas that could obtain a double crop (74% of respondents) than those that only obtained a single crop per year (50% of respondents).

By location, the district with the lowest number of households cultivating wheat were those with the highest density of opium poppy cultivation but also those with the largest number of household members per jerib of cultivable land – Rodat (23%) and Shinwar (37%). In all the other districts more than 60% of those interviewed cultivated wheat, whilst in both Mehtarlam and Surkhrud 96% of respondents cultivated wheat.

Maize was the next most favoured crop by respondents with just over two fifths (44%) of households cultivating it. As a summer crop maize was restricted to those areas that had sufficient water for double cropping. It was also a crop that was more common in some districts than others. For instance, 90% of respondents in Kama and 78% of respondents in Bati Kot grew maize compared to only 4% of those interviewed in Mehtarlam and Rodat. As with wheat, there was a greater tendency for those from wealthier socio-economic groups with larger areas of cultivated land to cultivate maize than those with more marginal groups with limited cultivable land.

Cotton was also commonly grown with almost one fifth (20%) of all respondents reporting they cultivated the crop. More commonly grown in Bati Kot (40% of respondents, Surkhrud (33% of respondents), and Shinwar (22% of respondents), cotton was more frequently favoured by those respondents with less than 2.5 jeribs of cultivated land (32%) than those with 20 jeribs or more (17%). Similarly, those

interviewed who did not own land were more likely to cultivate cotton (28%) than those classified as landlords (17%).

In both Qarghai and Mehtarlam there was an overwhelming preference for growing rice (80% and 96% of respondents respectively) over that of cotton (19% and 4% of respondents respectively) in the summer season. Indeed, according to the data, rice cultivation is far more location specific varying little with socio-economic group or the availability of cultivated land. And whilst Kama (59% of respondents) and Surkhrud (22% of respondents) cultivated rice, none of the respondents in either Rodat or Shinwar reported that they cultivated rice. However, despite this disparity across the districts 37% of all those interviewed reported that they cultivated rice.

Clover was also found to be cultivated relatively frequently with 15% of those interviewed reporting that they cultivated the crop. There was a tendency for clover to be cultivated more frequently by those categorised as landlords (21%) with more than 20 jeribs of cultivated land (39%) than those termed landless (11%) or those with less than 2.5 jeribs (3%). As a fodder crop, this reflects the disparity in livestock ownership across the different socio-economic groups (see livestock section later).

Aside from these main crops a range of different vegetables were also cultivated but these were more a function of location rather than socio-economic group. For instance, onion (Rodat, Surkhrud and Bati Kot); lentil (Qarghai); Mung Bean (Mehtarlam); carrot (Bati Kot); Spinach (Bati Kot); Cauliflower (Mehtarlam, Bati Kot, Qarghai and Shinwar); potato (Bati Kot and Mehtarlam); cucumber and gandaneh (Qarghai); as well as egg plant (Bati Kot).

Not surprisingly households with smaller land holdings, that were flood irrigated, and that only obtained a single crop had the least number of crops cultivated (only 2 crops). Those that rented land or mortgaged their land to others also cultivated a limited number of crops – only poppy, wheat, maize and rice – perhaps reflecting a need to maximise their returns on land. The greatest diversity in cropping patterns was found on owned (a maximum of 13 crops) or sharecropped (a maximum of 12 crops) land. By location, the districts of Shinwar and Rodat had the least diversity in cropping patterns with a maximum of 6 and 7 crops cultivated. This compares with Qarghai and Bati Kot, where 12 different crops were reported as being cultivated in the area.

A review of the proportion of respondents cultivating the different crops suggests that there is greater diversity in cropping patterns amongst a larger proportion of respondents from wealthier socio-economic groups (those classified as landlords or those with larger areas of cultivated land). For instance, those respondents categorised as landlords or those with 20 jeribs of land or more, on average cultivated 3.5 and 4 crops, respectively, compared with those categorised as landless, or those respondents with 2.5 jeribs or less who on average cultivated only 2 and 2.8 crops, respectively. The wealthy were far more likely to cultivate wheat, maize, and clover than those respondents who did not own land or those that cultivated 2.5 jeribs of land or less during the winter season. The preference for cultivating the fodder crop, clover, by wealthier socio-economic groups reflects the differing levels of livestock ownership between the different groups. Cotton was the only crop cultivated by a far greater

proportion of those with 2.5 jeribs of cultivated land, or less, and those classified as landless than wealthier respondents.

Table 5: Proportion of Respondents Cultivating Different Crops

	Opium Poppy (%)	Wheat (%)	Maize (%)	Rice (%)	Clover (%)	Onion (%)	Cotton (%)	Sugar cane (%)	Lentil (%)	Okra (%)	Cauliflower (%)	Mung Bean (%)	Carrot (%)	Spinach	Potato	Cucumber	Gandaneh	Egg plant
All	94	65	44	35	15	3	20	6	1	8	4	4	1	1	2	1	1	1
Landlord	96	79	53	34	21	4	17	4	4	15	4	13	0	0	2	0	0	0
Owner cultivator	93	63	41	36	13	2	16	5	0	8	2	0	0	0	3	2	1	1
Landless	92	55	42	34	11	2	28	9	0	0	6	2	2	2	0	0	0	0
Mehtarlam	73	96	4	96	42	0	4	0	0	0	4	27	0	0	8	0	0	0
Rodat	100	23	8	0	15	12	12	0	0	0	0	0	0	0	0	0	0	0
Kama	100	93	89	59	7	0	7	7	0	4	0	0	0	0	0	0	0	0
Surkhrud	81	89	30	22	11	4	33	7	0	22	0	0	0	0	0	0	0	0
Bati Kot	100	56	78	0	22	4	41	19	0	0	4	0	4	4	7	0	0	4
Qarghai	100	65	54	69	4	0	19	4	8	23	15	0	0	0	0	8	4	0
Shinwar	100	30	44	0	0	0	22	4	0	4	4	0	0	0	0	0	0	0
Single crop	96	50	0	0	15	7	0	0	0	0	0	0	0	0	0	0	0	2
Double crop	93	74	58	49	14	1	26	8	1	9	5	1	1	1	3	1	1	0
20 jeribs or more	94	94	56	22	39	6	17	11	0	6	6	0	0	0	6	0	0	0
10 jeribs or more	98	80	53	32	24	3	22	7	0	12	7	12	0	0	3	2	0	0
5 jeribs or less	93	50	35	33	6	3	23	5	0	5	1	0	1	1	1	0	1	0
2.5 jeribs or less	94	42	29	26	3	3	32	6	0	3	0	0	0	0	0	0	0	0
Poppy growers	100	63	45	32	14	3	20	6	1	7	4	4	1	1	1	1	1	1
Non poppy growers	0	92	25	75	25	0	17	8	0	17	0	0	0	0	17	0	0	0
Irrigated by tubewell	100	6.25	6.25	0	18.75	18.75	25	6.25	0	0	0	0	0	0	0	0	0	0

Mehtarlam and Kama were the only districts in which a greater number of respondents cultivated wheat than opium poppy. In contrast the districts of Shinwar and Rodat were the only areas in which less than half of those interviewed cultivated wheat. It is interesting that whilst there is consistency poppy across socio-economic groups and landholdings in the proportion of households cultivating opium, all of those interviewed in Rodat, Kama, Bati Kot, Qarghai and Shinwar and all of those that irrigated their land by tubewell cultivated opium poppy. The impact of the drought in Rodat, and to a lesser extent Surkhrud, is evident by the relatively low percentage of respondents cultivating either maize or rice.

When respondents were asked to reflect on their cropping decisions over the last two years and how their patterns of cultivation had changed 52% reported that they had increased the amount of land they had dedicated to crops. Of these 95% had increased their level of opium poppy cultivation. The main explanation of this move towards opium poppy was to increase household income. Less than one fifth (16%) of respondents indicated that they would like to cultivate more opium poppy next year in order to increase income and meet the households living expenses. A similar proportion (15%) of respondents indicated that they would reduce their level of opium poppy cultivation citing falling yields, fear of the local government, problems accessing land and lack of experience as the reasons for their decision. It is notable that those respondents that feared action by the government were located in the districts of Mehtarlam, Qarghai, Kama, Bati Kot and Surkhrud, none were in Shinwar or Rodat.

Only 8% of respondents indicated that they hoped to increase the land they dedicated to vegetables in the coming year. Whilst a range of different crops including Radish, Cauliflower, Sugar Cane, Egg Plant, Potato, Okra and Onion were all cited as potentials the continuing impact of the drought, limited markets and poor infrastructure were also cited as constraints on expanded cultivation. In parts of the district of Kama, corruption was reported as a major constraint on the expansion of sugar cane cultivation. Respondents alleged that local power brokers were purchasing sugar cane forcibly at a rate significantly lower than the market price in Jalalabad. These powerbrokers justified these actions with claims that they had the authority of the provincial authorities.

### **What proportion of land is cultivated?**

By reviewing the total amount of cultivated land (both summer and winter crops) it is possible to put opium poppy into a broader context of diverse cropping patterns, crop rotation, and resource constraints. For instance for the sample as a whole opium poppy occupied 32% of the total amount of cultivated land, wheat 26%, maize 19%, rice 14%, cotton 3%, clover 1.6%, and an array of other field and vegetable crops, including onions, potato, cucumber and carrot, 4% of the total land cultivated. Indeed, Shinwar (61%) and Rodat (76%) are the only districts in which opium poppy is cultivated on the majority of total cultivated land. Bati Kot is the district with the third highest amount of land dedicated to opium poppy with 41% of total cultivated land. In all the other districts – Mehtarlam (14%), Qarghai (27%), Surkhrud (24%), Kama (17%) - less than a third of total cultivated land is dedicated to opium poppy.

**Kommentar:** nice example that could be demonstrated by a grap

Amongst socio-economic groups and farm size categories the variance in the amount of total cultivated land dedicated to opium poppy is less significant than for districts,

ranging from 28% for those respondents categorised as landless to 40% for those respondents with less than 2.5 jeribs of land. For all other groups approximately one third of their total cultivated land was dedicated to opium poppy. The only categories where the proportion of total land cultivated with opium poppy exceeds 50% was amongst those households that only obtain a single crop (54%) and those whose land is irrigated by tubewell (88%).

Key informants explain that the reason for the high proportion of land dedicated to opium poppy in these two particular categories relates to the need to maximise returns on the prevailing scarce resource – irrigated land.<sup>18</sup> Those areas that only obtain a single crop, and essentially have only half the cultivable land of those that can obtain a double crop, need to maximise the economic returns on their land during the winter season if they are to meet their families needs over the full calendar year. This makes a higher value cash crop such as opium poppy an attractive option. Those areas that obtain only a single crop are also less concerned about pursuing crop rotation than areas involved in double cropping as their land will be left fallow during the summer season anyway.

However it is also worth noting that in parts of Shinwar, BatiKot, and Rodat where there is a degree of mono-cropping of opium poppy during the winter season (63%, 19% and 64% of respondents respectively), households reported that they left their land fallow during the summer even though some of them may have sufficient water to cultivate a crop of maize and/or summer vegetables. Indeed, 15% of those households that left some of their land fallow during the summer reported that they did so due to their opium poppy crop and not due to a shortage of water. Key informants suggest that this strategy is to bypass traditional crop rotation practices and allow opium poppy to be cultivated on the same land the following winter.<sup>19</sup> Respondents that followed this strategy were limited to parts of Shinwar (Wiala 28, Katilay) and Bati Kot (Chardehi and Lowarti). In Rodat all respondents reported that the drought was the overwhelming reason cited for leaving land fallow during the summer months.

The particularly high density of opium poppy cultivation on land irrigated by tubewells was attributed to the sheer cost of installation (often taking a debt to finance it) and maintenance. Costs of the tubewell included digging the well, pipes, a water pump, and a generator to run the pump, estimated at between US\$ 900 to US\$ 1,100. Recurrent costs included repairs to the generator and water pump. Diesel costs alone were estimated at the equivalent of \$6 to \$8 per jerib for each irrigation undertaken. Key informants suggested that it was typically wealthier socio-economic groups that were installing tubewells, particularly in Rodat where the water shortage was acute and the water table was very low. It was argued that where households obtained loans to install and run a tubewell, high levels of opium poppy cultivation was the only feasible means of repaying these debts.

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<sup>18</sup> *As a consequence, it is water not land which is the limiting resource for crop production. This is a significant issue when deciding between wheat and poppy, as poppy is considered to be better able to produce under water-shortage conditions.* Helmand Planning Group. Helmand Initiative: Joint Strategy Development, Paper prepared for the United Nations Development Programme, Islamabad May 2000

<sup>19</sup> It is also suggested that some farmers rotate the variety of opium poppy they cultivate each year so as to mitigate disease.

Of the 16 respondents that used tubewells for irrigation 50% were in Shinwar and 50% in Rodat. Almost 70% of these households only obtained a single crop from their land. Of the five respondents that did cultivate in the summer, crops occupied a maximum of 20% of the land area cultivated during the winter season. Three quarters (75%) of those that irrigated their land with tubewells mono-cropped opium poppy – all of these households did not cultivate a summer crop.

### **What are the options for winter crops?**

A review of the amount of land dedicated to opium poppy during the winter season reveals a picture in which opium poppy and wheat dominate the landscape. For instance for the sample as a whole 52% of the land cultivated was dedicated to opium poppy and 42% to wheat during the winter season (see Table 6). Clover was the next most widely cultivated crop occupying almost 3% of household land for the sample as a whole. Other winter season vegetables, including onion, cauliflower, spinach, potato and egg plant occupied only 3% of the cultivated land.

The highest density of opium poppy cultivation was reported in Rodat where 81% of the cultivated land in winter was allocated to the crop. Shinwar was second with 80%, followed by Bati Kot with 66% and Qarghai with 55% of the cultivated land in winter dedicated to opium poppy. It was only in Kama (34%) Surkhrud (29%) and Mehtarlam (27%) that less than half of respondent's cultivated land during the winter season was grown with opium poppy. In these areas wheat occupied over three fifths of the land cultivated during the winter season and crops such as clover, cauliflower and potato occupied a greater share of cultivated land than in areas where opium poppy was more densely cultivated.

For those classified as landlords, owner cultivators and landless, winter cropping patterns varied little. However, an analysis of patterns of cultivation by farm size revealed a more obvious trend in which the density of opium poppy cultivation diminished as the size of cultivated land increased. For example, poppy cultivation was cultivated most densely by respondents who cultivated 2.5 jeribs of land in winter or less. This group dedicated 69% of their land to opium poppy as opposed to those respondents with 20 jeribs or more who cultivated opium poppy on 44% of their cultivated land.

The corollary of this is that those households who only cultivated opium poppy (with no other crop in either the winter or summer season) had the lowest level of cultivated land with only 4.8 jeribs. In contrast those who dedicated less than one quarter of their winter land to opium poppy cultivated 10 jeribs of land in the winter and a further 6 jeribs in the summer. Similarly, those that monocropped opium poppy during the winter season cultivated only 5.1 jeribs of land during the winter season (and a further 2.5 jeribs in the summer) compared to those who cultivated 50% of their winter land or less with opium poppy who had on average 9.3 jeribs of cultivated land in the winter (and a further 6.2 jeribs of cultivated land in the summer).

**Table 6: Proportion of Land Dedicated to Different Crops During the Winter and Summer Seasons**

	Winter Crops			Summer Crops			
	Opium Poppy (%)	Wheat (%)	Other (%)	Maize (%)	Rice (%)	Cotton (%)	Other (%)
<b>All</b>	<b>52</b>	<b>42</b>	<b>5</b>	<b>50</b>	<b>37</b>	<b>8</b>	<b>5</b>
Landlord	54	42	42	57	30	6	5
Owner cultivator	54	38	53	48	40	7	5
Landless	46	46	7	41	46	11	3
Mehtarlam	27	61	12	1	91	1	6
Rodat	81	15	3	42	0	58	0
Kama	34	63	3	78	21	1	0
Surkhrud	29	68	3	46	11	27	17
Bati Kot	66	24	8	79	0	21	0
Qarghai	55	40	5	40	46	5	9
Shinwar	80	19	1	85	0	10	5
Single crop	54	43	3	0	0	0	0
Double crop	51	42	7	50	37	8	5
20 jeribs or more	44	50	6	63	27	8	2
10 jeribs or more	50	45	5	56	32	8	4
5 jeribs or less	64	30	6	44	31	17	8
2.5 jeribs or less	69	27	4	38	40	20	2
Poppy growers	54	40	6	53	35	8	4
Non poppy growers	0	89	11	14	75	6	4
Irrigated by tubewell	94	2	4	43	0	57	0

### **If a summer crop is possible what should be grown?**

A review of summer cropping patterns also reveals the dominance of a limited number of crops – namely maize, rice and cotton. For the sample as a whole on average 50% of the land cultivated during the summer season was dedicated to maize. This compares with 37% of cultivated land occupied by rice and 8% to cotton. Okra was the crop that on average occupied the next largest amount of summer land (2.5%), with a range of other summer vegetables including mung bean, lentil and gandaneh, occupying the remaining 2% of land cultivated during the summer months.

The main determinant of which of the three main summer crops – maize, cotton or rice - dominates would appear to be location (and partly the natural resources that are function of this). Maize occupies the majority of summer land amongst respondents in Kama (78%), Shinwar (85%) and Bati Kot (80%), whilst respondents in the well-irrigated areas of Mehtarlam and Qarghai clearly favour rice in the summer season with 91% and 45% of summer land dedicated to the crop respectively. Rodat was the only district in which on average cotton occupied the majority of respondent's land (58%) although Surkhrud (27%) and Bati Kot (21%) and Shinwar (11%) all dedicated a significant amount of land to the crop during the summer season.

### 3.2. Wheat production: Is there enough to meet the families needs?

#### **Is self-sufficiency even an option?**

Only 5% of households reported that they had produced sufficient wheat to meet their families needs this year. And whilst 56% reported that they had once produced sufficient wheat on their land to feed the household this had been on average six years prior. The main reason for this change in circumstance was attributed to a combination of an increase in family size, an increase in the amount of land dedicated to opium poppy and the impact of the drought.

Whilst respondents across the study area argued that the fragmentation of landholdings and increases in poppy cultivation were responsible for lower levels of household sufficiency in wheat production the combined impact of drought and increases in opium poppy cultivation tended to be location specific, limited to Rodat (all three villages Kan, Bar Kalay and Hesarak), Shinwar (Gulahi), Bati Kot (Lowarti) and Surkhrud (Shamsapur and Baghbani). As we have seen earlier, apart from Surkhrud (where respondents claimed they had only 29% of their winter land dedicated to opium poppy), respondents in Rodat (81%), Shinwar (80%) and Bati Kot (66%) reported the highest densities of opium poppy cultivation of the seven districts covered in the Study.

