

Case Study Series

**WATER MANAGEMENT,
LIVESTOCK
AND THE OPIUM ECONOMY**

**Opium Poppy Cultivation
in Kunduz and Balkh**



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This report is one of seven multi-site case studies undertaken during the first stage of AREU's three-year study "Applied Thematic Research into Water Management, Livestock and the Opium Economy".



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1. Introduction

This study was undertaken in March 2006 in the northern Afghan provinces of Kunduz and Balkh as part of the Afghanistan Research and Evaluation Unit's applied thematic research project "Water Management, Livestock and the Opium Economy". The field work was designed as a scoping exercise to explore the possibilities for establishing longer-term monitoring of the dynamics of opium poppy cultivation in Kunduz and Balkh over the next three years. This monitoring is anticipated to build understanding of the trajectories of change for households and actors involved in opium poppy cultivation as conditions, driven in part by development activities and Afghanistan's counter-narcotics policy, unfold over the coming years.

This report draws together an initial set of field observations and working arguments in relation to the drivers of opium poppy cultivation in Kunduz and Balkh. It should be read as a companion to the other six multi-site case studies¹ undertaken during the first stage of this research project, and more specifically to the parallel study on opium poppy cultivation undertaken in the provinces of Nangarhar and Ghor.² It should be noted that this research on opium poppy cultivation has been deliberately expanded beyond the primary research sites in this research project (those in Kunduz, Nangarhar, Ghazni and Herat), both to capture information about broader shifts in the opium poppy economy as well as to provide specific points of contrast to the primary research sites. Kunduz is valuable as a research location because of the current general absence of opium poppy cultivation, while in contrast, Balkh, with comparable conditions to Kunduz, is an area of expanding opium poppy cultivation. This report aims to investigate the reasons for this contrast, to outline how future research in this project should be developed, and to consider the implications of emerging evidence for counter-narcotics policy.

¹ I.M. Anderson, 2006, *Irrigation Systems*, Kabul: AREU; J.L. Lee, 2006, *Social Water Management*, Kabul: AREU; A. Fitzherbert, 2006, *Livestock Management*, Kabul: AREU; A. McEwen and B. Whitty, *Land Tenure*, Kabul: AREU; E.F. Thomson, 2006, *Livestock Production*, Kabul: AREU.

² D. Mansfield, 2006, *Opium Cultivation in Nangarhar and Ghor*, Kabul: AREU.

2. Background

The historical and current patterns of opium poppy cultivation in Afghanistan lack systematic description and analysis. In part this is because counter-narcotics policy has tended to focus on the aggregate statistics; it is concerned more about the incidence of cultivation rather than the underlying reasons for its patterns of diffusion and spread. District data, which may allow a more discriminating analysis (although administrative boundaries are a poor proxy for contextual analysis) have been collected over a relatively long time span – although unfortunately not systematically. Argument and evidence about where opium poppy cultivation has and has not spread to and why, and who is and who is not cultivating it, is notably absent. There is little location-specific, contextual information to account for where opium poppy cultivation has spread to, or to anticipate where it might spread to when under pressure. To use the medical analogy (appropriate given the “epidemic” characteristics widely ascribed to the cultivation of opium poppy and its positioning as a “scourge”), there is currently very poor understanding of the “epidemiology” of opium.

There are general explanations and generic truths that are broadly used to handle the vexed question of opium poppy cultivation and what to do about it. For some, the argument of “illegality” justifies a position of criminalising its cultivation and a police and eradication response. Other positions, while giving greater recognition to the conditions under which opium cultivation has developed, argue and justify interventions on the basis of the development of alternative income sources which it is hoped will provide the financial incentives for opium poppy cultivators to shift their crop choice. This “alternative livelihoods” model is distinctly flawed.³ What these somewhat stylised positions have in common is an emphasis on the individual cultivator or household as a rational decision-maker and utility-maximiser,⁴ while they largely ignore the socioeconomic context within which households must make decisions or choices.

David Mansfield’s work⁵ has emphasised the role of opium as a currency of exchange in a relational society and the means that opium affords in giving access to land, credit and food security for the poor. Critically, the motivations and interests that drive people in and out of opium poppy cultivation depend on “who you are” (for example, asset-rich or poor) and the returns and benefits that accrue from opium poppy cultivation. The specific dimensions of context that influence the spread of opium poppy cultivation remain largely unknown and certainly conceptually unexplored.

An analytical approach to building such an understanding can be drawn from the “drivers of change” framework, which has been developed by the UK Department for International Development (DFID).⁶ This framework is a means of exploring concepts and relationships and centres around three interactive core components – structural features (natural, economic and social structures), institutions (the rules of the

³ D. Mansfield and A. Pain, *Alternative Livelihoods: Substance or Slogan?* Kabul: AREU.

⁴ Utility is seen as a measure of happiness or satisfaction gained through consuming goods and services; in neoclassical economics rationality is expressed precisely in terms of utility-maximising behaviour.

⁵ For example, D. Mansfield, 2002, *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, Germany, 7–12 January 2002.

⁶ See UK Department for International Development, 2003, [http://www.chronicpoverty.org/CPTtoolbox/PolicyInfluence_MediaEngagement/3.1%20Power%20and%20Country%20Level%20Analysis/1-DFID_DoC%20summary%20\(DB\).pdf](http://www.chronicpoverty.org/CPTtoolbox/PolicyInfluence_MediaEngagement/3.1%20Power%20and%20Country%20Level%20Analysis/1-DFID_DoC%20summary%20(DB).pdf) (accessed 1 June 2006).

game that are central to the framework) and agents (individuals and organisations). “Drivers” can be influences over processes that may take place in any one of these components, and which have spill-over effects to the other components. A key aspect of the “drivers of change” framework is that it focuses on understanding how things actually are (rather than what needs to be done) and uses this as a starting point from which to consider how change may be brought about.

While not following such an approach prescriptively, the general concepts of structures, institutions and agents are useful analytical devices with which to organise enquiry and evidence building. However, specific areas that need greater conceptual elaboration should be noted.

First, in relation to issues of context, a “drivers of change” approach must specifically recognise the general context of Afghanistan. While the desire may be to talk of post-conflict and state building (to emphasise where the desire is to be) the reality is that Afghanistan is an environment of acute institutional uncertainty where risk and uncertainty are the norm. Under such conditions, opium poppy is a low-risk crop.⁷ Afghanistan has an informal security regime where the poor have little control over the formal and informal institutions through which they seek to build their livelihoods;⁸ the evidence from Balkh supports such an interpretation. Under these conditions the poor manage risk for the present – and discount the future. It is a context that favours clientelism: the emphasis of loyalty over voice in the absence of secure exit options, and where the state represents part of the insecurity problem, produces arbitrary outcomes with legitimacy based on authority not accountability.

Second, understanding of the ways in which rules and governance work in practice is central to an analysis of drivers. The framework which emphasises “rules in practice” or “governance on the ground”⁹ is an approach that will be followed in terms of trying to grasp how key institutions (particularly in relation to markets and water management) actually work.¹⁰ Key aspects to be addressed will include: who actually sets the rules; when and how (the constitutive aspects of politics, central to the notion of governance¹¹); as well as the more distributive outcomes of politics in terms of who gets what, when and how.

Third, and building on the argument that managing risk and access to institutions (both formal and informal) is central to the way in which households construct their lives, the analysis of trajectories of change is used as the analytical lens through which to examine ex ante the decisions and behaviour of households in relation to opium poppy cultivation.

Current government counter-narcotic interventions focus on a range of public statements and direct action, sometimes mediated through provincial and district authorities. These must also be recognised as drivers in relation to institutions and agents. Implementation practice can be affected by the reality of existing patronage and power relations at either central, provincial or district level. These can either reinforce or challenge the existing institutional context, and be ignored or provide incentives for households to exit opium poppy cultivation, displace production to

⁷ Mansfield and Pain, *Alternative Livelihoods*.

⁸ I. Gough, G. Wood *et al*, 2004, *Insecurity and Welfare Regimes in Asia, Africa and Latin America*, Cambridge: Cambridge University Press.

⁹ Catherine Dom, personal communication.

