Turning deserts into flowers: settlement and poppy cultivation in southwest Afghanistan

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Abstract

Supply-side interventions are often criticised for reducing illicit drug crop cultivation in one location only for it to rise in another: the 'balloon effect'. The balloon effect is generally seen as an inevitable consequence of attempts to reduce opium and coca cultivation. But in Afghanistan, there is little evidence of this causal relationship and limited acknowledgement of the socio-economic, political and environmental processes that govern access to the factors of production such as land and labour. This paper examines the settlement of former desert areas in southwestern Afghanistan. It shows how the encroachment on this land and the rapid expansion of opium production since 2003 were supported by affordable deep-well technology, collapsed controls on the use of what is officially 'government land' and the relatively high price of opium that endured long after the demise of the Taliban prohibition of 2000/01. Finally, it reveals that the rate of settlement of these areas was affected by an opium ban imposed across the 'Helmand Food Zone' from 2008 to 2011 and shows how this drug control effort ultimately helped transform the province, bringing new land under permanent settlement and thereby increasing Helmand's capacity to cultivate more opium poppy than ever before.

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1. Introduction

The term “balloon effect” is widely used as shorthand to question the cost-effectiveness of drug control efforts. Squeezing a balloon (a metaphor for drug control efforts) in one area only for the air to be displaced and the balloon to expand elsewhere is seen as an exercise in futility. Law enforcement, eradication, ‘alternative development’—each is dismissed as ineffective because the problem will be displaced and move to a new location (Caulkins et al 2010; Reuter 2010, Thoumi 2003: 231-232).

Two arguments support the balloon effect. The first, based on economics, proposes that with a given demand and diminished short-term supply, prices will rise, attracting new providers to the market and leading to a resurgent supply. Assuming an inelastic demand for drugs, any action to suppress production recovery in the supply of coca and opium is inevitable. The second argument draws on the fact that aggregate levels of drug crop cultivation have remained largely uninterrupted or even expanded over the four decades of the 'drugs war' (Chouvy 2012:16).

Beyond the question of how the net benefits (or costs) of supply-side interventions are distributed, there is also the question of causality: whether a shift in cultivation is a direct effect of drug control efforts or a function of wider socio-economic processes that predate and are unrelated to those efforts (Chouvy 2012). The assumption is typically that expanded production is a direct consequence of a drug control intervention that has reduced supply. Yet expansion into other areas may have started

before any efforts to reduce supply, may be linked to migration from areas where there has been no attempt to reduce supply, or may be inaccurate or incomplete.

Empirical evidence of the balloon effect tends to be limited, often anecdotal and lacking in rigor (Chouvy 2012). There is a tendency to overlook the quality of data, the timing and sequencing of displacement,[i] and the failure to document how economic and social processes that resulted from reduced cultivation led to increased production elsewhere. Population or demographic data is rarely used to show the movement of people; there are no panel interviews of those who have been exposed to drug control efforts and relocated to produce coca or opium elsewhere. Data is lacking on the origins, history and composition of those cultivating drugs in 'new' areas of production. Instead, reduced cultivation in one area is viewed as inevitably followed by an increase in another, both linked to drug control measures.

This tendency to assume causality is indicative of the tendency of much of the drugs literature to focus exclusively on the efficacy of specific counternarcotics interventions (Mansfield 2016). Such an approach tends to miss the on-the-ground dynamics and local ‘messiness' in drug crop-producing areas and to ignore wider socio-economic, political and environmental processes, including interventions that have no counternarcotics objectives but have profound effects on drug cultivation and prohibition. The focus on changes in production at national, provincial and regional levels and the failure to analyse the processes that lead to cultivation shifting from one area to another, contribute little to understanding whether the limitations of supply reduction efforts are an inevitable function of economics or whether there are fundamental problems in the kind of interventions that are being pursued.

This paper examines whether the balloon effect offers an adequate explanation of changing patterns of cultivation in Afghanistan. It explores the dramatic expansion of settlement and opium poppy cultivation into two former desert areas in southwestern Afghanistan. Following this introduction, the paper is divided into five further sections. Section 2 offers an overview of the methodology. Section

3 describes how the geographic distribution of opium poppy cultivation in Afghanistan has emerged, consolidated and adapted to statebuilding and to counternarcotics efforts. Section 4 presents case studies from two provinces where desert land has been brought under agriculture, much of it cultivated with opium poppy. Section 5 concludes that the expansion into the desert spaces of southwestern Afghanistan is only in part a function of efforts to reduce opium production in other areas (the balloon effect). It is also a consequence of rising opium prices and—most importantly—of affordable agricultural technology and limited domestic sovereignty, for a rural population exposed to conflict and limited livelihood opportunities.