Indeed, key informants reported that in many of the areas experiencing water shortage there was an increasing tendency for households to allocate the majority of their well-irrigated land to opium poppy, thereby maximising returns on their most scarce asset. In these areas wheat cultivation was increasingly being limited to land that was irrigated by the river flood-waters during times of peak rainfall. It was argued that reductions in the market price of wheat and increasing confidence over the availability

of imported wheat had facilitated households in their decision to reallocate their land to opium poppy.<sup>20</sup>

Not surprisingly self-sufficiency in wheat production varied by location and socio-economic group. Landlords were not only the socio-economic group that had higher rates of self-sufficiency (11%), compared to owner cultivators (2%) and the landless (4%), but they also had a better history of self-sufficiency. Almost three quarters of those classified as landlords (72%) indicated that they had once produced sufficient wheat to feed their families for a twelve month period (compared to only 49% of owner cultivators and 22% of the landless) and 70% indicated that they could be self-sufficient in wheat production if they allocated all their land to wheat. Not surprisingly only 59% of owner-cultivators and 30% of those classified as landless were in a position to produce sufficient wheat for their household were they to dedicate all their land to wheat, highlighting the integral role cash crops and/or non farm income opportunities play in guaranteeing food security for these particular socio-economic groups.

By location, self-sufficiency in wheat was of course closely tied with the incidence of opium poppy cultivation. In Shinwar and Rodat, areas of intense opium poppy cultivation, none of the respondents reported that they were self sufficient in wheat. Moreover, these two areas had some of the lowest historical rates of self-sufficiency at 46% and 52% respectively. The district of Shinwar had the poorest historical record for self-sufficiency in wheat production with those respondents that reported that they had once produced sufficient wheat to feed their family for the year indicating that it had been on average 10 years ago (compared to 6 years for the sample as a whole). These low rates of self-sufficiency in wheat production in Shinwar perhaps reflect the entrenched nature of opium poppy cultivation within the district and the smaller than average landholdings.

Evidence of the competing nature of the wheat and opium poppy crop is perhaps best illustrated by the levels for opium poppy cultivation amongst those respondents who were self sufficient in wheat production, who cultivated opium poppy on 25% of their winter land, and those who did not produce sufficient wheat to feed their family this year, who on average dedicated 55% of their winter land to opium poppy. However, before simply equating opium poppy cultivation with lower levels of self-sufficiency in wheat production it is also worth noting that respondents in both Rodat and Shinwar also had the highest number of persons per jerib of cultivated land at 3.7.

In other districts the number of persons per jerib of cultivated land varied from 2.2 in Qarghai, where 61% of respondents had once been self sufficient in wheat production, to, 2.5 persons per jerib in Surkhrud where 56% reported that they actually could still

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<sup>20</sup> Phillips has indicated that the rural cultivator in Afghanistan will balance the amount of land sown with poppy with household food requirements. When basic foodstuffs such as wheat and flour can be easily purchased for reasonable prices the farmer may opt to dedicate a greater proportion of land to poppy cultivation. However, when wheat becomes too expensive or too difficult to purchase the farmer will reduce the amount of land planted with poppy and increase wheat cultivation, until the balance of the two corresponds with household food and cash requirements' see UNDCP Afghanistan: Assessment Strategy and Programming Mission to Afghanistan, May - July 1995. See also Andy Hale Afghanistan Food Aid Impact Assessment, Chemonics International Inc., December 2002.

produce sufficient wheat to feed their family if they dedicated all their land to the crop. In Rodat and Shinwar, only 38% and 41% of respondents, respectively, indicated that they could become self sufficient in wheat production by solely cultivating wheat. The density of population in Shinwar and Rodat is even higher than those households that reported that they had never produced sufficient wheat to feed their families, and who had almost 50% more persons per jerib of cultivable land (3.4 persons/jerib) than those who had at some point been self sufficient (2.2 persons/jerib) in wheat production.

### 3.3 Crop Sales: What is sold and for what income does it generate?

#### **Calculating the value of crop sales**

Households were not just asked to report on what crops they cultivated but also provide details of what quantity of crops they sold over the previous twelve months and at what particular price. Field staff were of the view that the sale of opium was under-reported by respondents due to the current sensitivities associated with opium poppy cultivation. Whilst low levels of reported sales of opium might be a consequence of households either retaining stocks for sale at a later date when prices have risen, or the advance sale of opium as a means of accessing credit,<sup>21</sup> the analysis of this study has assumed a maximum potential level of yields, sales and, ultimately, annual household income from opium poppy.

To calculate these estimates a number of assumptions have been made. Firstly, it was assumed that every respondent that cultivated opium poppy sold their entire opium crop over the twelve month period for which respondents were asked to report. Secondly, the maximum opium yield that respondents obtained was assumed to be 6.4 kilogrammes per jerib (the equivalent of 32 kilogrammes per hectare) in line with UNODC's estimate for the 2003/04 growing season.<sup>22</sup> Finally, the maximum amount of opium available for sale by each respondent was calculated identifying the nature of the land tenure arrangement under which opium poppy was cultivated and then dividing the final yield by the share that they typically accrue.

On this basis an owner cultivator and tenant farmer received the entire yield of the area cultivated with opium poppy, a sharecropper received one third, a landlord received two thirds, and those that had either mortgaged their land or were in receipt of mortgaged land received one half of the final yield of the land cultivated with opium poppy. For those respondents that cultivated opium poppy under a variety of

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<sup>21</sup> This is sometimes done two years in advance and in light of the dramatic build up of household debts after the Taliban ban many households are still paying off debts from 3 years prior. For a full account of the impact of the Taliban ban on household debt see 'The Impact of the Taliban Prohibition on Opium Poppy Cultivation in Afghanistan, 25 May 2001. Paper prepared for the Donors Mission to Afghanistan, 23 April – 4 May 2001; UNODC Strategic Study#9: Opium Poppy Cultivation in A Changing Policy Environment – Farmers' Intentions for the 2002/03 Growing Seasons. UNODC: Kabul; and 'What is Driving Opium Poppy Cultivation? Decision Making Amongst Opium Poppy Cultivators in Afghanistan in the 2003/4 Growing Season' by David Mansfield A Paper for the UNODC/ONDCP Second Technical Conference on Drug Control Research, 19 –21 July 2004.

<sup>22</sup> In Afghanistan average yields have typically been around 45 kilogrammes per hectare but due to disease and drought yields were lower in the 2003/4. Yields were particularly low in northern Helmand and southern Nangarhar where opium poppy is at its most concentrated. It is believed that some of this fall in yields is attributable to the abandonment of good crop rotation practices.

different land tenure arrangements, the yield of each parcel of land was calculated and divided between landowner, sharecropper and others accordingly.

This exercise provides a more accurate account of the amount of opium available for sale to the different socio-economic groups involved in its cultivation and hence a more realistic assessment of the income respondents generated from its sale. For instance, this work revealed that the average potential maximum amount of opium for sale by those households categorised as landlords was 34 kilogrammes, whilst for those classified as landless the average potential maximum amount of opium was only 11 kilogrammes. Clearly this has a significant impact on the potential maximum income respondents can earn from opium poppy.

Once the potential maximum amount of opium for sale was calculated, the income obtained from the sale of opium was determined by multiplying this by the sale price of opium reported by respondents. These prices varied from the equivalent of US\$ 110 to US\$ 220 per seer, with an average for the sample as a whole of US\$ 127 per seer.<sup>23</sup>

### **Who sells what?**

A review of both the frequency of the sale of different crops and the income these crops generate illustrates the dominant role opium poppy plays. Indeed, except for opium poppy, no other crop was sold by more than 10% of those interviewed, including wheat, maize, rice, cotton, okra, onion, cucumber, potato, gandaneh and egg plant. (See Table 5). Opium, on the other hand, was sold by 90% of the sample as a whole, and in some areas, including the districts of Shinwar, Bati Kot, and Rodat, and amongst those who irrigated their land by tube well, all the respondents sold opium. When this disparity in the different crops sold is combined with the relative prices of agricultural goods the situation becomes even more acute with opium contributing 96% of the total potential maximum average income generated from crop sales for the sample as a whole (see Table 7). The other 4% of income earned from crop sales was derived from rice (1%), cotton (1%) and vegetables (2%).

It is clear from the data that the more opium the household has available for sale the higher the total maximum potential income from crop sales. However, this is not just a function of the amount of land cultivated with opium poppy but as we have seen above the type of land tenure under which the crop is grown. Hence, landlords earned almost three times more from crop sales (US\$ 4,212) than the landless (US\$ 1,457) and those with 20 jeribs of cultivated land or more (of which two thirds are landlords) earned more than six times more from total crop sales (US\$6,116) than those households with 2.5 jeribs of land or less (US\$ 898). For all these groups opium sales represented at least 98% of the total maximum potential income generated from crop sales.

**Kommentar:** a nice histogram would drive home the point

However, as indicated earlier these estimates of cash income from opium sales are only a potential maximum, not all respondents that cultivated opium fared so well. According to UNODC the average national yield fell by almost one third from 45 kilogrammes per hectare in the 2002/03 growing season to 32 kilogrammes per hectare in 2003/04. Key informants have reported more extensive crop damage in

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<sup>23</sup> One seer of opium is the equivalent of 1.25 kilogrammes.

Nangarhar, particularly in the south of the province where opium poppy has been more concentrated over the years. Indeed, four respondents reported that they had lost their entire crop whilst others reported significant crop losses. One respondent who claimed to have lost his entire crop to disease compelling him to mortgage two jeribs of the land he owned in order to pay the advance payment he had taken on his 2003/04 opium crop. Another respondent, a tenant farmer in Surkhrud, claimed that he obtained only 5.5 kilogrammes on 5 jeribs of land. This meant that he was unable to repay his rent of 15 kilogrammes of opium and was compelled by the local jirga to give his daughter to the landowner as payment.

It is certainly clear from these figures that wheat is an insignificant source of cash income for all respondents even those that did not grow opium poppy. Indeed, although non-poppy growing respondents earned 18% of their total maximum potential income from wheat, their total crop sales were only valued at US\$ 59. Even in the district of Kama wheat sales constituted only 2.4% of the total maximum potential income from the sale of crops.

Vegetable sales were also rather meagre amongst most of those interviewed. Whilst non-poppy growing households generated 70% of their total income from crop sales from vegetables, in monetary terms (the equivalent value of US\$ 41) this was not dissimilar to the amount poppy growing households earned from vegetable sales (US\$ 38). Indeed, respondents in the district of Qarghai were the only ones to obtain more than US\$100 from the sale of vegetable crops (US\$ 160 from onion, cucumber and gandaneh) over the reporting period. Respondents in Surkhrud were the next highest earning group obtaining on average US\$ 84 from the sale of okra. The lack of sales of vegetables and other field crops, as well as the small contribution they make to the total income earned from crop sales points to a dismal picture in which opium poppy really has become one of the few cash crops produced by respondents in the study area.

Table 7: Proportion of Households Selling Different Crops

	Poppy (%)	Wheat (%)	Maize (%)	Rice (%)	Cotton (%)	Okra (%)	Onion (%)	Cucumber (%)	Potato (%)	Gandaneh (%)	Egg plant (%)
<b>All</b>	<b>90</b>	<b>4</b>	<b>2</b>	<b>5</b>	<b>1</b>	<b>7</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>1</b>
Landlords	80	8	4	0	2	8	4	2	0	0	0
Owner Cultivators	92	2	1	7	0	8	1	2	1	1	1
Landless	92	2	0	6	0	4	2	0	2	0	0
Mehtarlam	73	0	0	27	0	0	0	0	4	0	0
Rodat	100	0	0	0	0	0	12	0	0	0	0
Kama	96	19	4	7	0	4	0	0	0	0	0
Surkhrud	70	4	0	0	4	33	0	0	0	0	0
Bati Kot	100	0	7	0	0	0	4	0	0	0	4
Qarghai	92	4	0	0	0	12	0	12	0	4	0
Shinwar	100	0	0	0	0	0	0	0	4	0	0
Single crop	91	2	0	0	0	0	4	0	0	0	2
Double crop	88	4	2	6	1	9	1	2	1	1	0
20 jeribs or more	89	11	0	6	0	0	6	0	0	0	0
10 jeribs or more	90	8	3	6	2	6	3	2	2	0	0
5 jeribs or less	94	1	0	1	1	7	1	2	1	0	1
2.5 jeribs or less	96	0	0	0	0	12	4	0	0	0	0
Poppy growers	100	3	2	5	1	6	2	2	1	1	1
Non poppy growers	0	9	0	9	0	27	0	0	0	0	0
100% of winter land poppy	100	0	4	0	0	6	0	0	2	2	0
More than 75% of land with poppy	100	1	3	0	0	4	1	0	1	1	0
Less than 50% of land with poppy	85	6	1	7	0	8	2	2	1	0	1
Less than 25% of land with poppy	67	11	2	7	0	15	0	0	2	0	0
Tubewell	100	0	0	0	0	0	19	0	6	0	0

**Table 8: Total Maximum Potential Annual Income From Crop Sales**

	Total potential maximum income derived from opium sales (US\$)	Poppy sales as a proportion of total income from crop sales (%)	Wheat sales as a proportion of total income from crop sales (%)	Maize sales as a proportion of total income from crop sales (%)	Rice as a proportion of total crop sales (%)	Cotton as a proportion of total income from crop sales (%)	Vegetables as a proportion of total income from crop sales (%)	Total maximum potential income from crop sales (%)
<b>All</b>	<b>2491</b>	<b>97.7</b>	<b>0.3</b>	<b>0.0</b>	<b>0.4</b>	<b>0.0</b>	<b>1.5</b>	<b>2550</b>
Landlord	4159	98.7	0.4	0.1	0.0	0.1	0.7	4212
Owner Cultivator	2248	96.5	0.2	0.0	0.7	0.0	2.5	2330
Landless	1429	98.0	0.1	0.0	0.8	0.0	1.0	1457
Mehtarlam	1128	94.7	0.0	0.0	5.0	0.0	0.3	1191
Rodat	3371	99.7	0.0	0.0	0.0	0.0	0.3	3381
Kama	1655	96.0	2.4	0.2	1.2	0.0	0.3	1724
Surkhrud	1320	93.4	0.3	0.0	0.0	0.4	5.9	1414
Bati Kot	4156	99.7	0.0	0.1	0.0	0.0	0.2	4168
Qarghai	2120	92.8	0.2	0.0	0.0	0.0	7.0	2284
Shinwar	3657	99.9	0.0	0.0	0.0	0.0	0.1	3660
Single crop	3241	99.8	0.1	0.0	0.0	0.0	0.2	3249
Double crop	2245	96.7	0.4	0.1	0.6	0.0	2.1	2321
20 jeribs or more	6057	99.0	0.5	0.0	0.3	0.0	0.1	6116
10 jeribs or more	4574	98.4	0.3	0.1	0.4	0.0	0.8	4646
5 jeribs or less	1199	95.7	0.3	0.1	0.3	0.0	3.6	1252
2.5 jeribs or less	883	98.3	0.0	0.2	0.0	0.0	1.5	898
Non poppy growers	0	0.0	18.0	0.0	11.6	0.0	70.4	59
Poppy growers	2663	97.8	0.3	0.0	0.4	0.0	1.4	2722
100% of winter land poppy	3074	98.0	0.0	0.1	0.0	0.0	1.9	3136
More than 75% of land with poppy	3757	98.7	0.0	0.0	0.0	0.0	1.2	3806
Less than 50% of land with poppy	1313	95.6	0.9	0.1	1.3	0.0	2.1	1373
Less than 25% of land with poppy	620	88.9	2.8	0.2	1.2	0.0	6.8	698
Irrigated by tubewell	4331	99.5	0.0	0.0	0.0	0.0	0.5	4351

### 3.4. Livestock: What is the value of the animals owned and sold?

#### Who owns what?

It is important to remember that household livelihood strategies do not solely consist of crop production and sales. Indeed, almost 90% of those interviewed owned<sup>24</sup> some kind of livestock, either cattle, oxen, sheep, a donkey, goats, a camel, a horse or a buffalo (see Table 9). Half of those interviewed owned at least one of these types of livestock and 3% of respondents owned four. For the sample as a whole cattle was the most widely owned form of livestock (80%), followed by donkeys (23%), oxen (18%), goats (16%) and sheep (15%). A handful of households owned high value livestock such as horses or camels. All of those respondents that did were from wealthier socio-economic groups, either landlords or with cultivated land of 10 jeribs or more.

It is notable that the higher the density of opium poppy the less likely the household owned oxen, cattle or sheep. Indeed, 33% of non-poppy growers were found to own oxen compared to just 17% of households that cultivated opium poppy. This pattern of ownership is reflected in the low numbers of households that owned oxen in those districts with the highest concentration of opium poppy – Rodat, Shinwar and Bati Kot, compared to Mehtarlam where 65% of respondents owned oxen.

High levels of tractor ownership amongst opium poppy growing households possibly goes some way to explaining why non-poppy growing households and those with lower levels of opium poppy cultivation have higher rates of owning oxen. However, in other opium poppy growing areas, such as Badakhshan and Ghor, drought has also played its part in reducing livestock numbers and subsequently increasing levels of opium poppy cultivation. In these areas households have been found to sell their livestock after crop failure due to a shortage of fodder and as a means of meeting food deficits and repaying old debts. Once the number of livestock has been reduced, households have required less wheat straw as fodder for their animals and subsequently increased the amount of land they have dedicated to opium poppy.<sup>25</sup>

#### How many and what are they worth?

When we look beyond the rates of ownership and look at the average number of livestock different groups own and we see a picture in which wealthier socio-economic groups not only a more likely to own livestock but they have larger herds of animals of a greater value which ultimately provides a guarantee against food insecurity, a source of revenue, and in some areas a means of accessing credit.<sup>26</sup>

Kommentar: something missing

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<sup>24</sup> 'Caution should be expressed with respect to the idea of ownership of livestock as it is not as straightforward as might be presumed. In Laghman villagers' access to livestock and rights to production change over time and rights are both actual and potential. This is largely due to practices that allow livestock of poor households to look after the livestock of other households and be paid through the progeny.' See Grace, J and A. Pain. Rethinking Rural Livelihoods in Afghanistan AREU Synthesis Paper Series, June 2004. AREU, Kabul.

<sup>25</sup> See Coping Strategies, Accumulated Wealth and Shifting Markets: The Story of Opium Poppy Cultivation in Badakhshan 2000-2003 A Report for the Agha Khan Development Network by David Mansfield, January 2004.

<sup>26</sup> Ibid.