¹⁰ G. Hyden, J. Court and K. Mease, 2004, *Making Sense of Governance: Empirical Evidence from 16 Developing Counties*, London: Lynne Rienner Publishers Inc.

¹¹ Hyden *et al*, *Making Sense of Governance*.

elsewhere or provoke defiance (a weapon of the weak as much as the strong) through remaining engaged in cultivation. These incentives may be short term and transitory or they may have longer-term consequences – which may be the direct opposite of what was intended. The analysis of these interventions, their modalities of implementation in theory and practice, and the effects of these on households are central to this study.

In summary, by working in sites contrasted by deep but shifting histories of opium poppy cultivation (Nangarhar), those with recent histories of significant expansion of cultivation (Balkh and Ghor) and those with little or no history of cultivation (Kunduz), this study (along with the accompanying study in Nangarhar and Ghor) aims to develop a deeper understanding of changes in opium poppy cultivation, and the household and contextual factors that influence these trajectories. It will seek to identify patterns or styles among different livelihood groups in relation to opium poppy cultivation, and the factors that have influenced or determined these patterns. This will include historical and contextual analyses of the research sites. The base position from which research proceeds is the notion that the changes in the context within which individuals “take” decisions must be understood, rather than focussing on seeking to change individual behaviour.

Specifically, the study aims to build understanding of the following areas over the subsequent two years of this research project:

- Existing “structures” in relation to agro-ecology, water, land and class relations;
- Institutions, including institutional arrangements and governance practices, in relation to water management, market structures (both “legal” markets as well as opium) and local government;
- The role of key actors (both formal and informal) in provincial, district and local authorities;
- The practice of government (central, provincial and district) in relation to counter-narcotic actions and outcomes;
- Patterns of diffusion and spread of opium poppy cultivation at village and valley level, and the evidence and arguments of diffusion pressures (drivers) both within villages and across social and agro-ecological gradients; and
- Household livelihood trajectories over time (including spatial linkages across districts and provinces) and their outcomes in relation to: risks; activity choices; assets; access to resources and institutions (land, credit, water); and counter-narcotics action – through ex post and cross-sectional or cohort analysis for the determination of patterns between different household groups.

3. Methods

Field research was undertaken in Qala-i-Zal and Khanabad districts in Kunduz (both in the primary research villages and in their localities) and in Chimtal and Charbolak districts in Balkh province. Field visits included discussions with key authorities at district level as well as with village elders and individuals in different villages (selected by location along irrigation canals, economy, ethnicity and patterns of opium poppy cultivation) in each district. In addition, interviews were conducted with key commodity traders at provincial level and discussions were held with various international agencies and NGOs at provincial centres.

In contrast to Nangarhar where there has been a history of field research on opium poppy cultivation, both Kunduz and Balkh (as well as Ghor) appear to be relatively unexplored in terms of the dynamics of opium poppy cultivation. Time was spent building an understanding of the landscape, and in Balkh in particular on familiarisation with the irrigation system. In both provinces emphasis was placed on building up broad understanding, and identifying appropriate ways of developing future research out of this scoping study.

It should be noted that aside from those primary research villages named, no other villages and informants have been identified or named; rather, villages have been coded.

4. Provincial Contexts

Both Kunduz and Balkh provinces lie on Afghanistan's northern Turkman plain, the northern edge of which is bounded by the Amu Darya River, an international border with Uzbekistan and Tajikistan. To the south of both provinces are the northern fringes of the Hindu Kush. Both provinces have major irrigation systems fed from the rivers of the Hindu Kush, which are in turn fed by snowmelt. In this respect both provinces have comparable structural features, and they are also similar to Helmand (the country's major opium poppy-cultivating province) which also lies on an international border (with Pakistan). This latter province supports an irrigated river plain economy with a mountainous hinterland.

Balkh features an older irrigation system and was not, as were the Kunduz–Khanabad and Helmand–Arghandab schemes, directly engineered as part of the formal large-scale irrigation systems developed during the twentieth century as part of Afghanistan's state building project.¹²

4.1 Kunduz

A defining feature of Kunduz Province is the major irrigation scheme developed from the 1930s through the drainage of a substantial area of wetland and the management and canalising of the Kunduz–Khanabad River. Further development of this scheme funded by the World Bank appears to have taken place from 1969–79 on the basis of designs from an Indian company.

The outcome of this irrigation scheme is a centrally irrigated plain with intensive agriculture based on the production of rice and cotton. It was cotton and the formation of Spinzar Company which appears to have held a monopoly on the cotton processing and trade that became a symbol of economic development in the north in the 1960s. Kunduz has also become a key grain-exporting province through its rice-growing, and has traditionally attracted seasonal labour from Badakhshan at times of planting, weeding and harvesting. Surrounding the valley plain is a fringe of loess hills supporting livestock economy and rainfed agriculture.

In contrast to Balkh's irrigation scheme, English language sources on the Kunduz river system (its history and current irrigation management issues) appear limited.¹³ There does not appear to be an overview (nor readily accessible secondary sources) available on the irrigation system itself that describes the overall structure and planned, if not actual, patterns of water distribution. There was not sufficient time during field work for this study to gain this data or information, however the broad picture is likely to emerge through this three-year research project as well as through AREU's partner German Agro Action's (GAA) research and the EU-funded Kunduz Irrigation Development Programme.

Informal discussions with GAA staff¹⁴ point to a complex process of settlement of Pashtun, Baluch, Tajik and Turkman¹⁵ people, and a redistribution of land associated with the developing irrigation system from Uzbek landlords to Pashtun farmers and

¹² There were three other formal irrigation schemes: in Nangarhar, Ghazni (the Sardeh) and Parwan.

¹³ There is a key source in German: Grozbach, *Northeast Afghanistan, Kulturgeographischen Wandel in Nodest. Band 4*, that has yet to be accessed.

¹⁴ Drawn in part from an informal lecture on the area given by Conrad Schetter, which was then reported to the author.

¹⁵ The Turkman are the major ethnic group in Qala-i-Zal district where three of AREU's primary research sites are located.

bureaucrats. Lee comments on a legacy of land disputes as a consequence of these past processes of land allocation around the scheme.¹⁶ One of Lee's key informants also noted critical problems of water distribution due to the expansion of rice cultivation and vegetables leading to restrictions on water downstream.¹⁷ Lee's study in the primary research sites also noted complex relational systems (weight of water to release time for irrigation) of water allocation that appeared to vary by position in the irrigation system – details of which will need to be investigated further. Both Lee and Anderson, and field informants, reported major problems of poor drainage and high water tables in the bottom end of the irrigation system contributing to major problems of salinity.¹⁸

Detailed data on land ownership and other key social structures are not available. However the World Food Programme Vulnerability Assessment Mapping Unit (WFP/VAM 2002–03) of 2002 provides an interesting district-based assessment of outcomes in relation to food security in Kunduz. The data is disaggregated by position (upstream/downstream canal) and percentage of food requirements met, and it provides additional information on assessments of landless households and sources of income. The picture that it portrays for 2002, which is the period when the recent drought was breaking, was of a largely food-secure province with only about a 20 percent deficit in food requirements in one district (Qala-i-Zal), and with those households that were downstream experiencing about two months of food insecurity per year. Reported levels of landlessness were about 9 percent or below, with live-stock and farm labour providing significant contributions to household grain access.

Table 1. Indicative opium poppy area (ha) in Kunduz by district and year¹⁹

District	'94	'95	'96	'97	'98	'99	'00	'01	'02	'03	'04	'05
Aliabad						5	51		3	5		
Chardara						8	30		6	15		
Imam Sahib						3						
Khanabad						2	36			11		
Kunduz						9	51		3	9		
Qala-i-Zal						11	321		5	8		275
Total	0	0	0	0	0	38	489	0	16	49	224	275

Source: UNODC and Ministry of Counter Narcotics, Afghanistan Opium Survey 2005, Kabul: Government of Afghanistan, p. 135

Kunduz is reported to have had a limited history of opium poppy cultivation (table 1).²⁰ Where it has been cultivated, this has mainly been within the Kunduz irrigation basin districts (Khanabad, Kunduz and Qala-i-Zal), with the greatest amount downstream in Qala-i-Zal where water is possibly more limited. This is coincident with the areas of greatest food insecurity within the district. Informal reports suggest that during the 2005–06 season (and possibly earlier), cultivation has been taking place in

¹⁶ Lee, *Social Water Management*, p. 29.