2. Methodology

The paper is based on in-depth fieldwork and high-resolution imagery undertaken between 2011 and 2013 in 20 research sites in two former desert areas. Fieldwork consisted of 812 interviews with rural households and supplementary data collection among those providing services to these desert communities. 602 interviews were conducted with farmers in eight research sites in the area north of the Boghra canal in Helmand Province and 170 interviews with farmers in 12 research sites in Bakwa in Farah Province. A further 40 interviews were conducted with individuals involved in the provision of services to the population in the former desert areas in the cities of Lashkar Gah, Gereshk, Farah and Delarem, including those trading solar panels, diesel, pesticides and the leasing of drilling equipment for sinking deep wells.

High-resolution, remote sensing imagery was integral to the research design. Geospatial data on vegetation was combined with high resolution imagery to examine the history of settlement in the former desert area. Research sites were then identified based on the duration of settlement, ranging from sites that showed evidence of agricultural production prior to 2003 to those settled in 2013. Remote sensing imagery was then used to verify that fieldworkers had been to the identified sites, and

examine the results of primary data collection. The high-resolution imagery allowed further exploration of primary research findings: identification of crops under cultivation and of new or damaged physical infrastructure, and measurement of changes in the area under cultivation. Finally, geospatial analysis supports the extrapolation of research findings over a wider geographic beyond the research sites themselves.

Fieldwork was undertaken by a team of local researchers. The research addressed the inherent problems associated with primary data collection when researching an illegal or underground activity by focusing its enquiry on household livelihood strategies. The pressure to act against opium cultivation and trade has made illicit drugs a more sensitive topic for discussion with farmers and other stakeholders than was the case in the 1990s and early 2000s. However, the rural household remains the most accessible unit of analysis when looking at the opium economy in Afghanistan; it offers a basis for cross-referencing findings both with other work on rural livelihoods in Afghanistan, and with other research on the specific role of opium production in rural livelihood strategies in Afghanistan and elsewhere.

Discussions in the field focused on the direct experience of respondents and their households rather than on a wider geographic area, where answers become increasingly speculative.[1] Individual interviews with farming households were conducted in the field as farmers tended their crops, since holding interviews in the household compound can attract attention from others and become subject to repeated interruptions and biases. Group discussions with farmers were avoided, as they: tend to be dominated by community elites; are inappropriate for discussing sensitive issues; and, increasingly represent a security threat in rural Afghanistan, particularly in the south.

3. Changing Patterns of Opium Poppy Cultivation in Afghanistan

[1] Swedish Committee for Afghanistan, "Farming Systems of Nad Ali District, Helmand Province," in *Agricultural Survey of Afghanistan, Report 15* (Peshawar: SCA, 1992), 1.

The emergence of widespread poppy cultivation

Although opium poppy cultivation is thought to have a long history in Afghanistan, there is little evidence of significant production until the 1980s (Macdonald, 2007: 59), marked by the Iranian Revolution, the proclamation of the Hadd ordinance banning opium production in Pakistan, and—most importantly—the civil war in Afghanistan. During the war years, Afghanistan emerged as global leader in opium production, based on what Goodhand (2012) has referred to as a 'triple comparative advantage of favourable physical, political and economic conditions.' This growth in cultivation can be linked to the political and economic interests of warlords who built patronage networks by taxing cultivation and, in some cases, participating directly in the trade.

Opium production became an ideal agricultural commodity during the war years, in the absence of a functioning state that could either support growth in the legal rural economy or use law enforcement to constrain cultivation. As a drought-resistant crop, a yield could be obtained despite damaged irrigation systems or inconsistent water supply; as a high-value/low-weight commodity, opium could be easily transported on poor roads or across porous borders. Skills involved in cultivation were easily learned and harvesting tools could be produced by local craftsmen or by farmers themselves. Market support was provided by local traders, avoiding long-range transport and transaction costs. Finally, during the war the use of opium increased significantly in Afghanistan and among the Afghan diaspora in Pakistan and Iran, thereby increasing the demand for opium production (Macdonald 2007).

As opium cultivation expanded from the higher valleys into larger landholdings in lower areas, its role in rural livelihoods and in the overall economy began to grow. The expansion of the crop meant that landowning households which did not meet the labour requirements could offer land on a sharecropping basis to land-poor, underemployed males. This practice led to a symbiotic relationship between the landed and the land-poor, fuelling socio-economic differentiation between and within rural areas.

Opium gave the land-poor access to land on which to grow a high-value cash crop and food crops, and to engage in the system of advance purchases on opium that provided liquidity for households during periods of food scarcity, family illness, or life-cycle events such as births, marriages or deaths. Opium poppy also provided wage labour for those who could travel to neighbouring districts during the labour-intensive harvest period.

The multiplier effect created further economic opportunities through the service industries associated with the cultivation, trade and processing of opiates, as well as the resulting disposable income, some of which was reinvested in the local economy. Those with capital and access to the means of violence benefited from asset accumulation and political and military influence.