**Table 9: Proportion of Respondents Owning Livestock by Type**

	Oxen	Cattle	Sheep	Goat	Camel	Donkey	Horse	Buffalo
<b>All</b>	<b>18</b>	<b>80</b>	<b>15</b>	<b>16</b>	<b>1</b>	<b>23</b>	<b>1</b>	<b>2</b>
Landlord	13	87	17	17	4	23	2	4
Owner cultivator	21	79	12	10	0	22	0	2
Landless	19	75	19	23	0	25	0	0
Mehtarlam	65	88	8	4	0	19	0	0
Rodat	4	73	8	27	0	27	4	0
Kama	11	89	33	15	4	22	0	0
Surkhrud	15	85	22	15	0	7	0	0
Bati Kot	11	78	11	4	0	44	0	7
Qarghai	23	77	8	8	0	23	0	8
Shinwar	0	70	15	37	4	19	0	0
Single crop	4	71	16	22	0	20	2	0
Double crop	23	84	15	14	1	24	0	3
20 jeribs or more	22	94	28	33	11	33	6	11
10 jeribs or more	27	94	19	21	3	32	2	3
5 jeribs or less	11	70	11	14	0	13	0	1
2.5 jeribs or less	7	73	13	20	0	23	0	3
Poppy growers	17	80	16	17	1	24	1	2
Non poppy growers	33	83	8	0	0	8	0	0
100% of winter land poppy	4	64	6	24	0	24	0	2
More than 75% of land with poppy	6	69	7	22	1	25	1	3
Less than 50% of land with poppy	27	87	20	11	1	24	0	1
Less than 25% of land with poppy	26	87	21	6	2	19	0	0
Irrigated by tubewell	6.25	62.5	12.5	31.25	0	37.5	0	0

The most stark contrast in the number of animals owned, the types and ultimately the value of livestock is between those respondents with 20 jeribs of land or more to cultivate during the winter season and those households that have 2.5 jeribs or less. On average those households with the largest amounts of cultivable land had more of each type of animal than those with the smallest. . Compounded by the fact that these animals were of higher individual value, those households with 20 jeribs or more had livestock of an average value of US\$ 1,680, approximately three times the average value of those respondents with 2.5 jeribs or less, with an average value of US\$ 546 per household (see Table 10).

Again it is interesting to note that the higher the concentration of opium poppy, both in terms of household cultivated land and those districts in which opium poppy is extensively grown, the lower the average number of animals owned by respondents,

and ultimately the lower the asset value of livestock to the household. Indeed, the average value of livestock to those households that mono-cropped opium poppy during the winter months (US\$ 566) was almost one half of that of those respondents that cultivate less than 25% of their land with opium poppy (US\$ 1,058). Given that the majority of households that were found to monocrop opium poppy were suffering from drought and did not cultivate a summer crop (typically maize which is used for animal feed) it should be of little surprise that these households had limited livestock. This pattern of livestock ownership is reflected in those households suffering most acutely from the impact of the drought, - Rodat, Shinwar, Surkhrud.

**Table 10: Proportion of Households Selling Livestock Over the Last 12 Months and the Average Total Value of Sales**

	Cow (%)	Cattle (%)	Sheep (%)	Oxen (%)	Buffalo (%)	Goat (%)	Total Livestock (%)	Average total value of livestock sales (US\$)
<b>All</b>	<b>10</b>	<b>10</b>	<b>2</b>	<b>3</b>	<b>1</b>	<b>1</b>	<b>25</b>	<b>96</b>
Landlords	6	6	2	6	0	2	18	83
Owner Cultivators	12	12	2	2	1	0	27	101
Landless	12	12	2	2	0	2	27	100
Mehtarlam	0	0	0	0	0	0	0	0
Rodat	4	0	0	0	0	4	8	15
Kama	0	7	0	0	0	0	7	11
Surkhrud	11	0	15	7	0	0	19	143
Bati Kot	19	19	0	7	4	0	48	229
Qarghai	12	23	0	4	0	0	35	151
Shinwar	26	22	0	4	0	4	56	116
Single crop	13	4	4	4	0	2	22	83
Double crop	9	12	1	3	1	1	25	102
20 jeribs or more	6	11	0	11	0	0	28	168
10 jeribs or more	11	8	2	10	2	2	29	178
5 jeribs or less	7	15	1	1	0	1	25	64
2.5 jeribs or less	8	4	4	0	0	4	20	89
Poppy growers	10	11	2	3	1	1	26	93
Non poppy growers	9	0	9	0	0	0	9	138
100% of winter land poppy	16	12	0	2	2	2	34	99
More than 75% of land with poppy	15	15	0	1	1	1	34	110
Less than 50% of land with poppy	7	6	4	3	0	0	16	64
Less than 25% of land with poppy	11	2	9	4	0	0	17	89
Irrigated by tubewell	38	6	0	0	0	6	50	102

Indeed, two fifths of respondents that owned livestock reported that they had reduced the amount of livestock that they owned over the last two years. Over half (55%) of these blamed insufficient water and food for their decision to reduce the number of animals they owned. Ten per cent just reported that their animals had died and it was not clear whether this was drought related or from other causes. There was some enthusiasm to increase the number of animals that households owned, with one third of respondents that already owned livestock, and 17% of the sample as a whole, indicating that they wished to increase their herds but cited insufficient land and food as a constraint.

An analysis of the data on the sale of livestock presents a picture in which 25% of all respondents have sold cattle over the last year, generating an average annual income per household of US\$ 96. However, there would not seem to be any obvious trends in the sale of livestock across the different categories of respondents. Whilst livestock sales seem to be more vigorous in the drought affected areas of Shinwar, Bati Kot and amongst those households that irrigated their land with tubewell, Rodat, the district with the most acute problem with water, has some of the lowest incidence of sales, perhaps reflecting that in the second year of drought there are few animals to sell this year.

It is also surprising that in a district like Mehtarlam with such a high incidence of livestock ownership (See Table 11) and indeed levels of clover cultivation for fodder, none of those interviewed reported that they had sold any livestock this year. The sale of oxen seems particularly intriguing with both resource wealthy and resource poor groups involved. Whilst the wealthy may have moved to mechanised forms of farm power, amongst the poor it may be a sign of the impact of the drought and increasing vulnerability.

Table 11: Average Number and Value of Livestock Per Household

	Oxen		Cattle		Sheep		Goats		Camel		Donkey		Horse		Buffalo		Average value per household (US\$)
	No.	Value (US\$)	No.	Value (US\$)	No.	Value (US\$)	No.	Value (US\$)	No.	Value (US\$)	No.	Value (US\$)	No.	Value (US\$)	No.	Value (US\$)	
<b>All</b>	<b>0.4</b>	<b>130.9</b>	<b>2.8</b>	<b>640.8</b>	<b>0.5</b>	<b>35.0</b>	<b>0.4</b>	<b>25.3</b>	<b>0.0</b>	<b>0.6</b>	<b>0.3</b>	<b>13.2</b>	<b>0.0</b>	<b>2.9</b>	<b>0.0</b>	<b>17.1</b>	<b>866</b>
<b>Landlords</b>	0.3	106.8	3.2	712.2	0.6	40.0	0.4	18.8	0.1	2.4	0.3	18.7	0.0	11.6	0.1	48.4	959
<b>Owner cultivator</b>	0.4	142.5	3.6	634.2	0.3	18.6	0.3	29.1	0.0	0.0	0.3	9.5	0.0	0.0	0.0	10.6	845
<b>Landless</b>	0.4	133.4	2.7	588.2	0.8	57.3	0.7	25.0	0.0	0.0	0.4	14.2	0.0	0.0	0.0	0.0	818
<b>Mehtarlam</b>	1.1	387.4	3.0	527.3	0.1	3.8	0.2	2.8	0.0	0.0	0.2	7.3	0.0	0.0	0.0	0.0	929
<b>Rodat</b>	0.1	28.0	2.1	400.7	0.2	11.2	0.7	92.3	0.0	0.0	0.3	13.1	0.0	21.0	0.0	0.0	566
<b>Kama</b>	0.2	62.0	3.9	846.5	1.3	84.2	0.2	6.4	0.1	2.7	0.3	27.3	0.0	0.0	0.0	0.0	1029
<b>Surkhrud</b>	0.5	148.1	2.5	508.4	1.1	90.9	0.9	39.7	0.0	0.0	0.1	3.2	0.0	0.0	0.0	0.0	790
<b>Bati Kot</b>	0.2	97.6	3.6	1049.2	0.2	11.4	0.0	1.3	0.0	0.0	0.8	23.6	0.0	0.0	0.2	84.2	1267
<b>Qarghai</b>	0.5	201.4	6.2	770.3	0.5	30.8	0.1	8.0	0.0	0.0	0.4	11.5	0.0	0.0	0.1	35.0	1057
<b>Shinwar</b>	0.0	0.0	1.5	389.5	0.2	11.2	0.9	28.7	0.0	1.5	0.2	5.9	0.0	0.0	0.0	0.0	437
<b>Single crop</b>	0.1	49.4	1.8	382.2	0.5	28.9	0.7	32.6	0.0	0.0	0.3	8.8	0.0	11.9	0.0	0.0	514
<b>Double crop</b>	0.4	155.4	3.7	720.2	0.5	36.6	0.3	23.8	0.0	0.8	0.4	14.6	0.0	0.0	0.0	22.4	974
<b>20 jeribs or more</b>	0.6	224.2	4.7	1090.9	1.2	84.8	1.5	69.7	0.2	6.2	0.6	47.7	0.1	30.3	0.3	126.3	1680
<b>10 jeribs or more</b>	0.6	209.7	3.8	851.9	0.7	42.4	0.7	55.3	0.0	1.8	0.6	27.4	0.0	8.8	0.1	36.7	1234
<b>5 jeribs or less</b>	0.2	81.5	1.9	443.0	0.4	31.5	0.3	9.8	0.0	0.0	0.2	5.0	0.0	0.0	0.0	0.0	571
<b>2.5 jeribs or less</b>	0.1	35.2	2.2	482.1	0.3	12.3	0.2	6.9	0.0	0.0	0.3	9.4	0.0	0.0	0.0	0.0	546
<b>Poppy</b>	0.3	125.5	3.3	651.6	0.5	36.4	0.5	27.1	0.0	0.6	0.3	14.0	0.0	3.1	0.0	18.3	877
<b>Non poppy</b>	0.6	209.1	2.2	484.8	0.3	15.2	0.0	0.0	0.0	0.0	0.1	1.2	0.0	0.0	0.0	0.0	710
<b>100% of winter land poppy</b>	0.1	42.8	2.0	455.6	0.0	3.9	0.5	50.9	0.0	0.0	0.3	13.1	0.0	0.0	0.0	0.0	566
<b>More than 75% of land with poppy</b>	0.1	44.4	2.2	520.6	0.1	7.0	0.6	45.1	0.0	0.6	0.4	12.5	0.0	8.0	0.1	26.7	665
<b>Less than 50% of land with poppy</b>	0.5	189.3	4.0	713.3	0.7	43.3	0.3	13.3	0.0	0.7	0.3	14.7	0.0	0.0	0.0	9.2	984
<b>Less than 25% of land with poppy</b>	0.5	211.5	3.7	751.0	0.9	56.9	0.3	17.4	0.0	1.6	0.3	20.5	0.0	0.0	0.0	0.0	1059
<b>Tubewell</b>	0.1		2.2	467.0	0.2	9.1	0.8	133.5	0	0	0.4	18.9	0	0	0	0	674

Kommentar: in this table poppy and non poppy growers are reversed

#### 4. Off-Farm and Non-Farm Income

##### **Wage labour: What are the opportunities for supplementing on-farm income?**

The fieldwork for this Study found it difficult to differentiate between off-farm income opportunities and non-farm income opportunities<sup>27</sup> due to the tendency for respondents to merge daily wage labour in both agriculture and non-agricultural activities under the same banner. Despite this limitation the findings of this Study go some way to supporting the evidence Grace and Pain (2004) have presented highlighting the importance of non-farm income opportunities to rural households in Afghanistan.<sup>28</sup> Certainly the vast majority of households (75%) interviewed for this Study had at least one family member who generated an income, on either a permanent or seasonal basis, through activities other than agricultural production on the their own household land.

A review of the data in more detail reveals how not only does the incidence of off-farm and non-farm employment vary between respondents from different groups but so does the type and composition of the employment (see Table 12). For example, it is particularly notable that off-farm and non-farm employment is less common amongst those households with a higher concentration of opium poppy – and this is despite the high number of persons per jerib of cultivated land amongst these respondents as was noted earlier.

Indeed, whilst all of those households that did not cultivate opium poppy reported that at least one of their members earned an income from a source other than agricultural production on household land, only 74% of poppy growing households had off-farm or non-farm income opportunities. Similarly, only 68% of those interviewed that monocropped opium poppy in the winter season reported that they also had off-farm or non-farm income opportunities to draw on, compared to 85% of those households that cultivate 25% of their winter land or less with opium poppy. The same level of disparity cannot be seen between households with different sized landholdings.

However, the same pattern in off-farm and non-farm income opportunities cannot be seen in districts in which opium poppy is concentrated. For instance, respondents in Shinwar have the highest number of households with off-farm and non-farm employment with 96% of households reporting that they have a family member who earned an income from a source other than agricultural production on household land, followed by Rodat with 91% of households. However, a review of the data in more detail reveals that many of these employment opportunities come in the form of wage labour, located ‘within the village’ or district and paid at daily rates commensurate with the opium poppy harvest.

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<sup>27</sup> ‘Off-farm income typically refers to wage or exchange labour on other farms (i.e. within agriculture) ..... whilst non-farm income opportunity refers to non agricultural income sources.’ See Ellis (1998) *Livelihood Diversification and Sustainable Livelihoods* in Sustainable Rural Livelihoods: What Contribution Can We Make?. DFID: London.

<sup>28</sup> See Grace, .J and A. Pain. Rethinking Rural Livelihoods in Afghanistan AREU Synthesis Paper Series, June 2004. AREU, Kabul. Page 31

Table 12: Proportion of Households with Off Farm and Non Farm Income Opportunities								
	Total (%)	Off farm (%)	Driving (%)	Shopkeeping (%)	Carpentry (%)	Government (%)	Construction (%)	Wage Labour (%)
All	75	1	11	9	1	23	4	28
Landlords	88	0	12	14	0	36	0	26
Owner Cultivators	72	0	9	9	1	22	8	22
Landless	63	2	10	4	0	10	0	38
Mehtarlam	81	0	0	15	0	27	4	35
Rodat	92	0	4	19	0	31	0	38
Kama	67	0	11	7	0	26	7	15
Surkhrud	70	0	15	0	4	19	11	22
Bati Kot	74	0	15	7	0	33	0	19
Qarghai	46	0	4	0	0	19	0	23
Shinwar	96	4	26	15	0	4	4	44
Single crop	87	2	13	13	0	24	4	30
Double crop	70	0	10	8	1	22	3	27
20 jeribs or more	89	0	28	11	0	28	0	22
10 jeribs or more	74	0	13	10	0	24	2	26
5 jeribs or less	79	1	6	7	1	22	5	36
2.5 jeribs or less	80	0	12	8	0	12	8	40
Poppy	74	1	11	9	0	23	3	27
Non poppy	100	0	9	18	9	18	9	36
100% of land poppy	68	2	8	12	0	12	2	32
More than 75% of land with poppy	69	1	10	12	0	15	1	29
Less than 50% of land with poppy	76	0	9	7	1	26	6	27
Less than 25% of land with poppy	85	0	11	9	2	22	9	33
Irrigated by tubewell	81	0	6	19	0	13	6	38

Moreover, not only does the incidence of labour opportunities differ by socio-economic group but the type of employment also varies. For instance, 36% of those households classified as landlords had at least one member with a government job compared to only 10% of those respondents categorised as landless. Indeed, for every other group except for those households with 20 jeribs of cultivate land or more and those categorised as landlords, wage labour was the most common source of off-farm and non-farm income opportunity. However for these two groups government jobs were more common at 36% and 28% of households, respectively. The proportion of households with government jobs in Shinwar (4%), the district furthest away from the provincial capital is by far the lowest of any of the categories by which respondents are grouped.

It is notable, but perhaps not surprising, that the resource poor are more dependent on relatively low paid and insecure wage labour opportunities compared to the relative security (and patronage) associated with government salaried posts. The same can be said of those that monocrop opium, although not for opium poppy growers as a whole (this should not be surprising given the particularly high incidence of opium poppy cultivation amongst the sample as a whole).

#### **What does this mean in terms of cash income?**

On average households generated US\$671 from off-farm and non-farm income (see Table 13). For the sample as a whole the largest proportion of this income was generated from government salaries (33%). Daily wage labour was the next most important source contributing 30% of the total of off-farm and non-farm income, followed by the income generated from shopkeeping (18%) and driving (13%).

By grouping the data by various criteria it is possible to see how the process of averaging data masks the degree of socio-economic differentiation that exists. For instance, those households classified as landlords not only generated a higher income from off-farm and non-farm income opportunities (on average US\$ 1,019 per household compared to US\$ 364 for the landless) but this income is more secure on the basis that more than half of it (54%) is derived from government salaries.

This position differs markedly with those respondents identified as landless who were found to derive two thirds (66%) of their total off-farm and non-farm income from daily wage labour and 17% from driving. Not only is this work relatively unskilled and low paid but is very much dependent on the rigours of the market and, in the case of daily wage labour, the labour demands of the weeding and harvesting of opium poppy. For the landless, only 12 % of total off-farm and non-farm is derived from government salaries.

Those who irrigate their land by tubewells are in perhaps an even better position than landlords with an average off-farm and non-farm income of US\$ 990 but with 36% of this derived from shopkeeping, 37% from government salaries and 19% from daily wage labour. This relatively high off-farm and non-farm income and its spread across relatively secure sources might imply, as did key informants, that those sinking tubewells (and of course as we have seen earlier cultivating opium poppy so intensively) are perhaps one of the least marginal groups covered by this Study.

For all other groups there is little variance in the average total off-farm and non-farm income. Despite the high number of persons per jerib of cultivated land amongst those respondents classified as landless or those interviewed with 2.5 jeribs of cultivated land or less, average total off-farm and non-farm income remains fairly consistent with the more resource rich. The only exception is Shinwar where respondents report average off and non-farm earnings of US\$ 1,091, compared to between US\$ 433 and US\$ 673 in other districts. Shinwar is also the district with a more even spread in the sources of off-farm and non-farm income with driving (22%), shopkeeping (23%), government salaries (13%) and daily wage labour (38%) all featuring as prominent contributors to total off-farm and non-farm income. It is notable that the average total off-farm and non-farm income of non-poppy growers is US\$820 compared to US\$660 for poppy growers.