¹⁷ Lee, *Social Water Management*, p. 30.

¹⁸ Lee, *Social Water Management* and Anderson, *Irrigation Systems*.

¹⁹ Tables 1 and 2 only contain data with a value greater than zero. Although since 2002, UNODC has entered zero values for pre 2002 district data implying no cultivation, earlier UNODC reports indicate no data rather than no cultivation for these districts. In 2004 however no district level data was collected.

²⁰ Note: American figures for opium poppy area were 570 ha in 2004 and 50 ha in 2005 (personal communication, D. Mansfield).

some of the more remote districts – Imam Sahib and Archi (adjacent to both the Tajikistan border and Takhar Province), and Aliabad.

The low level of opium poppy cultivation in Kunduz is in stark contrast with that of the two adjacent provinces of Takhar and Balkh, although account must be taken of the localised distribution of opium cultivation within these two provinces. At first sight, however, the historical absence of opium poppy cultivation in the province is surprising.

Note should be made of the traditional custom of opium poppy cultivation for domestic consumption by the Turkman communities within Kunduz Province.

4.2 Balkh

The agricultural landscape of Balkh is dominated by a major irrigation scheme sourced from the Balkh River, a system that dates back more than a thousand years. Providing intensive irrigation facilities to at least four districts in Balkh through a network of eighteen canals, water is also diverted through to neighbouring *Jawzjan* Province. In contrast with the Kunduz–Khanabad system, the Balkh water management system is well described in a number of sources.²¹ The picture that emerges is one of a historically complex system that is essentially on the point of breakdown, if not beyond that point, with respect to the implementation of rules of water allocation.

The Balkh irrigation system can be characterised as follows. There are two distinct sections: upstream and entirely within the Sholgar valley about 5000 ha are fed through river flow officially feeding seven canals; downstream the Hazdha Nahr irrigation network feeds an estimated 424,880 ha of irrigated land through a system of 11 separate canals with a total length of 475 km (see figure 1) across Mazar, Balkh, Aqcha and Jawzjan regions.²² The principle of the water allocation system, which is linked to an agricultural taxation system, is based on water allocation rights expressed in a unit called a *paikal*.²³

Water distribution is meant to work through a three-tier system: for each main canal there is one water bailiff, a *mirab bashi*, who is assisted by *mirabs* responsible for the major secondary canal intakes.²⁴ In turn they are helped by the *chak bashi* who have responsibility for the tertiary canals.

However, the evidence is clear that the water distribution system has largely broken down. Upstream Sholgar district appears to have built a further five canals (in addition to its legitimate seven canals) to support an expansion of its rice cultivation area. Based on direct measurement over a period of two days in December 2003,²⁵ evidence was found that downstream systems of water allocation between the main canals were not adhered to, and at that time certain canals (Nahr-i-Shahi, Chintal and Mushtaq), with an allowable allocation of 17.6 percent of the water, were

²¹ See for examples: J.L. Lee, 2003, *Water Resource Management on the Balkh Ab River and Hazdha Nahr Canal Network: From Crisis to Collapse*, Report for UNAMA Northern Region, Central Asian Free Exchange; and Asian Development Bank (ADB), 2004, *Emergency Infrastructure and Rehabilitation Loan Afghanistan Irrigation Component*, Technical Assistance Mission Draft Report, Balkh and Jawzjan Province Irrigation.

²² ADB, *Emergency Infrastructure*, p. 26

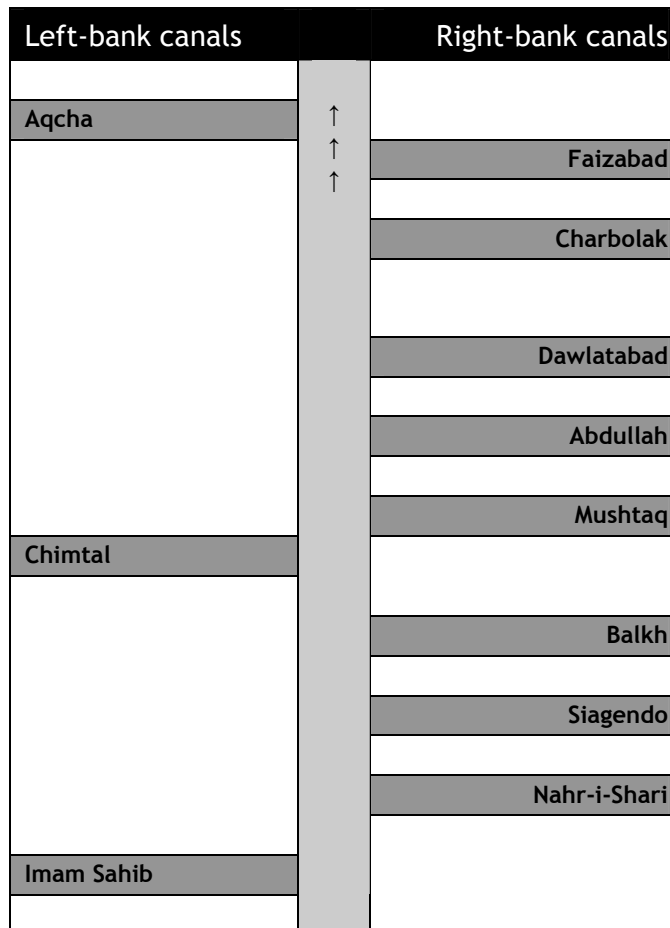
²³ A *paikal* is a relational measure of water flow or volume to area and is approximately 400 *jeribs* of land, although this varies by context.

²⁴ Lee, *Water Resource Management*.

²⁵ ADB, *Emergency Infrastructure*.

actually taking 35.8 percent of the water flow – almost double their allocation. Overall the top seven canals of the Hazdha Nahr system were estimated to be “taking over half of the water out of the river, while having only the right to a quarter”.²⁶ The same issue of over extraction of water upstream to the detriment downstream was found in each of the main canals.

Figure 1. Schematic representation of Hazdha Nahr system’s canal structure



Lee argues that the reasons for the breakdown of the water management system are complex: decreased flows, increased demands, crop intensification processes balancing decreased individual farm areas, and expanding non-agricultural uses have all combined with abuse of power and corrupt government to contribute to the collapse of former agreements on water distribution.²⁷

Drawing from the same WFP/VAM (2002) dataset used to characterise Kunduz, it is evident that Balkh in 2002 suffered much greater levels of food insecurity in general than Kunduz. This appears to have been the case most notably in the districts of Chaharkint, Chimtal, Dawlatabad, Kishindeh and Marmul. Charkint, Kishindeh and Marmul lie outside the command area of the irrigation system, while Chimtal and Dawlatabad are within it, and the highest levels of food insecurity were found in the more marginal downstream areas of the irrigation system. Also significant were the higher levels of landlessness reported in Balkh, ranging from 15–60 percent of the respondent population. For most districts the proportion of landless lay within the 20–30 percent range.

²⁶ ADB, *Emergency Infrastructure*, p. 30.

²⁷ Lee, *Water Resource Management*.

UNODC has recorded that Balkh, in contrast to Kunduz, has had a ten-year history of opium poppy cultivation (although cultivation clearly predates this) with a small peak in 1999 and a major expansion of cultivation during 2005 that may be continuing into 2006. However the cultivation of opium appears to be largely confined to three districts – Balkh, Charbolak and Chimtal – which in 2005 comprised just under 68 percent of the reported provincial area. These districts lie within the heart of the Balkh irrigation system, with downstream districts such as Dawlatabad, Shortepa and Kaldar reporting limited areas of the crop. Similarly the key upstream district of Sholgar at the head of the irrigation system has a limited amount of opium cultivation, as do the other two of Balkh’s mountainous districts – Kishindeh and Charkint.