Given its widespread economic and social benefits, little was done to contain the opium economy during the 1980s and 1990s. Drug control efforts were rare and were largely for show, aimed at encouraging an increase in development assistance from foreign sponsors (Mansfield, 2002). There are considerable doubts as to the effectiveness of campaigns, due to the challenges of estimating levels of cultivation and questions about territorial control (Martin 2014).

These earlier efforts at drug control offered only temporary lulls in production across limited geographic areas. They disrupted political arrangements with local commanders and possibly with drug traders and processors, and appear to have yielded little of the donor assistance and patronage that regional commanders were looking for (UN).

Consolidation during the Taliban years

The Taliban's arrival in the southern provinces in 1994 did nothing to stop the growth in opium. In fact, under their rule cultivation expanded significantly, facilitated by the removal of checkpoints and militias along the major roads and driven by limited economic opportunities in the legal rural economy (UNDCP, 1998a). The UN Office on Drugs and Crime (UNODC) estimated that the level of cultivation rose from 18,500 hectares in 1987 (US Department of State, 1997) to 91,000 hectares in 1999.

During the 1990s, opium expanded beyond its traditional centres of production in the South, East and Northeast to parts of the North and Centre and more districts in the Eastern Region (UNDCP 1998a). Traders offered seeds and agricultural services, and commanders and the Taliban instructed farmers in farming practices (Felbab Brown 2006: 137). Those households with insufficient land in the core production areas sent family members to other provinces where they had ethnic or familial ties. There they leased or sharecropped land, sharing their skills in opium production with the local population (UNDCP, 1998a; UNDCP, 1999). Then these itinerant harvesters returned to their own land and applied their new skills (UNDCP, 1998a).

There was also growing experimentation by farmers who attempted to cultivate opium poppy for the first time, limiting production to small plots of land situated among crops like wheat and onion in case their poppy failed (UNDCP, 1998a). The proactive role of the rural population expanding cultivation, combined with what Byrd (2008:17) has referred to as the the 'footloose' nature of the drugs economy, points to the degree of autonomy in rural areas and the economic opportunities that opium offered a wide range of actors.

During the Taliban's rule, the opium trade became consolidated within the Afghan economy. Before the ban in July 2000, the Taliban did little to hamper production or trade, beyond a few flurries of activity at the behest of the UN Drug Control Programme UNDCP): closing some laboratories, small-scale eradication, proclamations prohibiting opium production (Mansfield 2016). Opium was dried and traded on the streets of district bazaars, close to the highway. Marketing hubs in the East and South proliferated and moved closer to the arterial roads (UNDCP, 1998b). Finally, heroin processing facilities were found in the main valleys, often near the district centre where Taliban soldiers were located.

Some viewed this expansion, coinciding with Taliban's territorial gains, as evidence of the Taliban's control of the trade. But the relationship was more complex, reflecting local political settlements and bargains. In some cases, local Taliban leadership tolerated drug production and trade,

unwilling to challenge powerful local interests. In others, Taliban commanders were actively involved in opiate trade and taxation.

These local arrangements came undone with the imposition of the Taliban ban in July 2000. After numerous requests by the UN and international donors to act against the drugs trade, the Taliban imposed an effective ban on opium production in the 2000/01 growing season, reducing cultivation from 82,000 hectares in 2000 to 8,000 hectares in 2001 (see Figure 1). Although UN officials billed it as 'one of the most remarkable [drug control] successes ever' (cited in Jelsma, 2005:1), it was an event that many would come to regret.

For the Taliban, the ban imposed hardships on the rural population that enabled Western military forces to encourage rebellion against the regime (UNODC, 2003; Mansfield, 2004). For the Interim Administration and its successor, the Government of the Islamic Republic of Afghanistan, cessation of production led to a rapid rise in the price of opium that made cultivation profitable even in marginal areas. Combined with the return of the *mujahidin* leadership to provinces they had presided over in the 1980s and 1990s, opium became a mainstay of the Afghan economy and a metric by which both the Afghan government and the international project in Afghanistan came to be judged.

Figure 1: Opium poppy cultivation 1987-2013 (hectares)

Expansion and shifting patterns of cultivation under the statebuilding project

Giustozzi (2007:9) argues that for political entrepreneurs the drugs economy became a source of power during the initial years of the Karzai regime. Members of Parliament, government ministers, regional power brokers and elements of the security apparatus were thought to be directly involved in the drugs trade or to have received payments for their role as 'security providers' (Mankin, 2009). Byrd and Jonglez (2006) reported growing market integration, while others claimed that trafficking had become concentrated in the hands of a few key individuals, many with close links to the Ministry of Interior (Buddenberg and Byrd, 2006: 201).