**Table 13: Total Average Household Off and Non Farm Income and Sources as a Proportion of Total**

	Total household off-farm and non farm income (US\$)	Driving (%)	Shopkeeping (%)	Carpentry (%)	Government (%)	Construction (%)	Daily Wage Labour (%)
<b>Total</b>	<b>671</b>	<b>13</b>	<b>18</b>	<b>1</b>	<b>33</b>	<b>5</b>	<b>30</b>
Landlord	1019	10	17	0	54	0	19
Owner cultivator	668	14	22	2	22	11	29
Landless	364	17	5	0	12	0	66
Mehtarlam	632	0	33	0	39	11	17
Rodat	595	1	29	0	48	0	22
Kama	673	9	10	0	54	8	19
Surkhrud	433	16	0	10	31	17	25
Bati Kot	633	24	20	0	39	0	17
Qarghai	632	12	0	0	19	0	69
Shinwar	1091	22	23	0	13	4	38
Single crop	642	10	33	0	27	6	25
Double crop	702	14	15	1	33	6	31
20 jeribs or more	717	27	19	0	35	0	19
10 jeribs or more	721	16	11	0	43	2	28
5 jeribs or less	663	10	18	2	29	10	29
2.5 jeribs or less	653	6	3	0	46	16	29
Non poppy	820	5	44	12	9	18	12
Poppy	660	14	15	0	35	4	32
100% of land poppy	646	14	19	0	23	4	40
More than 75% of land with poppy	658	16	20	0	25	3	36
Less than 50% of land with poppy	645	9	20	2	32	9	28
Less than 25% of land with poppy	599	10	19	4	17	16	34
Irrigated by tubewell	990	0	36	0	37	7	19

## 5. Access to Credit

### **Credit and the role opium poppy plays in obtaining it**

Previous fieldwork, including Grace and Pain in 2004, has revealed that credit is an integral part of rural livelihood strategies in Afghanistan.<sup>29</sup> In opium growing areas seasonal credit has been typically obtained as an advance on a fixed amount of agricultural production, known as *salaam*. Whilst *salaam* sometimes provides advance payments on other agricultural products, such as wheat or black cumin, opium is the crop that is favoured by lenders. Although the majority of households that cultivate opium poppy in Afghanistan utilise this system to some extent, the resource poor have been found to sell their entire crop prior to the harvest in return for an advance payment.

Typically the price paid as an advance is half the current market price of opium on the day that the agreement is reached. The borrower is expected to submit the amount of opium that the advance has been provided promptly at harvest time. Whilst the lender can sometimes make losses, the *salaam* system facilitates 'distress sales', allowing traders to acquire opium at prices significantly less than their harvest price.

However, since 2001, and the implementation of the Taliban ban on opium cultivation, and, subsequently eradication campaigns pursued by the Islamic Republic of Afghanistan and its predecessor the Afghan Transitional Authority, the *salaam* system has continued to evolve.<sup>30</sup> The monetisation of unpaid loans by traders in 2001 had the most dramatic impact, driving up accumulated debts to unprecedented levels in 2002/03.<sup>31</sup> By 2003/04, *salaam* on opium was increasingly difficult to obtain due to concerns over the impact eradication might have on repayments and fears of a fall in opium prices in the event of increasing levels of cultivation. Where *salaam* was available there was an increasing tendency to set the level of advance payment based on the socio-economic status of the borrower.<sup>32</sup> Fieldwork for this Study revealed

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<sup>29</sup> See UNDCP Strategic Study#3: The Role of Opium as a Source of Informal Credit. A Preliminary Report, January 1999.

<sup>30</sup> Fieldwork in 2001 and key informants for this Study suggests that the Taliban ban had a particularly negative impact on household debt. With the successful implementation of the ban in 2001, many households found themselves unable to repay the amount of opium on which they received an advance. To ensure that the advances were repaid, lenders converted the repayment due in-kind into cash payments. However, this conversion was based on the price of opium at harvest time 2001 (on average US\$ 500 per kilogramme). The monetisation of advances was the equivalent effect of charging interest at 1,000-1,500 per cent. For more detail see 'The Impact of the Taliban Prohibition on Opium Poppy Cultivation in Afghanistan, 25 May 2001'. Paper prepared for the Donors Mission to Afghanistan, 23 April – 4 May 2001.

<sup>31</sup> UNODC found that the average accumulated debt of respondents was US\$ 1,835 in 2002/03. However, levels of accumulated debt were found to vary by province and districts with higher accumulated debts in those areas in which opium poppy is cultivated more intensively. Respondents in Helmand province experience the highest levels of accumulated debts with an average of US\$ 3,010. See UNODC Strategic Study#9: Opium Poppy Cultivation in A Changing Policy Environment – Farmers' Intentions for the 2002/03 Growing Seasons. UNODC, Kabul.

<sup>32</sup> Key informants reported that where *salaam* was provided there was an increasing tendency to offer preferential rates to those with assets. Therefore those with land would receive the traditional advance payment of 50% of the market price of opium that day, however, those individuals without land but with other assets (such as farm equipment, livestock etc) received only 30%-40% of the current price. It was reported that those with neither land nor other assets could not obtain any loans as traders perceived them as the most at risk from eradication and the least able to repay their debts if eradication took place. For instance, one respondent whose opium had been eradicated in 2002/3 reported that his

further changes in the credit system that unfortunately do not diminish the important role that opium plays as a source of obtaining informal credit.

### **Have I got loans to repay from the last twelve months?**

Almost two fifths (57%) of respondents reported that they had obtained a loan over the last twelve months<sup>33</sup> (see Table 14). For the sample as a whole the average loan per household was US\$ 486. However, the amount borrowed was found to vary by socio-economic group and the size of landholdings with those respondents categorised as landlords and those with larger landholdings having obtained significantly larger loans than more marginal groups. For instance, the average value of loans obtained by those interviewed with more than 20 jeribs of cultivated land was US\$ 893 compared to an average loan of US\$ 345 for those respondents with 2.5 jeribs or less. Similarly, those respondents categorised as landlords were found to have obtained loans of US\$ 665 per household, just over twice the value of those classified as landless.

Kommentar: 57% is > 2/5ths?

There is of course even greater disparity between those that have obtained a loan this year and those that did not. When only those that obtained a loan are considered the average loan this year increased to US\$ 812. It was also found that the value of loans obtained varied with socio-economic status. For example, those respondents with 20 jeribs of land or more were found to have obtained the largest loans at a value of US\$ 1,461 almost three times the amount borrowed by respondents with 2.5 jeribs or less (US\$ 568). What is particularly interesting is the value of loans obtained by non-poppy growers is comparable with resource poor categories of respondents, including those who cultivate only a single crop and those with small amounts of cultivated land.

### **Where can I obtain a loan and why do I need it?**

Over two thirds (69%) of respondents had obtained loans from family members or friends, compared to 16% from shopkeepers, 12% from traders, 3% from landlords and 1% from 'others'. Research conducted in eastern and southern Afghanistan indicates that family members and friends are typically favoured as a source for loans as interest is often not charged, or is negligible, and the schedule for repayment is also considered more flexible.<sup>34</sup> However, in contrast to previous work undertaken in Helmand province in 2000 where shopkeepers (34%) and traders (21%) were the major source of loans there was a far greater incidence of households obtaining loan from family members and friends for this Study.

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need for a seasonal loan (and his high levels of outstanding debt) had pushed him into accepting a sharecropping arrangement that was more akin to bonded labour.

<sup>33</sup> This is broadly consistent with the findings of other research in opium poppy growing areas that has shown that around two thirds of all households obtained credit on an annual basis. UNODC Strategic Study#9: Opium Poppy Cultivation in A Changing Policy Environment – Farmers' Intentions for the 2002/03 Growing Seasons. UNODC, Kabul; Helmand Planning Group. Helmand Initiative: Joint Strategy Development, Paper prepared for the United Nations Development Programme, Islamabad May 2000; UNODC Farmers Intentions Study 2004. UNODC Kabul, February 2004.

<sup>34</sup> UNODC Strategic Study#3 The Role of Opium as a Source of Informal Credit. Preliminary Report, January 1999. UNODC Afghanistan Programme, Islamabad.

Table 14: Number and Amount of Seasonal Loans over the Previous 12 Months			
	Average value of loans obtained over last 12 months (US\$)	Proportion of respondents taking loan (%)	Average Value of loans over last 12 months for indebted only (US\$)
<b>Total</b>	<b>486</b>	<b>57</b>	<b>812</b>
Landlord	665	62	1078
Owen cultivator	462	51	884
Landless	328	62	498
Mehtarlam	538	62	874
Rodat	490	62	795
Kama	389	59	665
Surkhrud	522	63	829
Bati Kot	372	52	717
Qarghai	481	35	1389
Shinwar	537	67	691
Single crop	456	67	656
Double crop	497	55	877
20 jeribs or more	893	61	1461
10 jeribs or more	632	63	1005
5 jeribs or less	359	58	613
2.5 jeribs or less	345	61	568
Non Poppy Growers	439	67	659
Poppy Growers	478	68	824
100% of land poppy	398	55	711
More than 75% of land with poppy	525	56	939
Less than 50% of land with poppy	411	57	721
Less than 25% of land with poppy	402	55	703
Irrigated by tubewell	513	81	631

Key informants reported that due to the consistently high opium prices over the last two seasons cash loans were more readily available amongst wealthier family members and friends than had been the case in the past. As research during the 2003/04 winter planting season revealed, loans in the form of salaam (an advance payment on a future crop – more often than not opium) were not as readily available from traders and shopkeepers last season due to concerns over falling prices and the threat of eradication.<sup>35</sup> Moreover, where salaam was available it was at more punitive

<sup>35</sup> For instance 65% of households interviewed in 2002/03 were found to have taken an advance payment on their future opium crop compared to only 5% in the 2003/04 season. See 'What is Driving

prices than before (generally 40% of the prevailing market price rather than the traditional 50%). It was also reported that where possible there was a preference amongst respondents to obtain credit at a preferential rate from family or friends rather than sell their opium crop in advance at considerably less than its potential harvest price.

That said seven respondents (located in Shinwar, Bati Kot and Kama) had obtained an advance payment on their future opium crop. Amounts varied from 1 kilogramme to 35 kilogrammes, with an average of 7 kilogrammes. The average price that these respondents had received per kilogramme was US\$ 73. Whilst it is not completely clear when these loans were obtained some of them are still outstanding. For instance, the respondents who had received salaam on 35 kilogrammes of opium still owed 10 kilogrammes at the time of interview.

There was little of marked significance in the incidence of loans by socio-economic group or farm size with between half and two thirds of all categories obtaining a loan over the last 12 months. It was only in Qarghai that less than half of those interviewed (35%) obtained a loan in the last 12 months. However, obtaining loans was clearly more difficult for those with limited amounts of cultivated land compared to those with larger landholdings. For example 58% of those with 2.5 jeribs of cultivated land or less had problems obtaining a loan this year compared with 6% of those with 10 jeribs or more. None of the respondents with 20 jeribs or more had any problems obtaining a loan despite the fact that 61% of them needed to obtain one (the same percentage as for those with less than 2.5 jeribs of cultivated land).

The source of loans also varied little by category, with most accessing loans from a variety of different sources, including in two cases the local doctor. Only non-poppy growing households found themselves totally dependent on one source of credit in the form of family and friends.

Loans were most commonly used to purchase basic commodities, such as food (32%), clothes (20%) and invest in agricultural production (17%). Marriage (8%) was also a common use for loans for the sample as a whole and across the different categories of respondent, as was hired labour costs (8%). Almost one sixth of respondents (15%) reported that loans funded a range of other uses. The bulk of these loans were for medical or death expenses (74%), however three loans were for house construction, one was used to finance the respondents Haj and three were for undeclared purposes.

Whilst there was little difference in how loans were used based on source there was variability in the value of loans. For instance, whilst the average loan obtained from a family member or friend was US\$ 726, the average loan from a landlord was US\$ 382, and US\$ 628 from a shopkeeper, loans from traders were on average US\$917. In some districts, the average loan from traders reached US\$ 1,545 and amongst those that monocropped opium as much as US\$1,818. Moreover, in Shinwar, where the hub of the eastern zone's opium trade is located At Ghani Khel bazaar, respondents reported that 28% of their average total debt of US\$ 537 per household was owed to

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Opium Poppy Cultivation? Decision Making Amongst Opium Poppy Cultivators in Afghanistan in the 2003/4 Growing Season' by David Mansfield A Paper for the UNODC/ONDCP Second Technical Conference on Drug Control Research, 19 –21 July 2004.

traders. In all of the other districts, no more than 14% of the total value of the household debt was payable to traders.

### **How much have I accumulated in debts over the years?**

Just over half of those interviewed (58%) had accumulated debts (see Table 15). For the sample as a whole the average accumulated debt was US\$647, for those respondents actually in debt the average was US\$1,104. Again accumulated debt was found to increase with socio-economic status with those classified as landlords and those with larger landholdings experiencing the highest levels of accumulated debt.

**Kommentar:** This section is an interesting and relevant statement, but I had to go over three times, can you simplify the three paragraphs?

Those cultivating opium poppy were more likely to have accumulated debts than those respondents that did not cultivate opium poppy at all, and the average debt was likely to be higher. However, those households that mono-cropped opium were less likely to have an accumulated debt than non poppy growers, but where they did the average accumulated debt was likely to be higher than for households that did cultivate opium poppy.

One particular household that reported a total accumulated debt of US\$ 2,600 skewed the level of accumulated debt in Kama. This respondent had taken a loan of almost US\$ 750 this year to meet his father's funeral expenses. He anticipated selling some of his 11 jeribs of land as a means of repaying this debt.

### **How will I repay these loans?**

Respondents with accumulated debts were asked how they intended to repay these accumulated debts and over what time frame. Almost three quarters (74%) of those interviewed anticipated repaying their accumulated debts through the cultivation of opium poppy whilst 14% reported that they would repay their debts through wage labour opportunities. Other respondents indicated that they would sell their land (2%), mortgage their land (1%), or request remittances from their son in Iran (1%). Almost 5% of respondents had no plan as to how they might pay their accumulated debts and 3% gave no answer.

Amongst those that mono-cropped opium poppy, 86% suggested they would repay their debts through continued opium poppy cultivation. Clearly the sale or mortgaging of land was the exclusive right of those who owned land, yet 81% of landlords and 79% of owner cultivators cited continued opium poppy cultivation as their means of repayment. Of those that owned no land at all 67% anticipated repaying their accumulated debts through further opium poppy cultivation, 17% through wage labour opportunities, 3% through remittances, 3% did not give an answer and 10% had no plan for repayment at all.

Respondents were also asked over what time frame they anticipated paying off these accumulated debts. Whilst there was a range of responses from respondents, varying from 2 months to 8 years, the average time frame for repayment for all those with accumulated debts was 1.5 years. Despite accumulated debts that were twice as high those respondents with 20 jeribs of cultivated land or households categorised as landlords were more confident about the time frame in which they could repay their debts (1.3 years and 1.4 years, respectively) than owner cultivators and those with less than 2.5 jeribs of cultivated land (both 1.8 years).

It is also interesting to note that the those households that cultivated opium poppy anticipated paying their accumulated debts off within an average of 1.4 years, half the time that non-poppy growing households. However, of particular concern was the fact that one non-poppy growing household in Surkhrud, with an accumulated debt of around US\$ 550, anticipated paying off his accumulated debt by taking up opium poppy cultivation in the coming season. Of course the higher levels of accumulated debt amongst opium poppy growing households indicates that this strategy for repayment might not necessarily work it may at best just allow him to manage his debt better.

	<b>Average accumulated debt (US\$)</b>	<b>Proportion of respondents with accumulated debt (%)</b>	<b>Average accumulated debt for indebted only (US\$)</b>
<b>All</b>	<b>647</b>	<b>58</b>	<b>1104</b>
Landlord	1124	66	1651
Owner cultivator	457	49	893
Landless	532	57	855
Mehtarlam	416	58	832
Rodat	476	54	651
Kama	1296	53	2186
Surkhrud	482	44	929
Bati Kot	382	56	687
Qarghai	658	50	1316
Shinwar	805	69	1145
Single crop	633	61	910
Double crop	652	56	1185
20 jeribs or more	721	61	1082
10 jeribs or more	1039	63	1695
5 jeribs or less	463	55	789
2.5 jeribs or less	385	61	598
Non Poppy Growers	318	42	764
Poppy Growers	670	59	1120
100% of land with poppy	634	43	961
More than 75% of land with poppy	652	57	1008
Less than 50% of land with poppy	680	52	1414
Less than 25% of land with poppy	294	51	659
Irrigated by tubewell	689	75	787

Amongst those that dedicated all their land to opium poppy during the winter season the time frame for repayment varied from 6 months to 8 years. Indeed, the respondent who reported that it would take him 8 years to repay claimed to have an accumulated debt of around US\$ 6,400. This individual had 4 jeribs of land that he exclusively cultivated with opium poppy, cultivating no summer crop.

### **What happens if I don't pay?**

A number of pieces of research have revealed that a failure to repay debts as scheduled has led to lenders doubling the debt for each year that the debt remains unpaid. To prevent this households have typically sold long term productive assets, such as land, or livestock or provided their daughters (some as young as seven) as payment in kind.<sup>36</sup> The fieldwork for gives further evidence of these repayment strategies and the role accumulated debt plays in local conflicts within rural Afghanistan.

Kommentar: Something missing or too much?

The sale of land was the most common response to accumulating debts amongst those that owned land. In most of these cases it was the jirga that negotiated the amount of land that was to be given to the creditor as payment, or part payment, on the accumulated debt although there were also a number of cases where the lender's power and influence within the community allowed them to simply seize the land. For instance, the creditor of one respondent in the district of Surkhrud simply had his land occupied when he failed to repay the loan of 25 kilogrammes of opium that he had received in 2002. Another family, whose father had incurred significant gambling debts, lost 6.5 jeribs of land (leaving only the land on which their house was built) and 2 daughters (aged 15 and 16) to their father's creditors. Whilst these creditors demanded the last two daughters the family resisted arguing that these girls were not of marriageable age. This family's accumulated debt still stood at US\$ 6,360.

Absconding was also a common strategy when debt repayments reached an unmanageable level. There were a number of cases of households fleeing to Peshawar in Pakistan or 'unknown places' when the pressure from lenders to repay became violent or families feared the abduction of children, or, households simply did not believe they could earn sufficient money to feed their families or repay their debts if they remained in their village in Afghanistan. This was particularly true of those households that were compelled to give all their land to their creditors or did not own land in the first place. Indeed, one respondent reported that his uncle, who had already sold all of his land but still owed US\$3,600, saw little choice but to abscond to Peshawar in search of employment, as he had no other source of income in Afghanistan.

