The Baghlan Oasis in Transition—From Autocratic Modernisation to Contested Spaces

Hermann Kreutzmann and Stefan Schütte

Abstract The Baghlan oasis is taken as a case in point to analyse the drying-up of a swampy, malaria-infested river basin in order to convert it into a "modern" agricultural production zone. The process was initiated by the Afghan kings in the first half of the twentieth century with the support of German planners and engineers, who engaged in establishing cotton and sugar production areas and the industrial processing of their crops. The implementation of modernist concepts in agricultural production made the oases of northern Afghanistan symbols of a future Afghanistan. This paper analyses the developments in the aftermath and focuses on the renaissance of similar concepts after 9/11 and the downfall of the Taliban. The transition from monarchy to republican rule, followed by subsequent turmoil and civil unrest, has affected the functioning of production in the river oases.

Keywords Afghanistan · Cotton · Sugar · Amelioration · Irrigation · Industrialisation

1 Introduction

Key concepts in agro-based developments adopt irrigation as a strategic means for productivity growth and modernisation. Northern Afghanistan experienced these developments during the first half of the twentieth century, when the Kabul-centred monarchy tried to broaden its revenue base in the north of the country. River valley oases were created and expanded north of the Salang Pass in the Qunduz River

H. Kreutzmann (✉)
Human Geography, Department of Earth Sciences,
Centre for Development Studies (ZELF), Institute of Geographic Sciences,
Freie Universität Berlin, Malteserstrasse 74-100, 12249 Berlin, Germany
e-mail: h.kreutzmann@fu-berlin.de

S. Schütte
Centre for Development Studies (ZELF), Freie Universität Berlin, Berlin, Germany

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Basin (Figs. 1 and 2). The trans-mountain road to the north was the symbol of establishing a permanent, all-weather link between the centre of power in Kabul and the centre of modern agriculture in the Qunduz River Basin. Beginning in 1919, the infrastructure plans of Amir Amanullah, who initiated several reforms during his ten-year reign, were the prerequisite for subsequent development programmes and contested spaces that were carried out by his successors.[1] In this paper, we explore the nexus of early oasis and infrastructure establishment, and the competition and conflict, following post-9/11 developments, of re-building a sound infrastructure and promoting a viable economy. The joint ventures of the present agribusiness partners are linked with the tradition of Afghan–German cooperation in the founding phase. Import substitution in the sugar sector was the aim and vision of promoting this joint venture. Emphasis is placed on the actors and the context of introducing "modern" agriculture into a "hostile" oasis environment. The nature of the challenges has changed over time while the modernisation paradigm seems to have survived any vagaries in political rule and bilateral cooperation.

2 Environmental Conditions in the Qunduz River Basin

Afghan rule by the Durrani dynasty (1747–1973) was first established in the Pashtun heartland with Kandahar, Kabul and Herat as its centres of power. Afghan Turkestan (Fig. 1), north of the Salang Pass (3878 m), represented a contested space where local potentates tried to follow a separate and independent course in the area between the Afghan and Turk emirates. During the second half of the nineteenth century, Amir Sher Ali Khan and Amir Abdur Rahman managed to incorporate this part of the Bactrian plains as an integral part into their dominion. In the aftermath, a number of Pashtun immigrants were resettled in Afghan Turkestan with the Qunduz River Basin (Fig. 2) becoming the arena for the establishment of river-supplied irrigation oases. A favourable climate was accompanied by favourable edaphic conditions with suitable soils augmented by loess deposits and colluvial sediments. The major oasis towns of Pul-e Khumri, Baghlan, Qunduz and Khanabad are located in an altitudinal range between 390 and 640 m, before the Qunduz River drains into the Amu Darya at 320 m a.s.l. Some of the low-lying oases, such as Baghlan-Ghori and Taloqan, form basin-lake structures while others are spread out along the major rivers. The Hindu Kush mountain ranges (2100–3100 m) frame the lowlands and supply the irrigation water that is provided through the drainage systems of the Khanabad and Qunduz rivers.[2] In contrast to a comparatively high rainfall at the Salang Pass (approx. 1200 mm), annual precipitation

[1]Cf. Gregorian (1969), Jäkel (1977), Poullada (1973: 141).

[2]The Khanabad (Farkhar, Taloqan) and Qunduz (Baghlan, Pul-e Khumri, Surkhab) rivers are known under a variety of names in different sections; cf. Grötzbach (1990: 266–267), Michel (1959: 76).