Table 2. Indicative opium poppy area (ha) in Balkh by district and year

District	'94	'95	'96	'97	'98	'99	'00	'01	'02	'03	'04	'05
Balkh				13	29	29	82	1	22	332		2,786
Charbolak				165	530	2,600	53			68		2701
Charkint												25
Chimtal			1,065	532	485	1,428	2,451		153	617		1,878
Dawlat-abad								3				202
Dehdadi							22		8	35		990
Kaldar												395
Khulm												367
Kishindeh												290
Marmul												18
Mazar-i-Sharif												119
Nahr-i-Shari							33		14	30		425
Sholgar							28		19	28		543
Shortepa												98
Total	0	0	1,065	710	1,044	4,057	2,669	4	217	1,108	2,495	10,837

Source: UNODC and Ministry of Counter Narcotics, Afghanistan Opium Survey 2005, Kabul: Government of Afghanistan, p. 32

Chimtal district draws its water from two canals – the Chimtal and the Imam Sahib – and on the basis of the ADB estimate done in 2003²⁸ it was drawing over twice its allowable water. Balkh was drawing nearly five times its allowable amount while Charbolak was drawing just under its allocated amount. It would then appear that opium poppy production has taken place in some of the better-watered areas within Balkh province.

²⁸ ADB, *Emergency Infrastructure*.

5. Evidence from the Field

This section summarises an initial set of field observations from the two provinces. The information from Kunduz is derived from less systematic field work, in part because the process of inquiry about why something is not present requires more of an inductive approach to evidence building – in contrast to Balkh where the actual presence of opium poppy cultivation provided a solid basis for field enquiry. However, the summaries of observations from each province broadly follow the same pattern – a description of structures, a summary of what was learnt about institutions and the ways in which they operate, and evidence in relation to outcomes.

5.1 Kunduz

Based on discussions at the primary research sites, field visits and limited use of secondary sources, a number of initial observations can be made about agro-ecological structures and differences both within the Kunduz irrigation scheme and between the irrigated and rainfed areas. There are important differences in terms of water availability which are determined by position on each irrigation canal and within the irrigation scheme as a whole (upstream versus downstream), as well as with respect to relative elevation. Lee's observations of variable water allocation systems according to position within just one canal are supportive of differential water availability according to location.²⁹ For example, the village of Afghan Mazar lies on the periphery of the irrigation scheme and is restricted to one winter wheat crop. The village is essentially grain and water deficit and, as a Turkman village, its economy relies significantly on agricultural labour and carpet production (although in the past livestock may have been more important). It has also grown opium poppy in the past, but reported that the yields were low.

The reports of Lee and Anderson for this research project as well as other sources all point to downstream areas on the periphery of the irrigation scheme suffering from water shortages and being limited to a single crop a year. Within the central part of the scheme (the areas closest to the canal intakes), double cropping is possible with rice as a summer crop. Cotton is also grown as a summer crop but it is restricted to areas where the water table is not high. As noted earlier, salinity combined with a high water table is a serious constraining factor downstream.

It is also evident that increases in demand for water have contributed to patterns of water scarcity. Part of this shift has been driven by the establishment of new settlements which have constructed irrigation canals and pushed out the margins of cultivation of the river basin. The extent to which this has been “legal” (in the sense of government sanctioned, as is clearly the case with the establishment of Afghan Mazar village³⁰) or illegal, and the significance of an increased take of irrigation water with respect to downstream effects, cannot be determined at this stage. Shifting cropping patterns and intensification processes to compensate for diminishing land areas may also have contributed to increased demand.

Preliminary observations are supportive of an interpretation of settlement patterns being associated with ethnic identity, although the information is not systematic. Some sources indicated that there had been a deliberate pattern of settlement of people of Pashtun origin upstream, with other ethnic groups located downstream (such as in the case of the Turkman villages of Afghan Mazar and Dana Haji).

²⁹ Lee, *Social Water Management*, p. 32.

³⁰ Lee, *Social Water Management*, p. 30.

Discussions with villagers and traders all pointed to an environment of considerable risk, uncertainty and rent-seeking by local authorities and power holders. There are evidently major issues of water distribution due to power structures within the irrigation scheme. One source specifically referred to “powerful commanders” diverting water and using lift pumps to extract water, with land down channel losing its share of water (although this could not be verified). Traders – particularly in cotton and almonds, both major export crops from Kunduz – all reported various forms of informal taxation at the numerous checkpoints both within the province and between Kunduz and Kabul. One cotton trader stated that he had stopped exporting to Kabul because of this.

Village-level respondents reported widespread rent-seeking by local government authorities. One village leader noted that they were now even asked for payment in US dollars rather than Afghanis. He also repeated the widely held view that government positions at all levels were essentially auctioned off for fixed periods, with the successful bidder needing to recover his investment and profit from bribes and informal payments.

The Kunduz opium economy

It is widely known that Kunduz province is a major trafficking route for opium and opium products through to Tajikistan, with the opium coming primarily from the south, and smaller amounts (according to Mazar sources) from the west. All the elements of a predatory institutional environment appear to exist, and they are certainly ones that would be supportive of opium poppy cultivation.

In addition, it is clear that the skills for opium poppy cultivation exist within the province. Opium poppy has been cultivated in the past (albeit it on a limited scale), although this may have been confined to Turkman villages downstream which have a tradition of cultivation related to a long history of being users of opium themselves. It is clear, however, that these skills are not confined to the Turkman population. There is a history of migrant labourers from Badakhshan coming to work on the rice and cotton crops during harvest time. As opium poppy cultivation expanded in Badakhshan from 2001 onwards, this movement of Badakhshani labour to Kunduz rapidly began to dry up. This may have had the effect of increasing opportunities in the rural labour market for resident labour in Kunduz, however it is notable that there was, in effect, a reverse flow of migrant labour – with men from Kunduz going to work in the Badakhshani opium poppy fields. Apparently recruiting agents came from Badakhshan seeking labourers, and many men, particularly those from the rain-fed villages surrounding the irrigated plain in Kunduz, have been working seasonally on the opium poppy harvest in Badakhshan. The knowledge and skill for opium cultivation is clearly held within these villages.

So why is opium poppy not cultivated more widely? Why did the 321 ha of opium poppy grown in Qala-i-Zal in 2000 not expand in area from that base? For one informant, a contributing factor may have been politics and power – with a key influential individual using his authority to close down production in the visible central irrigation scheme in order to gain support for his authority from the central government and the Provincial Reconstruction Team (PRT). This may also have precipitated a corralling of opium production into less accessible and visible areas elsewhere in the province.

A major factor in the lack of opium poppy cultivation within the main irrigated basin may also be an agro-ecological one: a combination of high water tables³¹ and salinity, and possibly a relatively humid environment (favouring disease), all of which would work against opium poppy cultivation. In addition, relatively high levels of food security (generated directly through relatively remunerative crops of rice and cotton, and indirectly through the agricultural employment that these crops offer) and social equality (if the reports of low levels of landlessness are accepted) may be seen as contributing factors. However, this is not to say that in areas of relative water scarcity – at the edge of irrigated areas or downstream where water shortages are reported – opium poppy cultivation would not find an opportunistic niche if pushed.

In the rainfed areas both in Khanabad (Alam Bai) and elsewhere, field interviews indicated no history of opium poppy cultivation, although other informants suggested that cultivation did take place in less accessible areas. Interviews in two hill villages to the southwest of Kunduz (Aliabad district) indicated that opium poppy was unlikely to find a place within the rainfed cropping system, given the terrain, labour constraints, and possible trade-offs between-grain needs and the risks of growing opium.

5.2 Balkh

Two districts in Balkh province were selected for further exploration of opium poppy cultivation. The first was Chimtal, where the WFP/VAM (2002) data reported levels of food insecurity of around a 40 percent deficit in relation to requirements, with lower levels at the top (eastern) end of the irrigation canals and a 52 percent deficit at the bottom (western) ends. There are two irrigation canals that feed into Chimtal district: the Imam Sahib canal which runs along the southern edge of cultivation and terminates in Chimtal, and the Chimtal canal which runs through the northern parts of Chimtal. The second district selected was Charbolak where the WFP/VAM data (2002) reported levels of food deficits of about 8 percent of requirements at the top (southern) end of the irrigation canals, while at the bottom (northern) end of the irrigation canals towards Dawlatabad levels of food deficits reached a reported 51 percent of requirements. This district is fed by two main irrigation canals, the Charbolak and Sharak that run south–north, as well as a third, the Faizabad canal, that runs east–west into Jawzjan province.