Evidence of market concentration was less obvious in the provinces following the Taliban's collapse in 2001. In fact, cultivation expanded significantly in areas with few pre-existing market linkages and limited production experience (Mansfield, 2006). This was prompted by the fact that high prices were sustained following the collapse of the ban and the launch of counternarcotics efforts. Increased cultivation was also seen in the traditional areas of production as farmers took advantage of high prices and the absence of government control to make up for the loss of income and rising debts that many had incurred under the Taliban ban (UNODC, 2003; Mansfield, 2004). By 2004, opium poppy could be found in 194 out of 364 districts and in all 34 provinces, compared to only 54 districts in eight provinces in 1994 (UNODC/MCN, 2004).

After 2005, national opium poppy cultivation fluctuated widely, falling between 2008 and 2010, only to rise again in 2011. However, aggregate levels mask regional, provincial and district-level variations. Dramatic reductions in Helmand and Nangarhar Provinces had a significant impact on aggregate statistics: a fact that helped meet the demand of the UK and US governments.

Counternarcotics efforts are one factor in these reductions. Cultivation fell significantly in Nangarhar—a province that had been second only to Helmand as a major producer of opium—after the imposition of bans by two governors. The most striking example is Helmand itself where the Helmand Food Zone (HFZ) was introduced in 2008. With financial and logistical backing from the UK and US governments, this initiative consisted of three activities: a counternarcotics information campaign aimed at deterring planting, distribution of wheat seed and fertiliser, and eradication (Mansfield et al 2011). Within the HFZ, cultivation in 2009 fell from 103,590 to 69,833 hectares (see Figure 2). By the spring of 2011, there was a 40% reduction in cultivation compared to the 2007/08 growing season.

Figure 2: Opium poppy cultivation in Helmand, 2001-2013

A second factor in the downward trend in cultivation in 2008 and 2009 was the shift in terms of trade between wheat and opium (Mansfield et al, 2011; Mansfield and Pain, 2008). The rapid rise in

world cereal prices in late 2007, combined with insecurity in Pakistan following the assassination of Benazir Bhutto, restricted cross-border trade in Pakistani wheat flour and led to higher wheat prices in Afghanistan. And high levels of opium production between 2002 and 2007 led to opium prices falling from US$700/kilogramme in September 2001 to less than US$60/kilogramme in the 2007/08 growing season (Mansfield and Pain, 2008: 14).

With this shift in prices, farmers across Afghanistan became increasingly concerned about food security; many opted to cultivate wheat rather than cash crops. In the less fertile areas where opium had little tradition and the population lacked experience and skills, farmers realised that they could produce wheat on their own land rather than using opium profits to purchase wheat. Under these conditions, farmers did not need to be coerced to abandon opium production, although this did not stop the political leadership or counternarcotics community from taking credit for reduced cultivation (Mansfield and Pain, 2008; UNODC/MCN, 2008:2).

A third factor in reductions during this period was the growth of opportunities in the legal economy, particularly in the lower valleys where most development assistance had been provided. The World Bank estimated that between 2002 and 2012, US$55 billion of aid was given to Afghanistan, and the average annual growth rate in gross domestic product was 9% (cited in Goodhand, 2012). Major poppy-growing provinces like Helmand received an estimated US$600 million of development assistance between 2009 and 2011, the years in which the HFZ was implemented (USAID 2014: 29).

Even as early as 2008, the areas around provincial centres in most opium-growing provinces showed increasing signs of agricultural diversification and more complex cropping systems that included high-value, short-season horticultural crops and the cultivation of a variety of crops on a single unit of land. This allowed farmers to better manage the risk of crop failure and increase on-farm income (Mansfield and Pain, 2008; Mansfield 2008). Households in these areas exploited wage-labour opportunities in the service sector and construction industry, further diversifying their income base.

A fourth reason for falling levels of cultivation was the rollout of national and international security forces to the regions. From 2004 on, communities began to mobilise through the establishment of Provincial Reconstruction Teams (PRTs). By 2008, the perceived failures of centralised statebuilding, the growing insurgency and the new counter-insurgency doctrine led to a shift towards bottom-up state building and devolution to the districts. A typical trajectory was for opium cultivation to fall in areas around the provincial centres. In provinces like Helmand where military presence extended into the districts, production was also deterred. The impact of military operations on levels of cultivation was most stark in Marjah District in Helmand Province where, following the deployment of 15,000 US Marines and the Afghan National Defense and Security Forces (ANDSF) in February 2010, the amount of land dedicated to opium poppy fell from 60% to less than 5% the following season (Mansfield, 2012: 3).