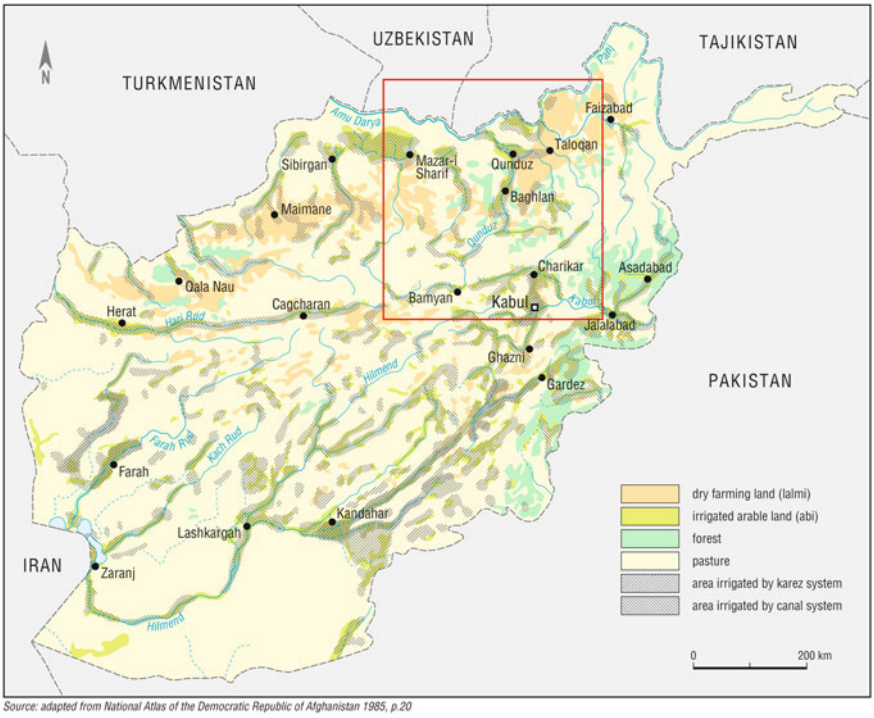


Fig. 1 Irrigation in Afghanistan. Canal irrigation in river oases is the dominant feature in Afghanistan while karez irrigation is mainly found south of the Hindukush. Design: Hermann Kreutzmann, cartography: Bernd Hilberer

is generally low with values varying between 240 and 390 mm in Baghlan (550 m) and Qunduz (455 m), peaking in late spring and early summer.[3] The area represents a region where rain-fed agriculture reaches its threshold and where a high variability in precipitation affects the likelihood of stable harvests. The summer temperatures of Baghlan and Qunduz are among the highest of Afghan climatic stations; in such a setting, augmenting irrigation can make a major difference to crop cultivation. By 1966, the "Kunduz Khanabad Irrigation Study" estimated the overall irrigated area in the Qunduz River Basin as 189,830 ha, which made up more than half of the cultivated land.[4] Efforts were made to establish a "modernised" agriculture, aimed at introducing technological means of mechanisation and agro-industrial and chemical inputs to enhance the volume output in a region where about five per cent of Afghanistan's population lived. The focus was placed

[3]For the environmental properties of northern Afghanistan, see Grötzbach (1972: 21–51, 1990: 266–286); Humlum (1959: 154–156), SOGREAH (1966, I: 23).

[4]SOGREAH (1966, I: 6, 24).

Fig. 2 Qunduz River Basin contains the canal irrigated, modern river oases that were conceived as the centres for modern agriculture in the cotton and sugar sector. The catchment was converted from swampy low-lying areas into canal colonies along the rivers. Design: Hermann Kreutzmann, cartography: Bernd Hilberer

on the highly productive cultivation of sugar beet (*Beta vulgaris*) and cotton seeds. Both commodities contributed less to the harvested yields than the "traditional" crops of wheat, barley and rice, but were regarded as strategic crops that covered

about one-third of Afghanistan's cotton production, and all of its sugar beet cultivation to date, which equalled one-third of Afghanistan's sugar imports.[5] More than two-thirds of Afghanistan's cotton processing took place in the region. The founding of "modern" oases followed a strategy that entailed significant interventions in a previously malaria-infested swampy area. Barfield (1981: 29) described the major transition that was initiated in the twentieth century: "Until the mid-1930s the ecology of the lowland valleys remained exactly as described by British reports in the 1830s—it was an area of malarial swamps. But in the last fifty years it has become one of the most productive agricultural areas in Afghanistan". Major constructions for drainage and waterworks had to be established prior to the resettlement of mainly Pashtun nomads and Turkish-speaking refugees, who were compelled to adhere to certain cultivation schemes and who were confronted with a new crop from temperate climates. The introduction of sugar beet can be regarded as the symbol of a development effort that was embedded in the Afghan–German collaboration. After the initial military cooperation and efforts in modern town planning, agro-industrial enterprises played a significant role.