Together, these two districts contained 42 percent of the provincial total of 10,837 ha of opium poppy reported by UNODC and the Ministry of Counter Narcotics MCN (2005) to have been cultivated in the 2004–05 season.

Chimtal district

The field work in Chimtal took place exclusively along the Imam Sahib canal, which has been identified as one of the offending canals with respect over-extraction of water in December 2003.³² Twenty main villages have land irrigated from this canal and each village has a number of sub-villages. There are an estimated 40 discrete settlements along the canal overall. The canal length can be divided into upper, middle and bottom sections, containing respectively seven, six and seven main villages. There are reportedly 200 *paikals* irrigated from the 45–50 km length of the Imam Sahib canal – about 40 *paikals* in the top section and 160 *paikals* in the two

³¹ Opium poppy does not yield well under waterlogged conditions (United Nations, 1953, “*The Opium Poppy*” in *United Nations Bulletin on Narcotics*, V(3):9–12.

³² ADB, *Emergency Infrastructure*.

bottom sections. It should be noted that the *woliswal* offices lie on the border of the top and middle sections.³³ A village from each section was visited (at the top, middle and bottom of the irrigation canal) and discussions were held in the *woliswal* office.

The village at the head of the district system reported that in the past the village has supported a cropping system based on intensive double cropping (without land fallowing) of wheat, barley, peas, maize and cotton. About 20 percent of households were estimated to have land and 80 percent were without. This intensive cropping system combined with livestock holdings had provided sufficient production and employment – either through sharecropping arrangements or farm labour – to support households within the village.

The village in the middle of the irrigation canal, with a similar pattern of land ownership to the first village (only 20 percent of households had land), also appeared to have cultivated the same crops with the same intensive double-cropping system and no fallow in the past. However the village at the western (bottom) end of the canal had a historic pattern of land fallowing (“*bowra*”), with 33 percent of the land (a three-*bowra* system) being irrigated each year. The cropping pattern seems to have been less intensive – primarily wheat and cotton, but with irrigated lucerne also important for the significant livestock population (50 percent of the households had livestock). About 50 percent of households were reported to have land, with a further 25 percent of households mainly sharecropping. All three villages were largely settled by people of Pashtun origin from Kandahar and Paktia.

All three villages had their own story to tell in relation to the decline in the availability of irrigation water and its consequences for the village economy, although the explanations for that decline varied by village. For the village at the head of the system, the decline in water availability had led to a reported cessation of cotton production and a retreat to a single winter-cropping system. For this village, the water shortages started at the beginning of the drought about eight years ago, and the combination of subsequent years of insecurity and drought had led to considerable migration and movement out of the village economy. Explanations for the decline in water availability largely centred on the increasing use of water by Sholgar district and the expansion of rice cultivation there.

The village in the middle had a more historical view of the reduction of water supply which dated back to the early 1990s and even before that. They offered a more detailed analysis, attributing the water decline to increasing water demand upstream due to intensification processes driven by land division through successive generations. Population pressure and small farm areas were seen as major determinants of the reduced water availability. The consequences for them, it was reported, had not only been a reduction from double to single cropping, but the area of single cropping under winter wheat had also been reduced – essentially introducing a fallowing system where there had not been one before.

The village at the bottom end, while also reporting a drastic reduction in irrigation water, argued that it was more to do with distribution of water within the district. They referred to powerful people at the *woliswal* level and attached significance to the location of the *woliswal* at the upper end of the irrigation system. They made reference to a previous *mirab*, who it was claimed had been unable to resist the pressures of powerful people within the district. The consequence of reduced water

³³ In Charbolak, the *woliswal* was also located towards the top end of the district canal system.

availability for them was to have to cut cultivation down to a half of one “*bowra*” or less. Note was made of the fact that most households now bought wheat rather than producing it. Levels of wheat grain security from a pre-war level of sufficiency were down to a reported 4–6 months, even for those with landholdings.

In summary, at the bottom western end of the Imam Sahib canal the emphasis was more on issues of power and water distribution within the district. At the top eastern end of the system the discussion was more about matters of water distribution between districts and higher-level power structures that were leading to inequitable outcomes. Evidence of cotton cultivation at the top end of the irrigation system was found, but not at the bottom end – supporting a picture of differential water availability according to position (at least in the previous cultivation year).

For all three villages, the decline in water availability was seen to have been a major factor driving households into opium poppy production. The point was repeatedly made that under conditions of uncertain and limited water availability, low wheat prices and no summer cash crop because of the absence of water, compounded by a decline in livestock numbers, opium poppy was the only crop that would provide returns to scarce water and ensure a farm-based livelihood. In addition, the employment provided by the crop and the daily wage rates had brought benefits to all households.

Opium poppy cultivation in Chimtal

There appears to be a history of opium poppy cultivation in Chimtal, albeit on a small scale, which stretches back at least to the parents of the respondents. The development of opium poppy cultivation as a commercial crop dates back to the early 1990s, with significant expansion during the time of the Taliban. At that time traders were reported to have come from Kandahar and elsewhere in the south offering seed and encouragement to cultivate, a message that was reinforced by increases in opium prices. It would appear, however, that credit was not offered by the traders, and where needed credit was taken from within the village through family networks.

According to UNODC and the Ministry of Counter Narcotics, 2000 was a peak year for opium poppy cultivation at a reported 2,451 ha, and it was not until 2005 that, with an estimated 1,878 ha, that this figure was approached again.³⁴ Detailed village-level figures on cultivation areas are not available, and detailed household interviews would be required to put together a more complete picture on shifts in levels of cultivation. The driving factors behind the more recent expansion of cultivation remain in question – but it is difficult not to see water scarcity and the effective breakdown of water allocation rules and practice (as amply testified both by official reports and interviews at village level) as critical factors. While it is not possible to be sure of the varying motives of opium poppy cultivators, an examination of the reported effects of opium poppy eradication gives some indication of who has been affected and the consequences of the loss of the crop to them.

It is extremely difficult to be clear about the relationship between what is claimed for eradication practice, where it is reported to have taken place, how much crop has been eradicated and what the effects of that eradication have been. There are many incentives on all sides of the practice to overstate what has been done, where

³⁴ UNODC and Ministry of Counter Narcotics, 2005, *Afghanistan: Opium Survey*, Vienna and Kabul.

it has been done and what the effects of it have been. The eradication process offers many opportunities for negotiation and compromise.

Opium eradication was reported by the *woliswal* office as well as by the villagers to be in progress. Informants in the *woliswal* reported that there was about 8,000 *jerib* of opium poppy cultivation in the district, of which 1,068 *jerib* had been destroyed by farmers themselves and 2,448 *jerib* had been eradicated by the *woliswal* office. There had been two eradication campaigns: a winter campaign during December 2005 and after the autumn planting, and a spring (2006) campaign that was in progress, which was intended to eradicate the balance of 4,500 *jerib*. It was stated that the poor spring rains would make the planting of a rainfed opium poppy crop unlikely. It was reported that last year there had been 12,000 *jerib* of opium poppy cultivation (implying a 33 percent reduction in area this year), but the eradication campaign had had a late start and most people had already harvested the opium.

There was no doubt that an eradication campaign was in progress; it was reported by all village respondents. In Village CC, where the cultivation of opium poppy was most evident and most intensive, the eradication campaign had not yet arrived at the time of the field visit. However all three study villages reported on the effects of eradication – on how it had brought down levels of cultivation from previous years and how various households had been affected. They argued that if the crop was eradicated this year the effect would be to force many of those without land, and even members of households with land, to migrate for employment. It was said that this is what had happened in the previous year. The same general message was conveyed from the other two villages. Interviews with two men who had sharecropped opium poppy cultivation in 2004 said that subsequent eradication had led to similar consequences: one had given up working as a sharecropper and taken employment (essentially working for payment in-kind) with one of the village landlords; the second had been left with major debts to his wife's relatives and had taken up employment as a tractor driver.