The combination of these factors—provincial drug control efforts, the shift in terms of trade between wheat and poppy, the uptake in economic opportunities within the legal economy and the deployment of military forces to key provinces—led to reduced opium production, even in provinces where the crop had a long history and was most concentrated. While initially lauded as the success of counternarcotics interventions and the statebuilding effort, reducted cultivation in some provinces in the south and southwest were offset by dramatic increases in production in more remote desert areas within the same provinces—areas that had not been under opium poppy cultivation before or, indeed, under any kind of agricultural production. The following case studies examine the expansion into two desert areas and explore the extent to which this was, or was not, a direct consequence of efforts to reduce opium production elsewhere: the balloon effect.

4. Case Studies: Turning Deserts into Flowers

Remote sensing indicates that between 2003 and 2013 the amount of farmed land in the southwest increased from 151,962 to 432,896 hectares. This section examines the expansion into two

desert areas: the former desert area north of the Boghra canal in Helmand Province and Bakwa on the border between Farah and Nimroz Provinces.

Building a New Life north of the Boghra Canal

In 2002, the land north of the Boghra Canal in Helmand was desert, containing a few scattered communities that had arrived in the late 1990s. By 2013, there were about 35,500 hectares of farmland (see Figure 3); not isolated, scattered fields but contiguous fields reaching the outskirts of Camp Bastion/Leatherneck, and home to 160,000 people.[iii]

Figure 3: Expansion of agricultural land north of the Boghra canal in Helmand, 2002 -2012

Since 2003, many farmers in this area have seen their capital grow. Most came from the canal command area in central Helmand where they had no land and arrived in the desert with few possessions. By 2013, most of them owned a house, productive land, a motorbike, a generator and a solar panel for power. They had a regular supply of dried meat, and fresh meat and fruit 'once or twice a week'.

For the first wave of settlers before 2007, agriculture was back-breaking work. They had to remove the stones that littered the area, level the land, apply manure and fertilizer, and sink a deep well for irrigation. They lived in tents until they could build houses and bring their families. These settlers claimed traditional rights over the desert land.

For the next wave of settlers—sharecroppers and tenants who came after 2007—it was easier; land preparation was completed and many houses had been built. These settlers knew that it would be a difficult life; many had family and friends who had purchased or captured land, or had worked in the area during the opium poppy harvest. These settlers belonged to a wider variety of tribal groups but were still primarily indigenous to the southwest of Afghanistan.

Figure 4: Year of settlement in area north of Boghra canal, by land tenure (n602)

After several years of eking out an existence, life in the former desert area became a bit easier. The bazaars that sat astride the Boghra canal grew with the availability of disposable income, and a number of *melas* (weekly markets) began to emerge. When households earned enough money to purchase a motorbike, or even a car, they could travel to the capital, to other provinces, or to Pakistan to get treatment for the sick or to buy agricultural inputs and consumables.

Farmers responded to new technologies as they became affordable and made farming in a harsh terrain more manageable. Once drilling equipment, cheap generators and water pumps were available, farmers abandoned less reliable shallow wells for deep wells. They began to use herbicides to better manage weeds and limit the use of family labour. They adopted solar technology, mobile phones and motorised transport.

And life had not been easy back in the canal command area. One farmer described his departure from his home and his attempts to escape the fighting: 'Because of this government I came from my village to the *dasht* [desert]. Always the government pushes the people. We have not seen any benefit from this government, only costs and losses. I am happy here to have poppy and no fighting'.

Many of the land-poor also came to escape the opium ban imposed by the '*kafir* [non-believer] government' and its foreign backers. For them, the ban and the uptake of less labor-intensive crops such as wheat had meant that landowners could farm their own land with family labor. Consequently, those who had relied on opium poppy cultivation to obtain land and a place to live found themselves dispossessed. Without jobs or development assistance, they had little choice but to resettle.

The high opium price of opium following the Taliban ban in 2000/01 made agricultural cultivation in the desert an attractive proposition. At prices of more than US$200/kilogramme, opium paid for the initial investments in land and expensive deep-well technology without which the land could not be cultivated. And the HFZ, with its emphasis on wheat and its banning of opium poppy, compelled many land-poor to leave the canal command area after 2008, settling in the desert lands where there

was a demand for their services as sharecroppers and tenant farmers. Desperate for land, they accepted a smaller share of the opium crop than they had received in the canal command area before the ban (Mansfield 2014, 51). Thus, a mobile population skilled in opium poppy cultivation settled in the former desert area, increasing the amount of land under agriculture and the percentage dedicated to opium poppy.

Over time, order was established within the atomized communities. Familial and tribal links, patronage networks and the Taliban provided a stability that appealed to many who had fled what they saw as intrusive and inequitable governance in the canal command area. Without a government they considered legitimate and capable of improving their lives, they sought only a system that offered physical security and a fair way of resolving disputes, and that left them alone to earn a livelihood—including growing opium poppy. They found this in the former desert.