Absconding, the sale of land, and the giving of daughters in marriage to creditors all denote the vulnerability of many of those households who are unable to meet their debt repayments. The amount of seasonal loans and their importance in meeting basic needs, the levels of accumulated debt, and the over reliance on opium poppy

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<sup>36</sup> UNODC Strategic Study#9: Opium Poppy Cultivation in A Changing Policy Environment – Farmers' Intentions for the 2002/03 Growing Seasons. UNODC, Kabul; 'What is Driving Opium Poppy Cultivation? Decision Making Amongst Opium Poppy Cultivators in Afghanistan in the 2003/4 Growing Season' by David Mansfield A Paper for the UNODC/ONDCP Second Technical Conference on Drug Control Research, 19 –21 July 2004.

cultivation as the primary method of managing debt repayment, all highlight a dependency on opium that ultimately leaves households particularly vulnerable to the failure of their opium crop due to either disease or indeed eradication.

This is of particular concern given the coping strategies that households are adopting and would certainly suggest that without access to new forms of credit, protection of food security and alternative sources of income, significant losses in the opium crop would prompt increasing levels of socio-economic differentiation in rural communities as those in debt look to sell their assets to repay their loans whilst those already wealthy enough to lend money accrue increasing amounts of assets at lower than market prices. The potential for increasing rates of migration as households search for non-farm income opportunities, or simply flee the intimidation and violence that can accompany the failure to repay debts, would seem to be high.

## 6. Total Potential Cash Income

### How much and where is it derived from?

Based on the data produced so far it is possible to establish an estimate of the total annual cash income (see Table 16). This not only provides an assessment of the level of total cash income generated by the household over the year but it also allows the importance of different sources of cash income to be quantified. Again it is worth recognising that this figure represents a maximum potential income based on the assumption that opium yields were consistent with UNODC's national average yield and that all the opium produced was sold over the 12 month reporting period.

From the calculation it is possible to see that whilst the average household total cash income for the sample as a whole was US\$ 3,317, there was considerable variance across the different categories of respondents. Perhaps not surprisingly non-poppy growing households had the lowest total cash income earning only US\$ 1,017 per annum whilst those households with 20 jeribs of cultivated land, or more, earning an average of US\$ 7,000 in cash income last year, generated the highest annual cash income.

Kommentar: Histogram

Consistent with levels of farm income, total cash income varied with socio-economic group and the size of landholdings with landlords earning almost three times more cash income than the landless and those with the largest amount of cultivated land earning more than six times more than those with 2.5 jeribs or less. It is notable that despite problems of irrigation those respondents with land that could only obtain a single crop (US\$ 3,793) managed to exceed the levels of total cash income of those respondents that double cropped their land (US\$ 3,101). Given lower levels of off and non-farm income amongst respondents who single cropped their land this could only be achieved due to the particularly high proportion of land this group dedicated to opium poppy.

Indeed, a review of the composition of total cash income also reveals the importance of both opium sales and off and non-farm income to rural livelihood strategies. For instance, for the sample as a whole 75% of total cash income is derived from the sale of opium but 20% of total cash income is derived from a variety of different off and non-farm income opportunities as we saw earlier. Even amongst those respondents who cultivate opium poppy intensively, such as those that monocrop opium during the winter season, those with only a single crop, those located in the districts of Shinwar and Rodat and those respondents that irrigate their land using tubewells, off and non-farm income makes up at least 15% of their total cash income for the year.

Analysing this data in even finer detail can give a greater sense of the degree of dependency on opium sales that some categories of respondents experience. For instance, those respondents categorised as landlords earned 81% from total farm sales and 19% from off and non-farm income opportunities. Almost four fifths (78%) of the cash income generated by this group was obtained through opium sales. Yet, as we saw earlier 54% of total off and non-farm income is derived from government salaries and 19% from daily wage labour. This equates to 10% of total cash income from government salaries and only 4% from daily wage labour.

Kommentar: Histogram?

In contrast to this, those households who do not own land relied on daily wage labour for 12% of total cash income and government salaries for only 2% of total cash income. Given that much of the income from daily wage labour is likely to have been generated from off-farm income in the harvesting of opium poppy, perhaps as much as 86% of total cash income of this group was derived from income derived from their involvement in opium poppy cultivation. This group also had livestock of lower value than for the sample as a whole. Under current circumstances opium poppy would seem to represent the only source of secure cash income available to this group raising questions over the impact any widespread crop damage might have on their socio-economic position.

It is interesting that the importance of off and non-farm income is particularly pronounced amongst those households with 2.5 jeribs of land or less and those who cultivate less than 25% of their winter land with opium poppy. Respondents from both of these groups derive more than 40% of their total cash income from sources other than from their own farms, higher than any other group. Both these groups would seem to have little choice but to seek out off-farm and non-farm income opportunities: the former due to insufficient land and a particularly high number of household members per jerib of cultivated land (5.5) which even intensive opium poppy cultivation (69% of the land cultivated in the winter) cannot cater for, the latter due to the low level of opium poppy cultivation and therefore a need to supplement on-farm income with other sources.

#### **What about per capita income?**

Moreover, whilst some might interpret these levels of total cash income as high it is important to remember the large number of family members that the majority of households contain. For instance, when an average annual cash income of US\$ 3,317 for the sample as a whole is divided amongst an average household size of 14.7 members, per capita income does not look quite so generous.

Indeed, it is only in the districts of Shinwar and Bati Kot, and amongst those households with 20 jeribs of land or more, as well as those classified as landlords, where the per capita income exceeded the recognised level of absolute poverty of US\$ 300. And despite the high concentration of opium poppy cultivation amongst those respondents that only cultivated a single crop; those that irrigated their land by tubewell; and those that monocropped opium poppy; all of these groups obtained a level of cash income per capita that fell short of this measure.

However, those that did not cultivate opium poppy at all, or only cultivated it on 25% or less of their cultivated land have significantly lower levels of total cash income per household member at US\$ 70 and US\$ 94 per head, respectively. Consequently, whilst cultivating opium poppy clearly brings a higher level of per capita income for those involved in its cultivation than those that either elect not to grow or cannot grow the crop, based on these estimates opium production does not seem to bring the riches that many commentators might expect.

Table 16: Total Cash Income

Kommentar: per year???

	Total cash income derived from poppy sales (US\$)	Opium sales as a proportion of total cash income (%)	Total income derived from the sale of farm products (US\$)	Farm sales as a proportion of total cash income (%)	Total off and non farm income (US\$)	Off and non Farm income as a proportion of total cash income (%)	Total cash income (US\$)	Cash income per head of household (US\$)
<b>Total</b>	<b>2491</b>	<b>75</b>	<b>2646</b>	<b>80</b>	<b>672</b>	<b>20</b>	<b>3317</b>	<b>226</b>
Landlord	4159	78	4295	81	1019	19	5314	313
Owner cultivator	2248	73	2431	78	668	22	3098	214
Landless	1429	74	1558	81	367	19	1922	150
Mehtarlam	1128	62	1191	65	632	35	1823	123
Rodat	3371	84	3397	85	595	15	3992	240
Kama	1655	69	1735	72	673	28	2408	161
Surkhrud	1320	66	1558	78	433	22	1990	158
Bati Kot	4156	83	4397	87	633	13	5030	322
Qarghai	2120	69	2435	79	632	21	3067	247
Shinwar	3657	75	3776	78	1097	23	4868	318
Single crop	3241	82	3332	84	645	16	3973	288
Double crop	2245	72	2421	78	702	23	3101	208
20 jeribs or more	6057	87	6284	90	717	10	7000	306
10 jeribs or more	4574	83	4821	87	721	13	5531	296
5 jeribs or less	1199	60	1317	66	665	33	1988	160
2.5 jeribs or less	883	54	987	60	653	40	1641	150
Non poppy	0	0	197	19	820	81	1017	70
Poppy	2663	77	2815	81	661	19	3475	300
100% of land poppy	3074	79	3235	83	650	17	3881	289
More than 75% of land with poppy	3757	83	3915	86	661	15	4553	309
Less than 50% of land with poppy	1313	63	1450	69	645	31	2093	142
Less than 25% of land with poppy	620	45	790	57	599	43	1389	94
Irrigated by tubewell	4331	80	4460	83	990	18	5386	296

## 7. Household Expenditures

### 7.1. What is my monthly expenditure and what do I spend it on?

#### **Last month's expenditure?**

Recognising that their memory of basic expenditure would be restricted to a limited period, respondents were asked about their household expenditures in the month prior to fieldwork. Respondents reported that expenditures for this period varied from US\$161 to US\$ 253, with an average of US\$ 215 for all of those interviewed (See Table 17). A detailed review of items of expenditure for this Study mirrors the findings of Grace and Pain (2004) who suggested food, fuel and health costs were the most significant costs the household incurred.<sup>37</sup>

Indeed, for the sample as a whole 63% of monthly expenditure was spent on food, 16% on health costs (mainly medicine but the cost of doctors visits featured) and 6% on fuel. Only 9% of total monthly expenditure was spent on agricultural investment, including fertiliser, labour and farm power (although it is worth recognising that August is not a particularly busy month in the agricultural season). A further 5% of monthly expenditure was spent on clothes and a small amount on debt repayment and taxes. As with the level of expenditure on agricultural investments the timing of the fieldwork probably means that agricultural tax, ushr, and levels of debt repayment are rather much lower than they might be during April and May when the winter crops are harvested.

It is interesting that where both the drought was at its most pronounced and opium poppy cultivation was most concentrated the proportion of monthly expenditure allocated to food was at its highest. For instance, in the district of Rodat 77% of the average household expenditure was allocated to food compared to 50% in the rather well irrigated district of Kama, where food crops occupy the majority of cultivated land. It should be of no surprise that those respondents that cultivated opium poppy spent a larger proportion of their monthly expenditure on food (73%) compared to those respondents that did not grow opium poppy at all (62%). Similarly, those interviewed that only obtained a single crop on their land spent three quarters of their monthly expenditure on food in comparison to double-cropped areas where respondents allocated 59% of their monthly expenditure to food.

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<sup>37</sup> See Grace, .J and A. Pain. Rethinking Rural Livelihoods in Afghanistan AREU Synthesis Paper Series, June 2004. AREU, Kabul; pages 35-38

Table 17: Average Household Monthly Expenditures and Items of Expenditure by Percentage

	Average household expenditure for previous month	Food (%)	Health (%)	Fuel (\$)	Clothes (%)	Fertiliser (%)	Farm power (%)	Agricultural Labour (%)	House maintenance (%)	Debt Repayment (%)	Ushr (%)	Zakat (%)
<b>All</b>	<b>215</b>	<b>62.8</b>	<b>15.5</b>	<b>6.0</b>	<b>5.2</b>	<b>8.8</b>	<b>0.2</b>	<b>0.3</b>	<b>0.7</b>	<b>0.2</b>	<b>0.2</b>	<b>0.1</b>
Landlords	232	65.6	12.5	6.8	5.9	6.5	0.3	0.7	0.8	0.6	0.2	0.1
Owner cultivator	230	62.8	16.7	5.7	5.9	7.6	0.1	0.2	0.4	0.0	0.3	0.2
Landless	177	60.5	16.2	5.7	3.6	12.8	0.2	0.0	1.0	0.0	0.0	0.0
Mehtarlam	176	69.1	14.1	3.1	3.0	10.6	0.0	0.0	0.0	0.0	0.0	0.0
Rodat	199	76.6	13.5	5.4	4.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Kama	253	48.9	15.9	4.5	6.4	20.0	0.8	1.8	1.6	0.0	0.0	0.0
Surkhrud	190	64.7	15.1	7.4	4.7	6.2	0.0	0.0	1.5	0.0	0.3	0.0
Bati Kot	206	57.7	20.1	8.0	4.6	6.6	0.2	0.0	0.8	0.0	1.1	0.9
Qarghai	239	56.8	14.7	5.3	6.9	16.1	0.2	0.0	0.0	0.0	0.0	0.0
Shinwar	242	66.7	14.9	7.8	6.6	2.4	0.0	0.0	0.5	1.1	0.0	0.0
Single crop	191	74.7	11.9	6.6	5.5	0.8	0.0	0.0	0.0	0.0	0.0	0.4
Double crop	223	59.0	16.7	5.8	5.1	11.5	0.2	0.3	0.9	0.2	0.3	0.0
20 jeribs or more	253	66.6	15.1	8.9	1.9	6.1	0.0	1.4	0.0	0.0	0.0	0.0
10 jeribs or more	246	63.1	13.6	6.2	5.4	9.9	0.2	0.5	0.6	0.0	0.5	0.0
5 jeribs or less	176	64.7	16.4	6.4	4.9	6.2	0.1	0.2	0.6	0.4	0.0	0.0
2.5 jeribs or less	175	62.5	19.4	6.9	5.5	4.6	0.0	0.0	0.1	1.0	0.0	0.0
Non poppy growers	161	62.2	15.8	6.0	5.5	8.8	0.2	0.3	0.7	0.2	0.2	0.1
Poppy growers	219	72.6	11.5	5.9	1.0	9.0	0.0	0.0	0.0	0.0	0.0	0.0
100% of land poppy	208	68.5	16.0	6.2	4.9	3.4	0.0	0.0	0.3	0.6	0.2	0.0
More than 75% of land with poppy	216	67.7	15.4	6.4	5.3	3.9	0.0	0.0	0.2	0.4	0.6	0.0
Less than 50% of land with poppy	218	60.6	15.5	5.6	4.4	11.8	0.3	0.5	1.0	0.0	0.0	0.3
Less than 25% of land with poppy	191	66.0	13.0	6.4	3.0	10.3	0.2	0.9	0.0	0.0	0.0	0.0
Irrigated by tubewell	260	78.0	11.0	5.5	3.7	0.2	0.0	0.0	0.0	1.9	0.0	0.0

### **Major items of expense over the last year?**

Respondents were also asked to detail their major items of expense over the previous 12 months. Given the nature of many of these items of expenditures it was felt that they would be able to provide this kind of information over this more extended period of time (as opposed to those items purchased more frequently that were cited under monthly expenditure).

It is interesting that amongst those interviewed there was much greater variation in the level of expenditure on major items than for monthly expenditure (see Table 18). For instance at the district level total average expenditures per annum ranged from US\$189 in Mehtarlam to US\$1,683 for Bati Kot. The total average household expenditure on major items in the district of Rodat was only US\$ 403 despite the respondents in this area cultivating the highest concentration of opium poppy.

The data illustrates that poppy growers spent more on major items of expenditure than non poppy growers (US\$ 825 compared to US\$ 266 respectively); that those households with double crops spent more than those with single crops (US\$818 and US\$591 respectively); and that households with the largest areas of cultivated land purchased more items of major expenditure than those with the smallest areas (US\$ 1,560 and US\$ 189, respectively). It does not, however, suggest that those households that mono-cropped opium poppy spent more on major items of expenditure than those with less than half of their land dedicated to opium poppy (US\$ 727 and US\$762, respectively).

The data also suggests that it was not just the amount of expenditure that varied across these different groups of respondents but the composition of items purchased. For instance, those respondents who cultivated 20 jeribs or more during the winter season spent 24% of their total expenditure on major items on non essential goods, including cars, tractors, television motorbikes, generator, and funding their Haj. Those households with 2.5 jeribs of land or less not only spent significantly less than the more land wealthy but they spent only 1.1% of their total monthly expenditure on luxury items.

As we saw earlier, health costs featured prominently amongst monthly expenditures, however, they were also the single item that absorbed the largest proportion of total average household expenditure for the sample as a whole. Indeed, what was termed major illnesses by respondents combined with operations, comprised 32% of the total expenditure on major items over the 12 months prior to fieldwork. When funeral costs are also included, 35% of total average annual household expenditure on major items for the sample as a whole was spent on health related issues. Whilst the importance of health related expenditure was found to vary mainly by district, amongst all other categories of respondents, except non-poppy growing households (where wedding costs absorbed almost half of the total expenditure) health related costs were the single most important item of expenditure.

Table 18: Average Household Expenditures on Major Items Over the Last Year and Items of Expenditure by Percentage

	Average household expenditure on major items over 12 months (US\$)	Major operation or illness (%)	Funeral (%)	Debt Repayments (%)	Wedding Costs (%)	Building (%)	Tubewell (%)	Land dispute (%)	Tractor (%)	Car (%)	Motorbike (%)	Television (%)	Generator (%)	Satellite Dish (%)	Haj (%)
All	789	32.0	3.4	18.0	15.6	19.8	0.1	1.1	0.9	5.0	0.4	1.0	2.1	0.0	0.5
Landlords	714	36.9	1.1	14.9	10.1	20.4	0.0	2.5	0.0	3.6	1.4	3.6	3.4	0.0	2.2
Owner Cultivator	816	25.4	3.9	15.1	15.4	29.0	0.2	1.0	0.0	7.4	0.0	0.3	2.3	0.0	0.0
Landless	812	38.5	4.5	25.1	20.5	4.9	0.0	0.0	3.0	2.4	0.0	0.1	0.8	0.1	0.0
Mehtarlam	189	52.1	0.0	0.0	0.0	47.2	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0
Rodat	403	51.1	7.9	0.0	13.2	19.3	0.0	0.0	0.0	0.0	0.0	4.6	3.9	0.0	0.0
Kama	499	42.3	6.4	17.2	16.6	9.6	0.0	0.0	5.0	0.0	0.0	1.9	1.0	0.0	0.0
Surkhrud	742	23.8	0.0	0.4	19.3	48.2	0.0	0.0	0.0	6.7	0.0	0.3	1.2	0.1	0.0
Bati Kot	1683	18.0	0.0	20.0	22.3	19.4	0.0	2.3	0.0	8.6	1.6	0.1	5.1	0.0	2.6
Qarghai	710	30.8	0.0	30.8	7.7	10.6	0.0	5.1	0.0	14.9	0.1	0.0	0.0	0.0	0.0
Shinwar	1000	23.2	5.7	36.6	16.5	12.4	0.5	0.0	0.0	4.1	0.0	0.0	1.1	0.0	0.0
Single crop	591	35.4	9.3	17.3	1.4	21.9	0.4	0.0	0.0	6.3	0.0	2.6	5.3	0.1	0.0
Double crop	818	32.3	1.5	18.4	18.0	19.6	0.1	1.4	1.2	4.5	0.5	0.5	1.2	0.0	0.7
20 jeribs or more	1560	31.5	0.0	18.3	3.1	12.8	0.0	5.1	0.0	13.7	0.0	5.5	5.3	0.1	4.6
10 jeribs or more	1112	27.7	0.7	25.8	10.8	17.9	0.0	3.1	2.6	4.6	0.0	3.0	2.3	0.0	1.5
5 jeribs or less	584	33.2	7.0	16.2	14.5	24.7	0.2	0.0	0.0	3.7	0.0	0.0	0.4	0.0	0.0
2.5 jeribs or less	389	42.5	7.5	10.7	11.2	27.1	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0
Non poppy growers	266	28.5	0.0	0.0	45.5	25.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
Poppy growers	825	32.2	3.5	18.7	14.5	19.6	0.1	1.1	0.9	5.2	0.4	1.1	2.2	0.0	0.6
100% of land poppy	727	39.7	7.4	16.1	13.0	16.9	0.3	0.0	0.0	2.6	0.0	2.2	1.9	0.0	0.0
More than 75% of land with poppy	820	31.1	5.9	15.8	16.3	19.8	0.2	1.2	0.0	2.1	0.0	1.7	4.4	0.0	1.4
Less than 50% of land with poppy	762	30.2	0.6	18.3	17.7	20.3	0.0	1.5	2.3	6.2	0.9	0.9	0.9	0.0	0.0
Less than 25% of land with poppy	709	34.1	0.0	15.6	21.6	19.9	0.0	0.0	3.8	3.1	0.0	1.3	0.5	0.1	0.0
Irrigated by tubewell	769.0	51.3	10.4	13.5	8.7	4.7	0.9	0.0	0.0	7.5	0.0	0.6	1.9	0.0	0.0

Wedding costs also featured as an item of major expenditure across most districts, as well as categories of respondents. Costs cited included bride price (US\$ 1,318), the wedding party (US\$ 554), as well as clothes (US\$ 448) and gold for the bride (US\$327). Fortunately none of the households interviewed incurred all these costs (a total average cost US\$ 2647) over the previous 12 months, but given the amounts of money involved it is not surprising that wedding costs featured as a major item of expense amongst all those households where family members were to be married.