In summary, Chimtal district appears to have major issues of water distribution and chronic water scarcity at the bottom end of the canal – apparently related to power structures within the district. Opium poppy cultivation seems to have the greatest incidence at the bottom end of the canal, although this will need to be verified. The arguments made by respondents that absolute water scarcity was a key driver in relation to decisions to cultivate opium poppy are difficult to disagree with.

More detailed information on the distribution of cultivation of opium poppy was not directly obtained and efforts should be made to acquire data on opium poppy eradication to understand its distribution in the district. Further field work examining water distribution and patterns of identity in relation to location on the canal length will be necessary, as well as exploration of the second irrigation canal.

Charbolak district

The field work in Charbolak district took place along one of the main canals (the Charbolak canal) and the main secondary canal (the Sharak canal) that flows off it; both canals flow roughly south–north across the district. Sharak largely feeds the middle and northerly ends of the district. A third canal, the Faizabad canal that flows east–west across the southern part of the district south of the main Mazar–Sherberghan road, was not visited. In addition to detailed discussions at the *woliswal* (similar to the Chimtal *woliswal* located towards the upper end of the district), a day was spent with the *mirabs* of each of the south–north canals looking at patterns

of settlement, village and household economies, ethnic identities and water distribution patterns – and how opium poppy cultivation overlays these factors. A number of villages were visited along the length of the canal, as summarised in table 3 which also gives the proportion of land that is fallowed each year (“*bowra*”). Data on the official irrigated area of each village has yet to be collected, so the respective cultivated land areas of the villages remains unknown at present.

Table 3. Villages visited in Charbolak district

Canal	Position	Code	No. of “ <i>bowra</i> ”
Charbolak	Upper (South)	Village CB1	1
	Upper (South)	Village CB2	1
	Middle	Village CB3	2
	Bottom (North)	Village CB4	4
Sasharak	Middle	Village CB5	3
	Bottom	Village CB6	3
	Bottom	Village CB7	3

Field observation, respondent comments and the data reported above support a picture of differential water delivery between the south and the north of the irrigation canals. In part this is historical, and in essence by design, with villages at the top end (the south, such as village CB1 and CB2) reporting economies based on intensive double cropping and horticulture, and those at the northern end reporting (historically) a more livestock-based economy with a reliable single-cropping system and a second summer crop opportunistically, when water was available. The Turkman villages in these locations also had a significant carpet economy. Until the official irrigated area data is collected, it will not be clear whether these villages have larger cultivated land areas or not in contrast to upstream villages. If they do, these could take account of water restrictions and the need for a rotational system, and in effect compensate the villages at the bottom northern end of the irrigation systems. However villages at the northern (bottom) end of the irrigation systems were of the opinion that, in contrast to upstream villages, they were essentially land-deficit villages, and a significant proportion of their households were functionally landless. The data on the percentage of households without land is consistent with this statement.

It should be noted that there is a clear gradient in terms of soil properties – with soils at the southern end being highly fertile (and water retentive) silty loams, while those at the northern end being sandy, leading both to significant conveyance losses as well as high water requirements for crops to yield well.

Superimposed on these gradients of water availability and soil quality is a pattern of ethnic identities. The two top villages on the Charbolak canal (Villages CB1 and CB2), and reportedly all of the villages adjacent to them, were Pashtun. Those in the middle and bottom ends of the irrigation systems were primarily Arab, Uzbek, Tajik or Turkman, however ethnic identity cannot simply be read by location as there are also small Pashtun settlements in the middle of the irrigation systems. Both of the *mirabs* were Pashtun in origin but from settlements in the middle of the irrigation system.

Throughout all discussions with a group of elders at the *woliswal*, with the *mirabs* and with informants from the middle and bottom villages, issues of the scarcity of

water dominated. Not only were irrigation water constraints stated to be severely limiting water availability in all parts of the district, but particularly in the northern end of the district there were now severe problems of drinking water availability. Village CB3 reported that they had recently gone to the *woliswal* with representatives from another nine villages in the bottom section to negotiate with the upper villages to get enough water just for drinking. While agreement was reportedly reached, it remains unclear whether this issue has been resolved.

From information given by the *woliswal* office as well as from respondents' comments in Villages CB1 and CB2, the analysis of the causes of the problem indicated that districts upstream of Charbolak were taking more water than they should. Claims were made that an additional 30 *paikals* had been given to Balkh district over and above the 180 *paikals* that the district was officially allocated. In a visit to the headwater of the canals, one of the *mirabs* drew attention to the different levels of flow between the Balkh and Charbolak canals, noting that the Balkh canal had double the flow for the irrigation of 300 *paikals* compared to that of the Charbolak canal which was irrigating 3,000 *paikals*.³⁵

However the picture from middle and downstream, as reinforced by individual discussions with the *mirabs*, was more about water distribution issues within the district. As one *mirab* put it:

*I am not in a position to distribute water easily, it is out of our hands.
There are power issues and sensitivities.*

In the bottom villages (such as Villages CB6 and CB7) respondents noted that they had not be able to cultivate even a tenth of a “*bowra*”, although there had been a little more water in 2006 than 2005. In contrast to an earlier cropping system of winter wheat and the possibilities of sesame and cotton for a second crop, there were now limited areas of wheat. Although the Turkman villages have a fallback economy based on carpets, for these villages as well as others in the bottom sections of the irrigation canal migrant labour is now the major source of income.

Field observations strongly support the respondents' picture of water availability. In the south of the district along the main road, an intensive cropping pattern of wheat and opium was evident along with cotton stalk residues and widely established orchards of almonds and fruit. There was no visible fallow land. In contrast, in the north there was limited and patchy cultivation of wheat on a relatively small scale.

Opium poppy cultivation in Charbolak

The field evidence of opium poppy cultivation in Charbolak is striking. Opium poppy cultivation is largely confined to the southern, well-watered and accessible ends of the district. Occupying half of the cultivated land, poppy cultivation, often covering several *jerib* or more, was highly visible extending to within half a kilometre or less of the road, and to within 3–4 kilometres of the *woliswal* office. Labour groups of men and women (working separately) were observed in the fields. Younger men could be seen waiting for work in the village areas. In once case a lift pump was irrigating the field. In contrast, in the middle and northern ends of the irrigation system opium poppy cultivation was difficult to find, and where it occurred it was on a small scale – less than a *jerib* – and very patchy. These appeared to be primarily

³⁵ Note that these figures are completely at odds with those reported by ADB (*Emergency Infrastructure*); however the point of relative comparison may still stand.

villages populated by children and old men (and presumably women), but from which working men were noticeably absent.

This distribution appears to be historical. Opium poppy cultivation was reported to have started in the southern Pashtun villages in certain key villages that were well connected by descent to Kandahar, and so had well-established trading networks. The extent to which migrant labour and trade networks from Nangarhar may have contributed to this (or continue to reinforce it) is not clear, although there were repeated reports³⁶ of Nangarhari labourers working in the fields alongside village labourers – because of their harvesting skills. One informant estimated that skilled Nangarhari labour could gain a yield premium of opium about 25 percent over the harvest produced from local labour.

These southern villages have been cultivating opium poppy for at least ten years, if not more. One village reported (on their own estimates) that they had cultivated on average 800–1,000 *jerib* of opium poppy each year over the last five years, primarily by some of the big landowners (with sharecroppers). On that basis, and working with a modest yield of 5 kg per *jerib* and an average price of \$75 per kg, this might have generated at least \$350,000–400,000 per year for the one village (although the distribution of that income is entirely another matter³⁷).

There appear to be important differences both in the extent and the time of adoption of opium poppy cultivation even between the different Pashtun villages, reflecting, as one informant put it, different power relations. Underlying this is the fact that each village appears to have different origins from the south, and therefore different political and tribal identities. In one case, when a respondent was asked why a Pashtun village relatively close to the road had only started cultivation relatively recently, the response indicated that they had not had the right trading connections. There appear to be major conflicts between the key opium-producing villages. While in one village the discussion was relatively open and relaxed, in the neighbouring village there was a deep atmosphere of hostility. This village and its neighbouring villages are apparently aligned to Hisb-i-Islami, in contrast to Village CB1 which is well connected to current power structures in Balkh and which fielded a candidate for the recent parliamentary election.