However, life remained difficult; many complained about summer heat, lack of shade and the fact that there was no schooling for their children. And after 2012, their lives became even harder. Once the Taliban were subdued in two key districts of Helmand, the ANDSF and ‘foreigners' brought the fight to the desert. Farmers described the fear that women and children felt during the night at the sound of 'choppers' hovering overhead. They told of incursions by members of the ANDSF and of attempts by the Afghan Local Police to seize their generators and water pumps and eradicate their opium crops (or to demand money for not doing so). And in the 2013/14 planting season, the farmers faced a new threat. Following violent resistance from the Taliban, district authorities established checkpoints along the Boghra canal and seized any vehicle transporting diesel, fertilizer or water pumps.

But it was not these acts of 'interdiction' that most threatened the farmers. The more pressing concern was the repeated incidence of 'disease' that affected their opium crop and greatly reduced their yield. While it was most likely a consequence of monocropping and failure to rotate crops or rest the

land, farmers viewed it as a campaign of crop destruction launched by the Americans. They talked of a spraying campaign that caused disease and 'burned' their crops (Mansfield 2014, 79-83).

Even worse was the absence of the five-fold rise in prices that had accompanied the poor yields of 2010 and the inflow of military forces into central Helmand. Instead, prices fell after the 2013 harvest, as low as US$114 per kilogramme by summer (UNODC, 2013, 3). These crop losses provoked considerable anger. Some farmers questioned the character of government officials and expressed resentment of the threat government posed to their way of life. Most farmers reported cutting back on meat and fruit and having trouble meeting the costs of health care. Those with land recognized the severity of their situation; one farmer said, 'If I move from this area I will lose my land because I don't have any ownership document.' Some resolved their immediate financial difficulties by selling their opium stocks or marrying off their daughters.

The situation for sharecroppers was even more challenging. While many wished to leave the area following the poor harvest, few found land elsewhere. Unless opium poppy returned to the canal command area, where were they to go? It was only because opium poppy was such a labour-intensive crop that they were needed in the first place.

However, despite the obvious problems, the population north of the Boghra canal kept growing. Even as late as 2013, farmers continued to arrive, reassuring themselves that a low yield of opium poppy was still better than wheat and hoping that opium yields would recover in 2014.

4.2 Bakwa: Retaining ownership of the desert frontier

The area known as Bakwa[iv] is located on the boundaries of the districts of Bakwa in Farah Province and Delarem in Nimroz Province. The initial desert settlement by the Noorzai tribe—13 villages, each irrigated by an underground water system known as *karez*—is unrecognisable. The settlement of desert land between the villages started in the late 1990s, spurred by new agricultural technologies and the absence of controls to prevent the encroachment of government-owned land. Since then, opium

cultivation has supported the rapid expansion of agricultural land, from 24,062 hectares in 2003 to 105,936 hectares in 2013 (see Figure 5) and an increase in population from 62,000 to 274,000 people.[v]

Figure 5: Expansion in agricultural land in Bakwa, 2003-2013

As in Helmand, shallow wells were first dug in response to repeated crop failure in the *karez*-irrigated areas, caused by severe ongoing drought. At the peak, there were an estimated 5,000 shallow wells in the area. However, while the shallow wells supported agricultural production in the villages and some expansion into desert space, it was the introduction of deep-well technology that facilitated the dramatic encroachment of desert lands. This technology is said to have been introduced by non-governmental organisations and farmers who became aware of the equipment and its potential during their time as refugees in Pakistan. As in other southern provinces, expansion into the desert was also supported by low-cost Chinese water pumps and generators and the adoption of other improved agricultural techniques.

In Bakwa, the wells are almost twice as deep as those in the areas north of the Boghra canal. With a water table that is falling as much as one metre per year but still ranges from 25 to 30 metres deep, many farmers have invested in the desert area for the long term. While most wells have been drilled at the expense of the landowner, there are reports of a number of wells paid for by the US-led Farah PRT.[vi]

The pattern of land settlement in Bakwa differs from the iterative process of moving further north in the desert areas of Helmand. In Bakwa, the original *karez*-irrigated villages are the focal point for expansion into the desert lands; the population of each village is said to have moved into the desert lands that surround them, absorbing land some distance from their village. However, the population has been careful not to stray too far into the desert and encroach upon land that might be claimed by neighbouring villages. Disputes over desert land between villages are said to have been minimised by

the large amount of land available, as well as the ethnic homogeneity of the rural population and their ability to resolve matters within the indigenous Noorzai tribe.

In each village, newly acquired desert land was distributed according to local traditions, with land allocated to each household according to the land they owned in the original *karez*- irrigated village. Thus a household with five *jeribs* of land out of 400 *jeribs* in the village would get as much as 70 *jerib*s of the 5,600 *jerib*s of desert land that the village absorbed. With thousands of *jerib*s of desert land available, and no government able to prevent the incursions, this first wave of settlers often received as much as 80 to 100 *jerib*s to be divided among their family.