Of particular concern amongst the items of major expenditure was the fact that 18% of the total average annual expenditure on major items was debt repayments. In some districts, such as Shinwar, this item of expenditure made up over one third (36%) of total average household expenditure on major items, at a total average cost of US\$360. Moreover, debt repayments were higher amongst more marginal socio-economic groups. For instance, debt repayments amongst the landless were even higher at 25% of major expenditures compared to landlords who spent only 15% of their expenditure on major items on repaying their loans, once again reflecting the dependency on opium poppy cultivation amongst more marginal groups. It is interesting that for those households that did not cultivate opium poppy did not report debt repayment as an item of major expenditure at all, whilst for poppy growers it absorbed 19% of total average household expenditure on major items.

Obviously expenditure on land disputes was limited to those that owned land. The costs of resolving these cases were high ranging from US\$1,454 and US\$ 2,181. However, fieldwork revealed an alarming number of cases where land disputes had not been resolved through payment but through intimidation and violence. There was an overwhelming view that the district authorities did little to help resolve these cases and often insisted on payments from both sides before they would even consider becoming involved. Many of these cases were associated with returnees from Pakistan attempting to reclaim land from their extended family or neighbours. Others were a function of disputes over inheritance of land by widows, siblings or children. One case involved a widow being forced to marry her brother in law after the death of her husband, prompting her to lose her entitlement to her deceased husband's land. Disputes over water rights had even resulted in the murder of a man in the district of Surkhrud and the assailant fleeing to Peshawar.

### **Total annual expenditure**

Based on both the reported levels of monthly expenditure and the expenditure on major items over the previous 12 months it was possible to derive an estimate of total annual expenditure for each household (see Table 19). This calculation was based on the assumption that the levels expenditure reported for the month preceding the fieldwork represented a typical month. Given the timing of the fieldwork it is unlikely that this is the case. The months of August and September are not periods of significant agricultural investment. Households neither need to purchase agricultural inputs, such as fertiliser and farm power (as they would in October, November or December) nor pay for significant amounts of agricultural labour (as we have seen they need to do in March, April and May). It is therefore likely that these estimated of annual expenditure are lower than actual annual expenditure. Despite this constraint, this calculation does provide us with an indicative annual expenditure from which it is possible to assess how expenditure varies by location, socio-economic group and intensity of opium poppy cultivation.

And certainly a review of the data suggests there was much less variation in annual expenditure than there was in total annual cash income. For example the lowest level of annual expenditure was amongst non-poppy growing households who spent an estimated US\$ 2,202 in the previous 12 months. As opposed to total cash income figures where those with the highest income earned as much as six times those with the lowest income, the group with the highest level of expenditure (those with 20 jeribs of land or more) spent only twice as much per annum at US\$ 4,591 than those with the lowest.

Kommentar: This paragraph is difficult to follow

Perhaps not surprisingly total annual expenditures were higher amongst those with better access to land. For example, those households categorised as landlords had expenditure levels of US\$ 3,496 per annum compared to those without land who spent only US\$ 2,933. Similarly, the annual expenditure of those respondents with 20 jeribs or more of cultivated land was 86% more than those households with 2.5 jeribs or less. As has been discussed above, the land-wealthy were found to spend a greater proportion of these larger levels of total expenditure on what could be classified as non-essential items. Yet even amongst those respondents classified as landlords the proportion of total annual expenditure spent on non-essential items was only 3%, compared with 1.7% for the landless and 1% of total annual expenditure for those respondents with 2.5 jeribs or less.

The group with the highest proportion of annual expenditure spent on non-essential items was those respondents who cultivated 20 jeribs of land or more who spent 10% of their annual expenditure on items such as tractors, cars, motorbikes, televisions, generators and their Haj. However to put this into context this same group spent 44% of their annual expenditure on food and 12% on health costs. A further 7% was spent on other basic necessities such as fuel and clothes, 6% on debt repayments and 5% on agricultural investments. None of this suggests that respondents, even those who are accruing the highest returns, are using their revenues from opium poppy cultivation to finance a life of luxury.

Table 19: Total Average Annual Household Expenditure

	Total average monthly expenditure (US\$)	Food costs per head of household per month (US\$)	Total average annual household expenditure on non major items (US\$)	Total average annual expenditure on major items (US\$)	Total average annual expenditure (US\$)	Average household size	Average total annual household expenditure per household member (US\$)
All	215	9	2581	789	3362	14.7	229
Landlords	232	9	2782	714	3496	17.0	206
Owner Cultivator	230	10	2755	816	3552	14.5	245
Landless	177	8	2121	812	2933	12.8	229
Mehtarlam	176	8	2111	189	2286	14.8	154
Rodat	199	9	2384	403	2787	16.6	168
Kama	253	9	3040	742	3782	15.0	252
Surkhrud	190	10	2283	712	2995	12.6	238
Bati Kot	206	7	2470	1683	4153	15.6	266
Qarghai	239	10	2868	710	3578	12.4	289
Shinwar	242	10	2900	1000	3900	15.3	254
Single crop	191	10	2291	765	3056	13.8	221
Double crop	223	8	2677	797	3462	14.9	232
20 jeribs or more	253	7	3031	1560	4591	22.9	201
10 jeribs or more	246	8	2955	1112	4067	18.7	218
5 jeribs or less	176	9	2112	597	2694	12.5	216
2.5 jeribs or less	175	9	2105	376	2470	11.0	225
Non poppy growers	161	10	1936	266	2202	11.6	190
Poppy growers	219	9	2626	825	3442	14.6	236
100% of land poppy	208	10	2502	764	3266	13.4	243
More than 75% of land with poppy	216	9	2597	820	3417	14.7	232
Less than 50% of land with poppy	218	9	2617	760	3362	14.8	227
Less than 25% of land with poppy	191	8	2292	746	3038	14.8	206
Irrigated by tubewell	260	10	3120	769	3889	18.2	214

## 8. Total Annual Savings

### So what does this leave me with?

Once maximum potential cash income has been derived and is combined with an estimate of total annual expenditure it is possible to calculate annual household net income (see Table 20). Whilst a relatively crude estimate it reveals that for total annual net incomes ranged from minus US\$ 2,425 to US\$2,410 with an average of minus US\$ 45 for the sample as a whole.

Table 20: Annual Household Savings/Deficit			
	Total household expenditure over previous 12 months (US\$)	Maximum potential annual cash income (US\$)	Total annual savings/deficit (US\$)
<b>All</b>	<b>3362</b>	<b>3317</b>	<b>-45</b>
Landlords	3496	5314	1817
Owner Cultivator	3552	3098	-454
Landless	2933	1922	-1011
Mehtarlam	2286	1823	-463
Rodat	2787	3992	1205
Kama	3782	2408	-1374
Surkhrud	2995	1990	-1005
Bati Kot	4153	5030	877
Qarghai	3578	3067	-511
Shinwar	3900	4868	968
Single crop	3056	3973	918
Double crop	3462	3101	-361
20 jeribs or more	4591	7000	2410
10 jeribs or more	4067	5531	1464
5 jeribs or less	2694	1988	-706
2.5 jeribs or less	2470	1641	-829
Non Poppy growers	3442	1017	-2425
Poppy growers	2202	3475	1274
100% of land poppy	3266	3881	615
More than 75% of land with poppy	3417	4553	1136
Less than 50% of land with poppy	3362	2093	-1269
Less than 25% of land with poppy	3038	1389	-1649
Irrigated by tubewell	3889	5386	1497

The only households to have surplus income after their expenses were those categorised as landlords (with US\$ 1,817 per annum); those from the districts of Rodat (with US\$1,205 per annum), Bati Kot (with US\$ 877 per annum) and Shinwar (with US\$ 968 per annum); those who only got a single crop from their land (with US\$ 918 per annum); those with 20 jeribs of cultivated land or more (with US\$ 2,410 per annum), as well as those with 10 jeribs of cultivated land or more (with US\$ 1,464 per annum); those who monocropped opium (with US\$ 615 per annum) and those that cultivated more than 75% of their land with opium (with US\$ 1,136 per annum); and finally those who irrigated their land by tubewell (US\$1, 497). It is noticeable that these are the very groups that earned a potential maximum cash income of US\$ 3,000 or more from the sale of their opium crop. Without this income these groups would also be in deficit. As it stands, these groups have a surplus annual income after expenditure of between US\$615 to US\$ 2,410.

This surplus income offers these households the opportunity to increase consumption, make capital investments, and repay, or partly repay, any accumulated debt. As we have also seen, these are the very groups who have higher levels of expenditure and tend to spend a greater proportion of that expenditure on non-essential items. They also are more likely to invest in tubewells and resolving land disputes. However, whilst there are a whole host of agricultural investments these respondents might finance, opium poppy cultivation still represents the lower risk- high return option. As previous research has shown (and examples above illustrate) the provision of loans on future opium poppy production not only allows the resource wealthy to purchase opium at prices well below those at harvest time, it also facilitates the acquisition of long term productive assets including land, livestock and indeed, prospective wives, when the indebted fail to make their repayments. Through selling opium later in the agricultural season and though obtaining assets (particularly land) at well below their market value those households with surplus income can increase their incomes substantially.

For those respondents whose income falls short of their expenditure, credit becomes one of the only ways of meeting the basic needs of the household. Not only does opium poppy cultivation give household preferential access to credit, in good years when the both opium prices and yields are high, it allows households to minimise the proportion of total cash income that they need to allocate to the repayment of season debts (see Table 21). Indeed, by maximising opium poppy cultivation, as all of those that obtained a surplus net income did, households could maintain a debt repayment rate on seasonal loans of less than 15% of total cash income.

For all the other categories of respondents who cultivated opium to some degree, the proportion of annual cash income allocated to the repayment of season debts could be as high as 30%. The only group to exceed this were non-poppy growers who would require on average 43% of their total net income for debt repayment. When accumulated debts were also included the cost of repayment of all debts, both seasonal and accumulated reached, for non-poppy growers increase to 99% of the maximum potential cash income. This compares with those households who cultivated some opium poppy but did not, either out of choice, or due to resource constraints (including land tenure arrangements), obtain a return from their crop of US\$ 3,000 or more, whose total debt repayment represented between 30 to 50% of their potential maximum annual cash income. Yet even for those that did concentrate

their opium poppy cultivation and accrued the bulk of the final crop though inequitable land tenure arrangements combined seasonal and accumulated debt represented between 15 and 34 per cent of their potential maximum annual cash income.

And of course these figures actually mask even further socio-economic differentiation given that the calculations are the average level of debt for all respondents and not purely for the 57% of those interviewed who have taken a seasonal debt in the last 12 months and the 58% of respondents with accumulated debts. When we review the level of debt amongst borrowers only we find that seasonal debt absorbs 24% of the maximum potential annual income and accumulated debt as much as 33%. For those respondents who are both landless and indebted the repayment of both seasonal and accumulated debts would represent the equivalent of 70% of the maximum potential annual cash income (compared to 51% of those who are landlords and indebted). This is the same for those with 2.5 jeribs or less. Yet, for those respondents with 20 jeribs of cultivated land or more and debts) only 36% of their maximum potential cash income would be absorbed by debt repayments. However, the real economic benefits lie with those households who are not only land rich but have no debts – these are the ones that benefit most from opium poppy cultivation.

Table 21: Proportion of Annual Income Required for Debt Repayment					
	Maximum potential annual cash income (US\$)	Average value of loans obtained over last 12 months (US\$)	Proportion of annual cash income required for repaying annual debt (%)	Average accumulated debt (US\$)	Proportion of annual cash income required for repaying accumulated debt (%)
<b>All</b>	<b>3317</b>	<b>486</b>	<b>15</b>	<b>647</b>	<b>20</b>
Landlord	5314	665	13	1124	21
Owner Cultivator	3098	462	15	457	15
Landless	1922	328	17	532	28
Mehtarlam	1823	538	30	416	23
Rodat	3992	490	12	476	12
Kama	2408	389	16	1296	54
Surkhrud	1990	522	26	482	24
Bati Kot	5030	372	7	382	8
Qarghai	3067	481	16	658	21
Shinwar	4868	537	11	805	17
Single crop	3973	456	11	633	16
Double crop	3101	497	16	652	21
20 jeribs or more	7000	893	13	721	10
10 jeribs or more	5531	632	19	1039	19
5 jeribs or less	1988	359	18	463	23
2.5 jeribs or less	1641	345	21	385	23
Non Poppy Growers	1017	439	43	670	66
Poppy Growers	3475	478	14	318	9
100% of land with poppy	3881	398	10	634	16
More than 75% of land with poppy	4553	525	12	652	14
Less than 50% of land with poppy	2093	411	20	680	32
Less than 25% of land with poppy	1389	402	29	294	21
Irrigated by tubewell	5386	513	10	689	13

## 9. Key Findings

### Access to Labour

- Household sizes are large with an average of 2.2 families and 14.7 persons. However, those households with larger landholdings or those employing others to work on their land have even greater labour resources to draw upon with an average of 17 and 22.9 members, respectively.
- Whilst the resource poor dedicated the largest share of their household labour to on-farm-work, wealthier households amongst the sample devoted the largest proportion of economically active household members to off and non-farm income opportunities.
- Households use a variety of strategies to access labour including family labour, sharecropping and hiring labour. On average, hired labour contributed one third of the total labour needs for the opium crop and family labour, including children, provided the remaining two thirds. Opium poppy cultivation (both weeding and the harvest) is by far the most frequently cited activity undertaken by both hired labour and those children who are withdrawn from school.
- Almost one fifth of those interviewed withdrew their children from school for the purpose of opium poppy cultivation. Wealthier socio-economic groups (who were also most likely to have their children in school in the first place) were the least likely to withdraw their children from school for agricultural activities.
- The vast majority (80%) of households hired labour for opium poppy cultivation more than half to work during both the weeding and harvesting seasons. On average households purchased 6.25 person days per jerib for the harvest and 18 person days per jerib for weeding, resulting in average hired labour costs of US\$ 54 per jerib for weeding and US\$45 per jerib for the opium poppy harvest.
- The higher daily costs of hired labour combined with the potential for theft of the gum by itinerants during the harvest, as well as the duration of the weeding season (January to March) when other non-farm income opportunities might be available, may explain why households giving greater preference to the use of hired labour during the weeding season and maximising the use of family labour during the harvest.
- Hired labour for opium poppy cultivation is typically sourced from the same village or province in which the household resides, although almost one fifth of those employed came from other provinces or from Pakistan. Despite the diversity in origin of hired labour from within the region two thirds of those employed as labour for opium poppy cultivation came from the three districts in which opium poppy probably has the longest history in Nangarhar: Khogiani, Achin and Shinwar.

- Based on an average input of 24.25 person days, hired labour constitutes approximately one third of the total person days required for the cultivation of one jerib of opium poppy. Were these levels of employment and daily wage labour rates to be typical across Nangarhar during the 2003/2004 season an estimated 3.4 million person days of off-farm employment would have been created by opium poppy cultivation in the province, generating around US\$ 11.7 million in daily wages

### **Access to Land**

- Land tenure systems are complex and diverse. Only one third of those interviewed worked their own land, whilst the majority accessed land using a variety of different methods including through ownership, sharecropping, mortgaging, and renting (or leasing). Almost one half (46%) of those interviewed either had no land at all or insufficient land so obtained land through sharecropping or renting arrangements.
- Sharecropping was more common than land rental with almost half of those interviewed involved in a sharecropping arrangement, either employing sharecroppers (13%) or working as a sharecropper themselves (34%). This compares with only 11% of those interviewed who either rented out their land or leased it from someone else. This supports the view that landowners typically favour employing sharecroppers rather than leasing their land to others due to the better returns they accrue on sharecropped land, particularly when opium poppy is cultivated.
- However, opium poppy cultivation continues to put upward pressure on the land rental in the eastern region. In areas of where opium poppy cultivation becomes concentrated rents are increasingly being set based on potential opium yields rather than on wheat as tradition dictates. The influx of farmers from other districts and provinces in search of land to cultivate opium poppy pushing up the cost of leasing land is a source of resentment amongst the local population in some areas.
- The amount of land available for cultivation is a function of the availability of water. Some areas have experienced a number of years of drought and even where they do obtain a double crop the summer crop is less than half the area cultivated during the winter season. Opium poppy cultivation is typically concentrated in those areas with the smallest amount of cultivated land, particularly those with only one crop per year.
- There is considerable variability in the number of people per unit of cultivated land, ranging from 0.9 persons per jerib for those households with more than 20 jeribs of cultivated land to 5.5 for those with less than 2.5 jeribs of cultivated land. The high number of persons per unit of cultivated land on such small landholdings not only facilitates opium poppy cultivation due to the availability unremunerated family labour, but leave households with little choice but to maximise the production of cash crops in order to meet the household's basic needs. Indeed, opium poppy cultivation was found to be at its most concentrated where population densities were at their highest.