If the lack of appropriate trading connections was felt within the Pashtun villages in the south, then their absence was felt even more strongly in the north. Almost all villages at the bottom end of the irrigation system (Villages CB 4–7) felt essentially outside the opium poppy trading networks, and certainly during and since the Taliban times insecure under the power regimes dominant within the district. This is not to say that traders had not made connections to these villages, that opium poppy had not been cultivated, nor that labour had not gone to work on the opium poppy harvest in the south of the district. All these things had happened, but clearly in contrast to the southern part of the district the scale was much more limited.

With this in mind, the selection of the *mirabs* needs to be understood. As was made clear by one of the *mirabs* (and he was an individual who had made the transition from being a black-turbaned local commander under the Taliban to a representative

³⁶ Corroborated by David Mansfield's informants in Nangarhar (D. Mansfield, 2005, *Pariah or Poverty? The Opium Ban in the Province of Nangarhar in the 2005/05 Growing Season and its Impact on Rural Livelihood Strategies*, Project for Alternative Livelihoods in Eastern Afghanistan (PAL), Jalalabad, PAL Internal Document No 11, p. 20).

³⁷ When the informant was asked how the village had benefited from this income he replied that there had been no collective benefit, it was all for individual profit.

of the community under the new dispensation), he felt that he had been elected from a field of five candidates (all largely coming from the middle and bottom sections) by virtue of the fact that he was seen to have better connections than they did. However, even he felt that there were severe constraints on what he could achieve in negotiations with the powers upstream.

There was much discussion of eradication in the district at the *woliswal* level. It was reported that there were about 12,000 *jerib* of opium in the district and the plan was to eradicate 8,000 *jerib*; reportedly around 3,000 *jerib* had already been eradicated, and the campaign was still in process. It is difficult to see how these figures are consistent with the field observations of substantial and contiguous planting. Much depends on exactly where eradication is carried out, and there was more than a hint from various sources that eradication had taken place in locations that did not threaten the crops of major power holders (and perhaps it had taken place more on the north side of the road than the south). Although it was reported from Village CB1 (on the south side of the main road) that some eradication had taken place, even if this was the case, considerable areas of the crop still remained – by the respondents' own admission.

Opium poppy cultivation in these well-irrigated areas appears to be carried out with impunity, and with some sense of security of power relations. As noted by one respondent in Mazar-i-Sharif, the police chiefs in both Chimtal and Charbolak were from Helmand, and in his view the police department played a critical role in the trade with the highway police providing the trafficking function. The reported appointment of the son of a key power holder in one of these southern villages (also reputed to have been influential in the appointment of the district *woliswal*) to a position in road security is consistent with this view. The connections of these southern villages to central provincial authorities were noted. It was also striking that it was precisely these same villages that appeared to have well-graded roads, school facilities and other evidence of NGO interventions that were largely absent from the northern ends of the district.

5.3 District comparisons

Initial evidence indicates possible contrasts between the two districts. In Chimtal there may be more opium poppy cultivation downstream than upstream, possibly related to issues of water shortage and maximising returns to scarce water. In Charbolak opium poppy is largely cultivated upstream in the well-irrigated, more fertile soils as part of an intensive double-cropping system. It might be that the absolute water shortage (reflected in the drinking water shortages) prevented any cultivation in these northern villages of Charbolak. The sinking of tubewells that was reported in two cases from these locations (apparently funded from remittance income) to resolve the drinking water shortage could have acted as a trigger for opium cultivation, to meet the establishment and running costs of the tubewells. However, comments from respondents suggested that the absence of opium poppy cultivation was more than a matter of water, and that access to trade and power-based networks were also significant considerations. The structures, institutions and actors that underlie these contrasts between districts have patterns of similarities and difference that require further investigation.

The contrast between Chimtal and Charbolak (as well as Balkh district) and the essentially non-opium poppy growing districts of Balkh Province also has to be considered. The three districts of Balkh, Charbolak and Chimtal are widely regarded as

the most unruly or insecure of the Balkh districts. Is this because these are the better-watered districts which have reinforced existing power structures (or vice versa), leading to an expansion of opium poppy cultivation? Or is it the reverse? The causalities are unclear and any explanation would have to take account of patterns of water distribution, settlement histories and household economies in other districts.

6. Discussion

This report has set out to provide the basis for a longer-term research project in Kunduz and Balkh which will examine the incentives and drivers that have taken farmers into (or kept them out of) opium poppy production. It has sought to investigate the incentives, including those driven by government and donor action, either to keep farmers in opium poppy cultivation or to move them permanently out of it, and to examine over the period of the research how farmers and other actors respond to these incentives.

The research proceeded from the basis that there is a need to understand things as they actually are, rather than to work from a model of how it is hoped the situation will change. Critical to such an understanding is an investigation of existing structures, institutions and actors, and an exploration of how rules are currently shaped and work in practice. This research takes the view that Afghanistan operates under what might be termed an “informal security regime”, where formal and informal institutions are a part of the problem as well as possibly the only potential solution. Building up understanding of the context within which households make choices, or perhaps more realistically respond to least worst options, is critical – rather than placing households on centre stage as units of analysis and under presumptions of utility maximisation.

This study has focussed on two provinces which at first might seem rather similar. Both are border provinces with a major river plain irrigation system fringed by a mountainous hinterland. Yet Kunduz has a very limited history of opium poppy production while Balkh, in particular districts, has had a ten-fold expansion of opium cultivation since 2003. What explains these differences, both between provinces and within Balkh itself?

The footloose nature of opium poppy cultivation in response to attempts to contain it³⁸ indicates that in making contrasts these should not be seen as absolute determinants of whether opium cultivation will or will not take place in a particular location. The fact that opium poppy cultivation is at present very limited in Kunduz and in some districts of Balkh does not mean that this will not change. It is also unlikely that there is any one single determinant for whether or not opium poppy is cultivated – there are multiple reasons and farmers’ decision-making is contingent on context and time. What do the contrasts and similarities tell us?

First, with respect to agro-ecological structures, it is evident (given that the bulk of cultivation of opium poppy in both provinces is or has been in irrigated areas) that while there are clearly issues of water distribution and upstream–downstream effects in both irrigation systems, the evidence as it stands (note that more information is needed on the Kunduz irrigation system) indicates that the scale and extent of water shortages in the Balkh system appear to be much greater than in Kunduz. Reports of waterlogging and salinity in Kunduz indicate that it is probably less water deficient overall than in Balkh where demand for water now greatly exceeds supply. There may be issues of irrigation design and structure that reinforce or mitigate these differences, but at present this is unknown.

³⁸ Already there is evidence that opium poppy cultivation is expanding into the mountain areas of Faryab and Saripul, assisted by traders from Kandahar and Helmand, as result of efforts to restrict production elsewhere in the north.

Second, and reinforcing upstream–downstream effects, there is evidence of soil biophysical gradients: in the case of Kunduz a rising water table downstream limits the potential for opium poppy cultivation, while in Charbolak in Balkh, for example, increasingly sandy soils downstream where available water is least means both lower fertility and greater demand for water.

Third, there is evidence that socioeconomic inequalities may be greater in Balkh than they are in Kunduz. The amount of landlessness and the degree of food insecurity in the Kunduz irrigation system appears to be less than in the Balkh irrigation scheme. This may be a consequence of a more productive environment in the former supporting an intensive double-cropping system with relatively high returns from rice and cotton production.

Fourth, there is preliminary evidence of a pattern of ethnic identities layered by physical position in both irrigation schemes. Preliminary evidence is stronger in Charbolak district, and the information more anecdotal and circumstantial in the Kunduz irrigation scheme. More specific information on this dimension of social structures needs to be gathered. While it is important not to indulge in a simplistic reading and translation of ethnic identities into power structures, the extent to which this aspect of identity affects social relations and has spatial dimensions needs to be understood. Ethnic identities are informal social institutions and they may – as with markets, and there is evidence of the significance of these in relation to opium – be relevant to the ways in which rules are formed and applied in practice.