The original settlers looked for ways to fund the drilling of deep wells. Some sold parcels of their land to migrants from other parts of the south who faced population pressures and a shortage of land in their home villages and came to the area seeking a better quality of life. These land sales helped provide the capital required to bring new land under cultivation and produce opium that could be sold, with the money earned reinvested in more land. It is claimed that through this process some of the original settlers have acquired three or four deep wells, each of which irrigates between 15 to 20 *jerib*s of land.

Figure 6: Year of settlement in Bakwa, by land tenure (n170)

As in the desert spaces of Helmand, settlers would reside in a tent until they had drilled a well, prepared the land and built a house. However, land in Bakwa has not been commoditised and sold on a large scale as it has in the area north of the Boghra canal. After an initial flurry of sales to help finance the development of their land, the Noorzai settlers have sought to retain ownership within the tribe. Instead of selling land, they have looked for tenant farmers and sharecroppers: a skilled labour force that has helped improve the land through their toil, and in some cases provided the capital investments required to bring the land permanently under cultivation. Landowners with sufficient capital offer sharecroppers and tenants four-fifths of the final crop, compared to two-thirds in other parts of the

south. Landowners without sufficient capital may pay enough benefits to attract tenants who are unable to purchase land because they are not from the Noorzai tribe.

For example, in an increasingly common arrangement in Bakwa, the landowner provides a deep-well and generator at the start of a five-year tenancy, and the tenant covers the annual costs of production but pays the landowner only one-sixth or one-seventh of the crop. At the end of the tenancy, the tenant that is required to ensure that the deep well is still operating. This arrangement is mutually convenient to both sides; the landowner is particularly grateful to be left with a fully productive farm on which he can then employ a sharecropper who will pay him one-fifth of the crop.

Opium poppy has been a significant enticement for both landowners and migrants in Bakwa, occupying on average two-thirds of the land cultivated in the 2012/13 and 2012/14 growing seasons. For the original Noorzai settlers it has been the means of investment in their land. It has financed turning vast expanses of the desert into productive agricultural land and provided a good income to those who now own it. For those who do not own land, the value of the crop and its labour-intensive nature have provided work opportunities and opportunities for the licit economy in nearby towns.

As in Helmand, all those who have migrated to Bakwa have pre-existing contacts—family or friends—in the area; the vast majority are from tribes indigenous to southwest Afghanistan. Most of tenant farmers or sharecroppers have come to Bakwa because they do not have sufficient land in their own villages or are looking to escape conflict. Many migrants arrived in Bakwa in 2006 and 2007 from the district of Farah, in direct response to an opium ban in those areas around the provincial centre. More recent migrants have come from central Helmand, escaping the opium poppy ban imposed by the HFZ. A few have come from more distant provinces, but even these have contacts in the area and initially work building mud brick houses before obtaining land to cultivate opium poppy.

The population of Bakwa is fortunate not to have seen the crop failures that farmers have experienced north of the Boghra canal. Most farmers attribute their higher yields to the quality of the

soil in Bakwa as well as the large amount of household land. Those interviewed in Bakwa reported an average of 25 *jerib*s in contrast to an average of only 12 *jerib*s in Helmand. These larger holdings militate against the monocropping of opium poppy, allowing some wheat to be grown and supporting crop rotation. A few farmers were even supporting effective plant husbandry by leaving some land fallow each year. In fact, the economic conditions at the two sites were such that, at the start of the 2013/14 growing season there were reports of farmers from north of the Boghra canal relocating to Bakwa in search of better opium yields.

Most of those interviewed in Bakwa saw their overall welfare as having improved over the last decade. The great majority of families—including those sharecropping the land—own at least one motorbike, a generator and a solar panel. Those who own large tracts of land have considerably more assets at their disposal, including motor vehicles and tractors. Households in Bakwa also reported a higher consumption of meat and fruit than typically found in other areas; even sharecroppers reported that they had 'rich food' once a week.

These improvements in welfare are considered a direct result of opium poppy cultivation, and farmers are acutely aware that they are vulnerable to the government's counternarcotics efforts. Most see the government in Bakwa as at best irrelevant, at worst a potential risk to their physical and economic wellbeing. Few government services are provided to the area; the district health centre destroyed by the Taliban in 2008 was still not repaired five years later.

Governance in Bakwa is dominated by the Noorzai tribe, but also by the Taliban. The Afghan government is rarely seen, even in the district centre of Bakwa. In comparison, the Taliban is viewed as providing a major service by preventing the government from destroying the opium crop. As in the desert areas of Helmand, the payment for this protection is seen as nominal.