## Cropping Patterns

- Even in its peak year of cultivation opium poppy is only one crop within a more diverse cropping system and does not typically occupy the majority of cultivated land. Indeed, for the sample as a whole opium poppy occupied 32% of the total amount of cultivated land, wheat 26%, maize 19%, rice 14%, cotton 3%, clover 1.6%, and an array of other field and vegetable crops, including onions, potato, cucumber and carrot, 4% of the total land cultivated. Shinwar (61%) and Rodat (76%) were the only districts in which opium poppy was cultivated on the majority of total cultivated land.
- The density of opium poppy cultivation diminishes as the size of cultivated land increases. For example, poppy cultivation was cultivated most densely by respondents who cultivated 2.5 jeribs of land in winter or less. This group dedicated 69% of their land to opium poppy as opposed to those respondents with 20 jeribs or more who cultivated opium poppy on 44% of their cultivated land. Similarly those that only cultivated opium poppy (with no other crop in either the winter or summer season) had less than one third (4.8 jeribs) of the cultivated land of those households that dedicated less than one quarter of their winter land to opium poppy (16 jeribs).
- There is a greater diversity in cropping patterns amongst wealthier socio-economic groups. The wealthy were also far more likely to cultivate wheat, maize, and clover than those respondents who did not own land or were land poor. The preference for cultivating the fodder crop, clover, by wealthier socio-economic groups reflects the differing levels of livestock ownership between the different groups.
- Opium poppy was most densely cultivated in which irrigated land is the scarce resource – those that have only a single crop or those that irrigate by tubewell. Those areas that only obtain a single crop, and essentially have only half the cultivable land of those that can obtain a double crop, need to maximise the economic returns on their land during the winter season if they are to meet their families needs over the full calendar year. This makes a higher value cash crop such as opium poppy an attractive option. It is argued that for those that irrigate by tubewell, opium poppy is the only crop that will both cover the recurrent costs and facilitate repaying the costs of the original investment.

Kommentar: nice example that could be demonstrated by a grap

## Food Security

- Self-sufficiency in wheat production varies by socio-economic group. Landlords were not only the socio-economic group that had higher rates of self-sufficiency compared to owner cultivators and the landless, but they also had a better history of self-sufficiency. The low levels of self-sufficiency in wheat production amongst the resource poor highlights the integral role cash crops and/or non farm income opportunities play in guaranteeing food security for these particular socio-economic groups.

### On-Farm Income

- Whilst households cultivate a variety of different crops, opium poppy was the only crop sold by more than 10% of those interviewed. In fact opium was sold by 90% of the sample as a whole, and in some areas, including the districts of Shinwar, Bati Kot, and Rodat, and amongst those who irrigated their land by tube well, all the respondents sold opium.
- Opium sales represented at least 98% of the total maximum potential income generated from crop sales.
- Livestock is an integral part of livelihood strategies in the east with almost 90% of those interviewed owned some kind of livestock. However, the value of livestock diminishes with the intensity of opium poppy cultivation. For example, the average value of livestock for those households that mono-cropped opium poppy was almost one half of that of those respondents that cultivate less than one quarter of their land with opium poppy. Given that the majority of households that were found to monocrop opium poppy were suffering from drought and did not cultivate a summer crop (typically maize which is used for animal feed) it should be of little surprise that these households had limited livestock.
- The land-wealthy not only a more likely to own livestock but they have larger herds of animals of a greater value which ultimately provides a guarantee against food insecurity, a source of revenue, and in some areas a means of accessing credit.

Kommentar: something missing

### Off and Non-Farm Income

- Off and non farm income are an integral part of rural livelihood strategies with the vast majority of households interviewed for this Study had at least one family member who generated an income, on either a permanent or seasonal basis, through activities other than agricultural production on the their own household land.
- For the resource wealthy non-farm incomes are not only higher but also more secure and diverse, drawing on government salaries, transport and the retail trade.
- Off and non-farm income opportunities provide valuable sources of cash income for those households with the greatest proportion of land dedicated to opium poppy, however, much of this is insecure wage labour that is often derived from working as hired labour during the opium poppy harvest.
- The resource poor are more dependent on relatively low paid and insecure wage labour opportunities compared to the relative security (and patronage) associated with government salaried posts.

Kommentar: than what?

## **Credit**

- Credit is obtained by all wealth groups regardless of land tenure, the size of landholdings or the presence of opium poppy cultivation. However, there is a higher incidence of indebtedness amongst the resource-poor.
- Loans are typically used to satisfy basic needs, with the vast majority of loans being used to purchase food, clothes, and medical services, as well as agricultural inputs.
- Continued opium poppy cultivation is seen as the main strategy for repaying accumulated debts. Whilst other options include the sale (or mortgage) of land, wage labour, daughters into marriage, and licit crops, opium poppy cultivation is typically cited by the majority of farmers interviewed.
- The time period over which farmers anticipate repaying their debts suggests that opium poppy cultivation is not actually a strategy of debt repayment but one of debt management. Farmers typically report that they expect to their existing debts to be repaid over a one to four year period. However, given the level of accumulated debt, the incidence of new loans each year, the potential for crop failure and the current absence of income earning opportunities it is unlikely that these accumulated debts will be cleared without external assistance.
- The failure to repay accumulated debts has become an increasing source of local conflict resulting in the sale of land, livestock and daughters as well as absconding to Pakistan. These strategies all denote the vulnerability of many of those households who are unable to meet their debt repayments. The amount of seasonal loans and their importance in meeting basic needs, the levels of accumulated debt, and the over reliance on opium poppy cultivation as the primary method of managing debt repayment, all highlight a dependency on opium that ultimately leaves households particularly vulnerable to the failure of their opium crop due to either disease or indeed eradication.
- Without access to new forms of credit, protection of food security and alternative sources of income, significant losses in the opium crop are likely to prompt increasing levels of socio-economic differentiation in rural communities as those in debt look to sell their assets to repay their loans whilst those already wealthy enough to lend money accrue increasing amounts of assets at lower than market prices. The potential for increasing rates of migration as households search for non-farm income opportunities, or simply flee the intimidation and violence that can accompany the failure to repay debts, would seem to be high.

## **Potential Annual Cash Income**

- Total cash income varied with socio-economic group and the size of landholdings with landlords earning almost three times more cash income than the landless and those with the largest amount of cultivated land earning more than six times more than those with 2.5 jeribs or less.

- It is notable that despite problems of irrigation those respondents with land that could only obtain a single crop (US\$ 3,793) managed to exceed the levels of total cash income of those respondents that double cropped their land (US\$ 3,101). Given lower levels of off and non-farm income amongst respondents who single cropped their land this could only be achieved due to the particularly high proportion of land this group dedicated to opium poppy.
- The importance of off and non-farm income is particularly pronounced amongst those households with 2.5 jeribs of land or less and those who cultivate less than 25% of their winter land with opium poppy. Respondents from both of these groups derive more than 40% of their total cash income from sources other than from their own farms, higher than any other group. Both these groups would seem to have little choice but to seek out off-farm and non-farm income opportunities: the former due to insufficient land and a particularly high number of household members per jerib of cultivated land (5.5) which even intensive opium poppy cultivation (69% of the land cultivated in the winter) cannot cater for, the latter due to the low level of opium poppy cultivation and therefore a need to supplement on-farm income with other sources.
- Whilst cultivating opium poppy clearly brings a higher level of per capita income for those involved in its cultivation than those that either elect not to grow or cannot grow the crop, based on these estimates opium production does not seem to bring the riches that many commentators might expect. For instance, it was only in the districts of Shinwar and Bati Kot, and amongst those households with 20 jeribs of land or more, as well as those classified as landlords, where the per capita annual income exceeds the recognised level of absolute poverty of US\$ 300.

### **Annual Expenditure**

- Food, fuel and health costs were the most significant expenditures the household incurs with a fairly consistent level of basic expenditure across all socio-economic groups and geographic areas.
- The resource wealthy spend a larger proportion of their total expenditure on non essential items, including cars, tractors, television motorbikes, generator, and funding their Haj, than any other socio economic group. For those with more marginal landholdings expenditure on non essential items was less than 2% of their total annual expenditure, with the majority being spent on food, health care and
- Debt repayments constitute almost one fifth of annual expenditures. Debt repayments amongst the landless were even higher at 25% of major expenditures compared to landlords who spent only 15% of their expenditure on major items on repaying their loans.

### **Annual Savings/Deficit**

- The only households to have surplus income after their expenses were those that earned a potential maximum annual cash income of US\$ 3,000 or more from the sale of their opium crop. Without this level of income households had insufficient income to meet their annual expenditures.
- For those whose income fell short of their expenditure, credit is the only way of meeting the basic needs of the household. Not only does opium poppy cultivation give household preferential access to credit, in good years when the both opium prices and yields are high, it allows households to minimise the proportion of total cash income that they need to allocate to the repayment of season debts. By maximising opium poppy cultivation, as all of those that obtained a surplus net income did, households maintain a debt repayment rate on seasonal loans of less than 15% of total cash income.

## 10. Conclusion

Widespread opium poppy cultivation is a response to the prevailing socio-economic, political and environmental conditions that prevail in Afghanistan today. Certainly in the absence of the threat of law enforcement there has been little to curb opium poppy cultivation even in districts such as Kama where cultivation has been marginal for much of the last decade. But it would be wrong to assume the expansion in opium poppy cultivation is simply a function of the absence of legal constraints. Drought, increasing population pressure, falling wheat prices and the absence of secure alternative sources of income have all coincided to create the environment in which fewer and fewer households in eastern Afghanistan believe they can meet their basic needs without recourse to opium poppy cultivation. The situation for many households is further exacerbated by a need for both seasonal and long terms loans and the dominance of an informal credit system in which preferential access is given to those that cultivate opium poppy.

Indeed, whilst opium poppy cultivation has allowed the wealthier socio-economic groups to prosper through the generation of a surplus cash income that can subsequently be reinvested in opium through the provision of credit or perhaps through greater involvement in the trade downstream, it has provided the majority with a coping strategy to manage their income deficits and accumulated debts. This is particularly so for those households who have limited cultivated land and have been most affected by the drought.

In fact, the results of this Study have shown that opium poppy cultivation is at its most concentrated where irrigated land is at its most scarce. Those households with insufficient water to obtain two crops per year, along with some of the districts worst hit by the drought, have been some of the most prolific cultivators, dedicating as much as 80% of their cultivable land to opium poppy during the winter season. Faced with insufficient water, households in these areas seem to have seen increased levels of opium poppy cultivation as one of their only means of meeting household living costs. And these are also the very same households that have typically sold a greater amount of their livestock and currently retain herds of low economic value.

Here drought too has played its role, in the past few years reducing the amount of water available for animals, prompting sales, lowering the demand for wheat straw, and consequently creating greater space for increased opium poppy cultivation in subsequent seasons. As long as these drought conditions prevail, the opportunities for greater diversification of on-farm income, such as the production of high value vegetable and fruit crops, or the expansion of livestock sales, will be curtailed and opium will continue to be considered as one of the only secure sources of cash income.

And contrary to the views of some, wheat cultivation is just not a viable option for many of these households, as these are not just the households with the smallest amount of cultivable land they are also the households with the highest numbers of people per unit of agricultural land. Consequently, self-sufficiency in wheat cultivation is but a distant memory. Indeed, even for those households with larger landholdings and the potential to produce a wheat surplus over and above their family

needs, the sale of wheat is unlikely to generate the income required to meet the costs of other basic necessities, which as in many post conflict countries is high.

Moreover, the balance between household food and cash requirements has changed with increasing imports of wheat and the continuing drought. Whilst in the past concerns over the availability (and affordability) of wheat in the local bazaar prompted households to allocate a minimum amount of land to the crop, until recently falling prices and a growing confidence that households can meet any shortfall in production through purchases on the local market have only added to the conditions for increased opium poppy cultivation. Whilst this perception may change given the recent 30% increase in the market price of wheat, the crop is still more vulnerable to crop failure than opium poppy in the event of continuing water shortages.

Yet despite all this, wheat remains an important crop even in those areas where opium poppy dominates. Indeed, most households still retain some balance in their cropping patterns and despite the fact that opium sales generate over 90% of on-farm cash income, opium poppy still only occupies on average one third of the total cultivable land. What is perhaps more concerning is the current absence of other agricultural alternatives to opium poppy. Apart from those districts with better access to irrigation and in closer proximity to the provincial centre in Jalalabad, the sale of vegetable crops typically occupies only 4% of cultivable land and generates less than 2% of total cash income.

Of greater importance to the household economy are off-farm and non-farm income opportunities. On average these contribute 20% of total cash income, far in excess of the income derived from non-opium poppy related on-farm income, such as vegetable and fruit production, and livestock sales. But even here those with limited land holdings do not fare well. They are largely reliant on daily wage labour opportunities rather than the more secure income from government salaries and the retail trade available to the land wealthy. Moreover, too often even these daily wage labour opportunities are derived from working as hired labour in the weeding and harvesting of opium poppy – a potential source of 3.2 million labour days and US\$ 11.7 million in daily wages for Nangarhar alone.

One of the only common themes that cuts across the livelihood strategies of all the different socio-economic groups involved in this Study is the reliance on seasonal and longer-term loans. The bulk of this credit was used for basic household expenditures: purchasing food and clothing, paying for healthcare and investing in agricultural production. As with total expenditure, few of these loans were for the purchase of non-essential items, except amongst the land-wealthy. Of course, the other common theme is the reliance on opium poppy cultivation as a means of accessing and subsequently repaying these seasonal and longer-term loans. Indeed, without opium poppy cultivation it is difficult to see how households can actually service their debts or indeed meet their basic needs. As is evident by the significant and unsustainable annual income deficit of US\$ 2,425 per non-poppy growing household.

Moreover, the proportion of total cash income required to make debt repayments is substantial. For those with limited land holdings on average a fifth of their total cash income is absorbed in repaying seasonal loans, a further quarter is required to repay accumulated debts. In comparison, for the land rich, on average one quarter of their

total cash income is required to repay their significantly higher levels of seasonal and accumulated debts. Neither group can make these repayments in a single year and meet their families basic needs so continued opium poppy cultivation is seen as the only means by which to service these debts, as well as mitigate any crisis that may befall the household, such as crop failure, death or illness, as well as in good years partly meet the significant expenses associated with marriage, house building or to purchase luxury items.

Certainly, with reference to opium poppy cultivation in Nangarhar the short to medium term forecast is not good, it is one in which the growing dependency on opium sales is clear. Amongst those with limited land holdings and poor irrigation, where both opium poppy cultivation and the population is at its most concentrated, livelihood options are limited: essentially opium poppy cultivation supplemented by off-farm and non farm daily wage labour opportunities, many of them associated with opium production. The dependency on opium poppy cultivation is absolute.

For the land wealthy, increased opium poppy cultivation and a greater share of the final yield due to inequitable land tenure arrangements, are combined with greater diversity in on-farm, off-farm and non-farm income opportunities. Opium sales, whilst still a significant proportion of total cash income, are pooled with the income derived from the sale of other agricultural products and livestock. Non-farm incomes are not only higher but also more secure and diverse, drawing on government salaries, transport and the retail trade. Yet even amongst this group per capita annual cash income is still only just over the recognised level of absolute poverty at US\$ 306. The provision of loans, the sale of opium in the winter season when farm-gate prices traditionally rise, and greater involvement in the trade provide an opportunity to significantly increase per capita income.

In such an environment the policy options are complex. As we have heard so many times before there is ‘no quick-fix’, and, as the findings of this Study suggests, there is certainly ‘no one-size-fits-all’. Policy makers and development practitioners need to work with the diversity that is so evident amongst opium poppy cultivators. Understanding the contribution of the different socio-economic groups involved in opium poppy cultivation and the multiple benefits they subsequently derive from their involvement in its growth are critical to identifying the entry points for developing an effective strategy for the sustainable elimination of the crop.

Given that these benefits are so unevenly distributed, emphasis should be given to devising a strategy that aims at improving the resource-poor’s access to those assets that have hitherto been derived by their cultivation of opium poppy and not focussing on replacing the relatively high level of income from opium earned by the resource-rich. Consequently, improving access to credit, land and off-farm and non-farm income opportunities should be a priority for the poor. For those farmers who are not economically reliant on opium poppy cultivation, greater emphasis should be given to applying social and legal pressure within a framework of increased state presence and good governance. None of these efforts can be undertaken in isolation from the wider nation building and reconstruction effort, indeed they are integral to it. Whilst more complex, such a targeted approach is more likely to deliver on both drug control and development objectives which ultimately will contribute to delivering a more secure and stable Afghanistan.

**ANNEX 1:**  
**Individual Interviews (questionnaire)**

## INDIVIDUAL INTERVIEWS

### مصاحبه انفرادی

Province ولایت		Landlord <sup>381</sup> زمیندار کلان	
District ولسوالی		Owner cultivator دهقان زمین شخصی	
Manteqa منطقه (Main village)		Landless بی زمین	
Village قریه		Name of interviewee اسم مصاحبه شونده	
Name of surveyor اسم سرویر			

Date :    /    /

### Household Composition: ترکیب خانواده

1. Total population in the household? نفوس مجموعی خانواده؟

House hold people اعضاء خانواده	Adult بالغ		Children under 15 اطفال کمتر از 15 سال	
	Male ذکور	Female اناث	Male ذکور	Female اناث
How many people in the household? تعداد اعضاء خانواده				
How many people in the household work full time on the farm, on others farms or in non farm activity? مجموع تعداد اعضاء خانواده که کار می‌کند؟				
How many people in the household work full time on the farm? تعداد اعضاء خانواده که مکمل در مزرعه کار می‌کند؟				
How many people in the household work part time on the farm? تعداد اعضاء خانواده که نصف وقت در مزرعه کار می‌کند؟				
How many people in the household work full time on other peoples farms? تعداد اعضاء خانواده که مکمل در مزرعه دیگر کس کار می‌کند؟				
How many people in the household work part time on other people farms? تعداد اعضاء خانواده که نصف وقت در مزرعه دیگر کار می‌کند؟				
How many people in the household work full time on non farm activity? تعداد اعضاء خانواده که تمام وقت خارج از مزرعه کار می‌کند؟				
How many people in the household work part time on non farm activ تعداد افراد که نصف وقت بیرون از مزرعه کار				

<sup>38</sup> A landlord is one of the major landowners in the village plus employ a sharecropper and/or tenant

می‌کند؟				
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2. Number of people living outside the household but contributing economically (i.e. remittances)?