Fifth, it is clear that provincial governance structures are part of the insecurity problem. Although this appears to be the case in both locations, it is not possible at this stage to argue that it is a greater problem in either one of the provinces. The extent of opium poppy cultivation in Balkh may contribute to more arbitrary and predatory behaviour, but the extent of opium trafficking through Kunduz is also significant. Rent-seeking behaviour by provincial government takes place in both provinces either directly or through regulation of markets such as cotton. It also appears, on the basis of rather limited information at present, to operate in relation to opium poppy eradication processes.

Sixth, it is evident that the boundary between formal and informal institutions is extremely blurred. This is reflected in the failure of elements of the provincial administration to act on irregularities in irrigation water distribution or appointment of certain district officials, such as the police. The crossover of interests of individuals in provincial administration in relation to opium points to the existence of a shadow state.

Seventh, there is strong evidence in the case of Balkh, while less so in the case of Kunduz, that irrigation management institutions, which are essentially informal, may have collapsed – at the provincial level, and between and within districts. The use of power and geographical position to take water to the detriment of downstream users is attested both by secondary sources and by field data from the two primary research sites in Balkh.

Finally, both provinces have a history of cross-provincial connections that would support the skills and the trading networks conducive to opium poppy cultivation. In Kunduz, bidirectional migrant labour patterns between Badakhshan and Kunduz as well as the transit trade in opium would suggest that lack of knowledge and connections is not the constraining factor to opium poppy cultivation. In Balkh

historical settlement patterns along with cross-provincial connections between Balkh, Nangarhar, Helmand and Kandahar have laid the grounds for cultivation of and trading in opium, and have also clearly been strengthened as a result of the trade.

The outcome of all these factors, and it would be difficult to attribute significance or weight to any one of them at this stage, is a general absence of opium poppy cultivation in the Kunduz irrigation system, but significant cultivation in both Chimtal and Charbolak districts in Balkh. In the case of Chimtal, and perhaps because sufficient water reaches the western end of the irrigation canal (Imam Sahib) and ethnic identities there allow a natural entry into trading networks, the lower reaches of the irrigation canal where water is scarcest has favoured the cultivation of opium poppy over that of the upper end of the canal where a double cropping system has been partly maintained. But in the case of Charbolak, where being downstream means absolute water scarcity and ethnic identities may place barriers to easy entry into upstream power structures and trade relations, the pattern of opium poppy cultivation is reversed. There it is the best-watered parts of the district that support the greatest density of opium poppy cultivation, favoured by power structures with active connections to the district and beyond.

It should be emphasised that these are preliminary working arguments, largely drawn from a range of interviews, group discussions at the village level and field observation. They need to be systematically deepened in a number of areas including: looking more closely at different types of households and their engagement in opium poppy cultivation; developing a more detailed understanding of household economies; collecting detailed official data on irrigated land areas by villages; collecting more detailed information on actual water distribution practice; and careful ex post examination of eradication practice. There will be a need to link household data with village- and district-level processes, particularly those of water management.

It would be premature at this stage to be directive with respect to the policy implications of these findings for counter-narcotics strategies. They do point to the significance of context in relation to where and why opium poppy is cultivated. It would appear from the available evidence that the drivers for the cultivation of opium poppy at the tail end of the Chimtal canal are rather different from those at the top end of the Charbolak canal. While it is possible that scarce land in the latter may be as much a driver as scarce water in the former, the significance of power and profit for key landholders in Charbolak cannot be overlooked. Current “alternative livelihood” practices which focus on farm-based alternatives would appear to have little potential as diversionary opportunities. The fundamental issue is about “rules in practice” and until steps are taken to address these and the way in which water distribution works both at the system level as well as within districts, households are unlikely to have much room for manoeuvre. However, if ADB is to be believed, the extent to which demand for water already exceeds supply means that any system of authoritative water management will need to curtail irrigated area and crop choice.³⁹ Such a system cannot be equitable but it may be seen to be fair and workable if the “rules in practice” are based on accountability, rather than just authority or power.

³⁹ ADB, *Emergency Infrastructure*.

Appendix 1: World Food Programme/Vulnerability Assessment Mapping 2002–03 Afghanistan countrywide food needs assessment of rural settled populations

Kunduz

	Popu- lation	Deficit	Position	1. % of food from crops	2. % of food from livestock	3. % food from labour	4. % of food from other sources	5. % of food deficit (% of overall supply)	6. % of landless households	7. % of households with mort- gaged land	8. % of households with cash debts	9. % of households with wheat debts
Kunduz	240734	0	Int Cnl	125	61	20	0	0 [206]	5	4	58	37
Aliabad	40140	0	Urban Rainfed	454 37	35 45	22 14	0	0 [512] 0 [97]	8 6	13 10	61 40	22 0
Chardara	84381	0	DS Cnl Rf US Cnl	176 317	24 43	26 37	0	0 [229] 0 [399]	4 8	0 0	57 55	33 40
Archi	60534	0	DS Cnl DS Cnl Rf	85 113	53 25	23 27	0	0 [175] 0 [167]	9 3	3 0	63 63	33 28
Imam Sahib	182466	0	Canal Canal	306 367	79 28	23 30	0	0 [413] 0 [175]	8 8	0 4	55 31	40 43
Khanabad	148584	0	Int Cnl Rainfed	280 459	32 68	34 20	0	0 [428] 0 [547]	5 6	6 8	32 40	20 45
Qala-i-Zal	58268	20 (2)	DS Cnl US Cnl	46 20	44 29	8 16	0	0 [99] 0 [74]	5 3	5 0	48 29	33 33
Total	815107			60	26	17	23	0 [128]	6	0	35	28

Deficit: Degree of food deficit (number of months)

Position: Int Cnl – Intensive Canal Irrigation; DS Cnl Rf – Downstream Canal and Rainfed; US Cnl – Upstream Canal; DS Cnl – Downstream Canal; Rf – Rainfed

Note: If values of the sum of columns 1–4 (in [] in column 5) exceed 100 then the household is in food surplus in relation to estimated requirements.

Balkh

	Population	Deficit	Position	1. % of food from crops	2. % of food from livestock	3. % food from labour	4. % of food from other sources	5. % of food deficit (% of overall supply)	6. % of landless house-holds	7. % of house-holds with mortgaged land	8. % of house-holds with cash debts	9. % of house-holds with wheat debts
Mazar-i-Sharif	175344	0										
Balkh	100998	20	DS Cnl	35	11	8	111	1 [65]	32	10	29	55
			Int Irr	72	17	36	9	0 [136]	29	14	24	50
			US Int Irr	62	20	12	0	1 [98]	35	20	22	65
Charbolak	65498	20	US Irr	8	13	41	11	0 [73]	32	8	33	19
			DS Irr	51	21	33	0	1 [106]	25	5	22	12
Chaharkint	42406	40 (5)	Rf + Sp Irr	54	25	17	6	1 [102]	25	0	28	38
			Rf	16	11	29	4	0 [60]	35	12	17	13
			Rf + Irr	13	16	25	10	0 [65]	25	7	18	7
Chimtal	71864	40	Int Irr	47	9	6	7	0 [70]	35	0	50	28
			DS Irr	52	23	8	0	0 [84]	30	5	30	40
			Int Irr, Rf	43	21	4	0	0 [71]	31	7	40	47
			Rf	49	15	3	3	0 [72]	21	31	42	57
Dawlatabad	94308	40	US Irr	16	26	26	8	0 [75]	49	10	40	41
			DS Irr	13	17	24	15	0 [69]	45	5	43	39
Dehdadi	46722	0	Semi Urb	25	9	25	68	3 [131]	15	4	25	19
			DS Irr	88	16	20	0	2 [128]	28	3	47	30
			Int Irr + Or	29	26	17	0	1 [76]	30	5	60	40
			Int Irr	132	29	45	0	1 [208]	16	33	50	40
Kaldar	15646	20	Cnl + pump	20	12	33	31	2 [98]	15	3	28	9
Khulm	73914	20	Irr	44	12	56	1	0 [110]	44	10	42	18
			Irr + Or	49	23	37	0	0 [111]	33	10	48	30

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