Of course, none of these entities—the Noorzai, the Taliban or the government—is completely independent. Farmers cite Noorzai elders in government positions living in Farah city and Kabul. They

claim that these individuals travel unmolested in Bakwa, as local Talibs are fearful of retribution if they injure or kill a fellow Noorzai. Thus, tribal homogeneity, familial connections and the concentration of landownership among the Noorzai ensure that all parties calibrate their actions and recognise political affiliation as only a temporary convenience. The result is relative peace, particularly compared to the areas north of the Boghra canal.

4. Conclusion

It is the case that efforts to reduce levels of opium poppy cultivation provided an impetus to the settlement of former desert space in southwestern Afghanistan. However, migration to these areas was already underway by the time that many of these interventions started.

This research has shown that the initial momentum behind the settlement of the desert areas was the tenfold increase in opium prices associated with the Taliban ban imposed in the 2000/01 growing season. The ban raised the economic value of desert land; when combined with the collapse of the Taliban regime and access to affordable deep-well technology, there was little to prevent the encroachment of former desert land by those with a traditional claim over the land and sufficient force to impose their will. These three factors made agricultural production in the desert an economically viable activity for a burgeoning rural population.

It was only later that the balloon effect, as it is currently understood, really took effect. In late 2006, we saw the consequences of limited efforts to reduce opium poppy cultivation around provincial centres in Farah and Helmand and of escalating conflict associated with the deployment of Western military forces. By 2009, these factors led to the migration of greater numbers of people—in particular the land-poor—into the desert.

Many took up residency as tenants and sharecroppers under far less favourable conditions than in the better irrigated areas they had come from. They provided an added impetus to opium poppy cultivation in the former desert areas. They offered a relatively cheap and skilled labour force to those

who had already captured or purchased land, further supporting the transformation of unproductive desert space and the consolidation of rural communities.

This research has, however, shown that settlement in these new areas is not available to all. There are strict rules defining who can take ownership over land and who can cultivate it on a temporary basis. Traditional land rights, the means of violence, and tribal and familial connections govern land use in these desert spaces. Therefore reductions in one region of Afghanistan cannot simply lead to migration and the displacement of cultivation to the south or southwest of the country. There are clear barriers to accessing the land and water which shape the displacement of opium production in light of supply-side efforts.

Furthermore, while localised reductions in opium poppy cultivation have occurred in the better-resourced areas of south and southwestern Afghanistan, they have been more than offset by disproportionate increases in former desert lands. These increases suggest that more profound changes are occurring in the rural economy of Afghanistan than simply the displacement of cultivation from one area to another. Air has not simply been displaced from one part of the balloon to another; more air has been added. The pressure on existing land caused by a rapidly expanding rural population and fewer wage-labour opportunities in the urban economy, as well as the collapse of formal controls over the use of 'government land', has opened the flood gates for continued encroachment of the desert lands of the south and southwest.

Obviously the inflationary impact of opium prohibition has facilitated this process. With further increases in opium prices following low yields in 2010, those leasing or sharecropping land began monocropping opium poppy in much greater numbers, hopeful that they too might take up permanent residency and purchase desert land. Even with lower opium prices, falling yields and the return of opium poppy to parts of the HFZ in 2014 (UNODC, 2014: 21) farmers continue to settle these former desert lands.

For proponents of poorly considered supply-side interventions, such as the HFZ, the continued settlement of these desert areas raises questions as to whether displacement can really be considered an unintended consequence of their efforts. Even the most basic understanding of land tenure arrangements in central Helmand, and the differing labour demands of opium poppy and wheat, would have indicated that a simple crop substitution would lead to the dispossession of those who provided the labour for opium poppy and encouraged them to search for new lands nearby.

For those who simply dismiss increased cultivation in the former desert areas as a function of market corrections and the balloon effect, there is an unanswered question: What is driving this unrivalled expansion of opium production in Afghanistan at a time when organisations such as UNODC and the European Monitoring Center for Drugs and Drug Addiction say that consumption in some of the major opiate-consuming nations of Europe, and North America is shrinking (EMCDDA 2013: 26)?

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[i] The academic literature on Afghanistan offers many examples of incorrect association between fluctuations in the reported number of hectares cultivated with opium and drug control efforts. The most obvious are the reports of the Taliban prohibiting opium in 1994 when they first swept to power in southern Afghanistan.

[iii] This estimate is based on a population density of 0.9 persons per *jerib* of cultivated land.

[iv] It is important to differentiate between the *district* of Bakwa in Farah Province and the *area* of Bakwa which encompasses the the districts of Bakwa in Farah and Delarem in Nimroz.

[v] This estimate is based on a population density of 0.51 persons per *jerib* of cultivated land (n 170).

[vi] While none of those interviewed reported having their well paid for by the PRT, a member of the PRT reported in 2010 that the PRT 'could fund only 20 wells' and that 'farmers would be required to swear that they will not use the wells for opium production' see "Dust and Soil: Bakwa" 9 August 2010 http://theafghanplan.blogspot.com/2010/08/dust-and-soil-bakwa.html