تعداد افراد که بیرون از فامیل زندگی می‌کند مگر با فامیل کمک اقتصادی می‌کند؟

Range of age عمر	Total جمله	Male ذکور	Female اناث	Location موقعیت	How much? چه مقدار
Adults 16-60 از 16-45 سال					

3. How many families are living in the household? \_\_\_\_\_

تعداد فامیل در خانواده؟

Land: زمین زراعتی خانواده

4. How many jeribs of land did your household cultivate in 2003/4?

چند جریب زمین در سال 4/2003 توسط خانواده شما کشت شده اند؟

Season فصل	Irrigated زمین آبی	Rain fed زمین للمی	Fallow	Total جمله
Winter زمستان				
Summer تابستان				

5. Reason for land being left fallow? \_\_\_\_\_

علت از کشت ماندن زمین

5. Who owns the land? زمین ملکیت کی است

	Jeribs جریب		Rent/Share of crop اندازه دهقانی وی یا اجاره
	Irrigated آبی	Rain fed للمی	
Own شخصی			
Lease from other اجاره از دیگر کس			
Rent to another اجاره به دیگر کس			
Sharecrop from another به دهقانی از دیگر کس			
Sharecrop to another به دهقانی به دیگر کس			
Mortgaged from گروی از دیگر کس			
Mortgaged to another گروی به دیگر کس			
Total مجموعه			

6. What crops are grown on land by landownership?

کدام نباتات را کشت نموده اید؟

Landownership ملکیت زمین	Crop 1 نبات اول		Crop 2 نبات دوم		Crop 3 نبات سوم		Crop 4 نبات چهارم	
	Name اسم نبات	Jireb اندازه جریب	Name اسم نبات	Jireb اندازه جریب	Name اسم نبات	Jireb اندازه جریب	Name اسم نبات	Jireb اندازه جریب
Own شخصی								
Lease from other اجاره از دیگر کس								
Rent to another اجاره به دیگر کس								
Sharecrop from another به دهقانی از دیگر کس								
Sharecrop to another به دهقانی به دیگر کس								
Mortgaged from گروی از دیگر کس								
Mortgaged to another گروی به دیگر کس								

**Labour:** مزدور

7. Is there any time during the year when school going children are withdrawn from school to work on the farm? **Yes** بلی \_\_\_\_\_ **No** نی \_\_\_\_\_

ایا در جریان سال اطفال شما عوض رفتن به مکتب به کار مزرعه می پردازند؟

8. If YES, Which months and for which agricultural activity?

اگر بلی در کدام ماه؟ و کدام فعالیت زراعتی؟

Moth ماه	Jan جدی	Feb دلو	March حوت	April حمل	May ثور	June جوزا
Activity فعالیت						
Moth ماه	July سرطان	Aug اسد	September سنبله	October میزان	November عقرب	December فوس
Activity فعالیت						

9. Did you hire agricultural labour last season? **Yes** بلی \_\_\_\_\_ **No** نی \_\_\_\_\_

ایا شما برای فعالیت های زراعتی مزدور استخدام نموده اید؟

If yes for which crops? اگر بلی برای کدام نباتات

Crop اسم نبات	Task نوع فعالیت	No of people hired تعداد مزدور	For how many days تعداد روز	Payment per person مزد روزانه	Cost of food per labourer/day مصرف روزانه نان یک نفر مزدور

10. Does the agricultural labour come from this village? YES بلی \_\_\_\_\_ NO نی

ایا مزدور زراعتی از همین قریه می باشد؟

11. If No From where does it come?

اگر نی از کجا می اید؟

	Number تعداد	Names اسم محل
This district? از همین ولسوالی		
Another district in this province? از دیگر ولسوالی این ولایت		
Another province? از دیگر ولایت		
Another country? از دیگر مملکت		

### Water : اب

12. Where do you get your drinking water? (order of importance with 1 'most important' and with 3 'least important')

منابع اب آشامیدنی شما کدام اند از 1-3 درجه بدهید 1=زیاد مهم 2=متوسط مهم 3=کم مهم

Sources منابع	Spring بهار	Winter زمستان
Home well چاه خانه		
Village well چاه قریه		
Home Hand pump پمپ دستی خانه		
Home Piped Water نل اب در خانه		
Neighbourhood Hand Pump پمپ دستی خانه		
Neighbourhood Piped Pump پمپ دستی همسایه		
Other (specify) و غیره واضح شود		

13. Where do you get your irrigation water? اب برای آبیاری از کدام منبع به دست می اورید؟

Source منبع اب	Canal جوی	Karez کاریز	Spring چشمه	Tube well واتر پمپ	Other (specify) و غیره
Jeribs اندازه جریبی					

**B. ON FARM : در مزرعه**

**Cropping patterns:** کشت نباتات

14 What field crops have you grown in 2003/4

کدام نباتات را در سال 4/2003 کشت نموده اید؟

Crop اسم نبات	Planting month ماه کشت	Area کشت شده		Harvesting month ماه حاصل برداري	Yield/jerib حاصل یک جریب به سیر		Total harvested حاصل مجموعی به سیر
		Irrigated ابی	Rain fed للمی		Irrigated ابی	Rain fed للمی	
Winter کشت زمستانی							
Summer کشت تابستانی							

15. Have you increased the amount of land you have dedicated to particular crops over the last two years? **بله YES** \_\_\_\_\_ **نی NO** \_\_\_\_\_

در دو سال گذشته ساحه کشت کدام نبات را کم و یا زیاد نموده اید؟

16. If so which crops have you grown more of? \_\_\_\_\_

اگر بله کدام نبات را؟

17. Why? چرا \_\_\_\_\_

18. Which crops would you prefer to grow more of next year? \_\_\_\_\_

کدام نبات را ترجیح می‌دهید که در سال آینده زیاد کشت کنید؟

19. Why? چرا \_\_\_\_\_

20. What prevents you doing so? \_\_\_\_\_

تا هنوز کدام موانع در باره کشت این نبات موجود بود؟

21. What vegetables have you grown in 2003/4?

کدام سبزیجات را در سال 4/2003 کشت نموده اید؟

Vegetable اسم سبزی	Planting month ماه کشت	Area جریبی ساحه		Harvesting month ماه حاصل برداری	Yield/jerib حاصل یک جریب به سیر	Total harvested حاصل مجموعی به سیر
		Irrigated ابی	Rain fed للمی			
Winter کشت زمستانی						
Summer کشت تابستانی						

22. Have you increased the amount of land you have dedicated to particular vegetables over the last two years? **بله** YES \_\_\_\_\_ **نه** NO \_\_\_\_\_

در دو سال گذشته ساحه کشت کدام سبزی را کم و یا زیاد نموده اید؟

23. If so which vegetables have you grown more of? \_\_\_\_\_

گر بله کدام سبزی را؟

24. Why? چرا? \_\_\_\_\_

25. Which vegetables would you prefer to grow more of?

کدام سبزی را ترجیح می‌دهید که در سال آینده زیاد کشت کنید؟

26. Why? چرا? \_\_\_\_\_

27. What prevents you doing so?

تا هنوز کدام موانع در باره کشت این سبزی موجود بود؟

28. Do you have fruit and nut trees? **بله** YES \_\_\_\_\_ **نه** NO \_\_\_\_\_

ای شما درختان میوه دارید؟

29. If Yes? کدام بلی کدام

Type نوع میوه	Area ساحه		Yield حاصل به سیر		Total Harvested حاصل مجموعی
	No of Trees تعداد درخت	Or Jeribs یا ساحه به جریب	Per tree حاصل یک درخت	Or per jerib یا حاصل یک جریب	

30. Which fruit and nut trees would you prefer to grow more of? \_\_\_\_\_  
کدام میوه و درخت را ترجیح می‌دهید که در سال آینده زیاد کشت کنید؟

31. Why? چرا? \_\_\_\_\_

32. What prevents you doing so? \_\_\_\_\_  
تا هنوز کدام موانع در باره کشت این درخت موجود بود؟

33.. What livestock does the household own? تعداد و نوع حیوانات خانواده

Livestock نوع مالداري	Breed جنس		Total number تعداد مجموعی	Price if sold on the market today/Afs قیمت یک راس به افغانی در بازار	
	No.local تعداد وطنی	No.improved تعداد اصلاح شده		جنس وطنی	جنس اصلاح شده
	Oxen قلیه گاو				
Cattle گاو وگوساله					
Sheep گوسفند					
Goat بز					
Camel شتر					
Donkey مرکب					
Horse اسب					
Other ( ) وغیره					

34. Have you changed the amount of livestock you own in the last two years? Yes بلی \_\_\_\_\_ No نی \_\_\_\_\_  
ایها در تعداد حیوانات شما در دو سال گذشته تغیر آمده است؟

اگر بلی کدام؟ If Yes ,

Type نوع حیوان	Increase زیاد شده	Decrease کم شده	Why چرا؟

35. Which livestock would you prefer to own more of? \_\_\_\_\_

کدام حیوان را ترجیح می‌دهید که تعداد آن زیاد بسازید؟

36. Why? چرا? \_\_\_\_\_

37. What prevents you doing so? \_\_\_\_\_

تا هنوز چه مشکل موجود بود؟

**Food security:** تأمین غذا

38. Did your household produce enough wheat to feed itself during this cropping year? بلی YES \_\_\_\_\_ نی NO \_\_\_\_\_

ایا برای خوراکه یکساله خانواده خویش به قدر کافی گندم تولید کرده اید؟

If YES, GO TO

39. If no, اگر نی

B15. For how many months did your wheat harvest feed the family? \_\_\_\_\_

برای چند ماه برای فامیل تان کفایت خواهد کرد؟

40. Have you ever produced enough wheat to feed the household?

بلی YES \_\_\_\_\_ نی NO \_\_\_\_\_

ایا کدام وقت مقدار گندم را تولید کرده اید که خوراکه فامیل شما را تکافو می‌کرد؟

41. If YES how many years ago? \_\_\_\_\_

اگر بلی چند سال قبل؟

42. What has changed since then? \_\_\_\_\_

حالا چه تغیر رخ داده است؟

43. If you only cultivated wheat on your land would your harvest be sufficient to meet the families annual wheat requirements? بلی Yes \_\_\_\_\_ نی No \_\_\_\_\_

اگر شما در زمین خود تنها گندم را کشت کنید حاصل آن ضروریات یک ساله فامیل تان را تکافو خواهند کرد؟

44. If no, for how many months could you feed your family? \_\_\_\_\_

اگر نی برای چند ماه تکافو می‌کنند؟

**Sale of Agricultural Produce** (where produce same sold more than on one occasion

فروش تولیدات زراعتی) list each occasion separately)

45. What crops did the household sell this 2003/04 season?

حاصل کدام نباتات را در فصل 4/2003 فروخته اید؟

Field Crop اسم نباتات	Quantity sold/seer مقدار فروخته شده به سیر	Price at time of sale/Afs قیمت فی سیر به افغانی	Where sold محل فروش

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46. What vegetables did the household 2003/04 sell?

حاصل کدام سبزیجات را در فصل 4/2003 فروخته اید؟

Vegetable اسم سبزیجات	Quantity sold/seer مقدار فروخته شده به سیر	Price at time of sale/Afs قیمت فی سیر به افغانی	Where sold محل فروش

47 What fruit and nuts did the household 2003/04 sell?

حاصل کدام میوه جات را در فصل 4/2003 فروخته اید؟

Fruit اسم میوه جات	Quantity sold/seer مقدار فروخته شده به سیر	Price at time of sale/Afs قیمت فی سیر به افغانی	Where sold محل فروش

48 What livestock did the household 2003/04 sell?

کدام نوع مویشی را در فصل 4/2003 فروخته اید؟

Livestock نوع حیوان	Number of sold تعداد فروخته شده	Price at time of sale/Afs/Unit قیمت فی راس به افغانی	Where sold محل فروش

**C. OFF FARM INCOME:** عاید خارج از مزرعه شخصی

49. What is the total number of persons in your household who had jobs on other people's farms?

تعداد افراد خانواده شما که در مزرعه دیگری کار میکنند؟

Type of Work (specify) نوع کار	No. of Men تعداد ذکور	No of women تعداد اناث	Calendar Months کدام ماهها		Total number of days تعداد روزهای کار	Location موقعیت	Wage/day مزد یک روز
			From از	To الی			

**D. NON FARM INCOME:** عاید بیرون مزرعه

50. What is the total number of persons in your household who had other jobs than farming during this last year?

به چه تعداد افراد خانواده شما در جریان این سال مصروف فعالیت های خارج از مزرعه میباشد؟

Type of Work نوع فعالیت	No. of Men تعداد ذکور	No of women تعداد اناث	Total number of days تعداد روز	Calendar Months ماهها کار		Location موقعیت کار	Wage/day مزد فی روز به افغانی
				From از	To الی		
Driving موتروانی							
Shop keeping دوکانداری							
Carpet weaving قالین بافی							
Embroidery خامک دوزی							
Blacksmith حلبی سازی							
Carpentry نجاری							
Government وظیفه دولتی							
Construction معماری							
Other (Specify) و غیره							

## E. CREDIT: قرضه

51. Have you obtained a loan in the last 12 months? **Yes** بلی \_\_\_\_\_ **No** نی \_\_\_\_\_  
ایا در این فصل قرض بدست آورده اید؟

52. If yes type of loan? **Cash?** نقد \_\_\_\_\_  
اگر بلی نوع قرض \_\_\_\_\_

53. How much /Afs? \_\_\_\_\_ Interest Rate? \_\_\_\_\_ %  
چند افغانی \_\_\_\_\_ فیصدی سود

**Salaam?** سلم \_\_\_\_\_

54. On what crop \_\_\_\_\_ How many Kg? \_\_\_\_\_ Price/ Kg/Afs \_\_\_\_\_  
به کدام نبات \_\_\_\_\_ چند سیر \_\_\_\_\_ قیمت فی سیر به افغانی \_\_\_\_\_

55. Did you have problems obtaining a loan? **Y** بلی \_\_\_\_\_ **NO** ن \_\_\_\_\_  
به دست آوردن قرض اسان بود؟

56. If yes, why, what has changed? \_\_\_\_\_  
اگر بلی چرا؟ چه تغیر آمده است؟

57. Who are loans obtained from and for what purpose?  
قرض از کی و به کدام هدف به دست آورده اید؟

	Value? مقدار به افغانی	Agricultural Inputs مصارف زراعتی	Food غذا	Clothes البسه	Marriage عروسی	Hired Labour استخدام مزدور	Other و غیره
Family/Friend دوست و رفیق							
Landlord زمیندار کلان							
Shopkeeper دوکاندار							
Trader تجار							
Other و غیره							

58. How much is your current debt? **Cash/Afs** \_\_\_\_\_ **salaam/KG** \_\_\_\_\_ **Crop** \_\_\_\_\_  
قرض موجود شما چند است \_\_\_\_\_ چند افغانی است \_\_\_\_\_ سلم چند سیر است \_\_\_\_\_

59. How do you plan to repay this debt? \_\_\_\_\_  
برای خلاص کردن قرض چه پلان داری؟

60. Over what time period? \_\_\_\_\_  
در چقدر مدت؟

61. Where **Salaam**. How will you repay your debt if your crop does not yield?  
اگر سلم باشد. قرض را چه قسم ادا می‌کنی اگر نبات شما حاصل ندهد؟

## F. EXPENDITURES: مصارف

62. Details of you normal expenditures over the last calendar month وضاحت مصارف در یک  
وضاحت مصارف عادی در یک ماه آخر

Category طبقه بندی	Item of Expenditure مدرک مصارف	Cash Price/AFN قیمت نقد به افغانی	In kind price/seer (if appropriate) جنس به سیر	Credit price/AFN (if appropriate) قیمت قرضه /افغانی	Comment تشریح
House خانه	Rent کرایه				
	Repairs حفظ و مراقبت				
	Other (specify) و غیره				
Agricultural Inputs مصارف زراعتی	Fertiliser کود کی می او ی				
	Seed تخم				
	Farm power وسایل زراعتی				
	Agricultural Labour مزدور زراعت				
	Other (specify) و غیره				
Basic Needs ضروریات اولیه	Food غذا				
	Clothes البسه				
	Other (specify) و غیره				
Health صحت	Medicines ادویه				
	Doctors visit فیس داکتر				
	Other (specify) و غیره				
Debt Repayments دادن قرض	Capital قرض اصلی				
	Interest سود				
	Other (specify) و غیره				
Taxes مالیات	Ushr عشر				
	Zakat زکات				
	Other (specify) و غیره				
Other (specify) و غیره					

63. Details of you major expenditures over the last 12 months ماه 12 وضاحت مصارف عمده در  
وضاحت مصارف عمده در 12 ماه گذشته

Category طبقه بندی	Item of Expenditure مدرک مصارف	Cash Price/Afs قیمت نقد به افغانی	In kind price/seer (if appropriate) جنس به سیر	Credit price/Afs (if appropriate) قیمت قرضه /افغانی	Comment تشریح
House خانه	Building تعمیر				
	Other (specify) و غیره				
Agricultural Inputs مصارف زراعتی	Tractor تراکتور				
	Thresher تریشر				
	Other (specify) و غیره				
Health صحت	Operation عملیات				
	Major Illness مریضی عمده				
	Other (specify) و غیره				
Debt Repayments دادن قرض	Capital قرض اصلی				
	Other (specify) و غیره				
Luxuries عصریات	Car موتور				
	Motorbike موتور سیکل				
	Television تلویزون				
	Generator جنریتر				
	Satellite TV دیش انتن				
	Other (specify) و غیره				
Marriage عروسی	Bride Price ولور				
	Wedding Party مهمانی عروسی				
	Gold زیورات طلا				
	Other (specify) و غیره				
Other و غیره (specify)					

## G. DEVELOPMENT EFFORTS

کارهای انکشافی

64. What development agencies are working in the village?

ایا کدام موسسه انکشافی در قریه شما کار می‌کند؟

Agency موسسه	Sector بخش	Activity نوع فعالیت	Does your Household Benefit? فامیل شما از ان مستفید است	If NOT why Not? اگر نی چرا؟

65. Are there development efforts initiated by community members? Y بلی \_\_\_\_\_ N نی \_\_\_\_\_

ایا کدام کار انکشافی توسط اعضاء جامعه انجام داده شده است؟

If Yes اگر بلی کدام؟

Sector بخش	Activity نوع فعالیت	Does your Household Benefit? فامیل شما از ان مستفید است	If NOT why Not? اگر نی چرا؟

66. Do you know your government agricultural extension worker? YES بلی \_\_\_\_\_

NO نی \_\_\_\_\_

ایا مامور ترویج دولتی را می شناسید؟

67. If Yes When did you last meet him? \_\_\_\_\_

اگر بلی چه وقت بار اخر با ان ملاقات نموده اید؟

68. Do you benefit from his work? YES بلی \_\_\_\_\_ NO نی \_\_\_\_\_

شما از کار ان مستفید می شوی؟

69. If Yes, How? \_\_\_\_\_

اگر بلی چه قسم؟

## H. OTHER INFORMATION: دیگر معلومات

70. Document other issues that might be of interest regarding the household particularly in relation to some of the changes that the household (and/or its members) have experienced over the last two years.

تغییرات جالب اگر در دو سال گذشته در خانواده شما به میان آمده باشد کدام اند؟

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