3 Modernisation as a Joint Venture: Afghan–German Collaboration

Prior to the agro-economic and technological cooperation between the Afghan monarchy and Germany in the Qunduz River Basin, there had been a military–industrial cooperation that had begun in 1903 when the first German-built weapons were delivered to Afghanistan, after the British director of the Kabul arms factory was replaced by a German. Gottlieb Fleischer was a former employee of Krupp and became the tragic victim of a devious murder when he left the country after fulfilling his duty.[6] The German intervention in the "Great Game" was without consequence up until the Asia Convention of 1907, but in its aftermath, and especially when Afghanistan gained a sovereign stand as a result of the third Anglo-Afghan War of 1919, various activities stimulated Afghan–German collaboration in order to attempt a more independent diplomatic and political performance by the Afghan monarchy.[7] In 1921, Amir Amanullah sent a delegation to Germany to negotiate with German President Ebert the possibility of signing up engineers and technicians for the development of the Afghan primary and secondary sectors. Consequently, engineers and craftsmen started building the new capital Dar-ul Aman. A year later, the reformist Amir Amanullah sent his Minister of War, the later King Nadir Shah,

[5]SOGREAH (1966, I: 6, 23).

[6]Grobba (1967: 11).

[7]Kreutzmann (2013a, b, 2014).

on an inspection tour of Qataghan and Badakhshan to explore the economic potential and the related socio-economic conditions, among other objects of interest.[8]

However, it took the ousting of Amir Amanullah and the murder of Amir Nadir Khan before a systematic development began that supported a joint effort of German expertise paired with investment by Afghan entrepreneurs in *spinzar* (white gold = cotton) and sugar beet. The autocratic ruler Nadir Shah supported the Governor Shir Khan in draining the amphibious lands by applying forced labour and in providing irrigated land for settlers.[9] His successor on the throne, Amir Zahir Shah, continued the amelioration programme in the north and formalised the cooperation with European experts. In 1935, a joint development programme was negotiated between both parties in Kabul and Berlin. The agreement was finalised in August 1939 in Berlin and included a German commitment to infrastructure development, financing agricultural and industrial investments of the order of 55 million Reichsmark, which were supposed to be compensated by Afghan export commodities.[10] A number of projects were implemented and mediated by the Afghan National Bank (Bank-e Melli): Khanabad was developed as a major rice bowl, Qunduz for cotton, which was introduced to the area in the early 1930s, and Pul-e Khumri[11] for a mix of cotton and sugar beet, while Baghlan became the centre of sugar beet cultivation and processing a little later (see Fig. 2).[12]

4 Baghlan Fobrica—Centre of Agro-Industrial Sugar Production

Import substitution was the driving force for the establishment of sugar beet cultivation in the Baghlan oasis (Fig. 3). Then and now, it was stimulated by the belief that a growth centre would create spin-off and trickle-down effects for a general process of regional development, which would interlink infrastructure expansion, energy generation, irrigated agriculture and industrial processing and production. In addition, employment for the recently settled and growing population groups and the transition to a market-oriented economy were envisaged. The founding of the *Deutsch-Orientalische Handelsgesellschaft* in 1923 can be interpreted as the beginning of a new phase "for the purpose of promoting the import and export trades with the lands of the orient, principally with Afghanistan".[13] Implementing

[8]Koshkaki (1979).

[9]Cf. Ali (1946: 25–27), Barfield (1981: 29–30), Pikulin (1956: 230).

[10]Grobba (1967: 57–58).

[11]The Pul-e Khumri Textile Company's cotton weaving and spinning mill was established between 1938 and 1945 with the help of Siemens technology (Michel 1959: 84–85).

[12]SOGREAH (1966, II: VI–10).

[13]Nicosia (1997: 246).

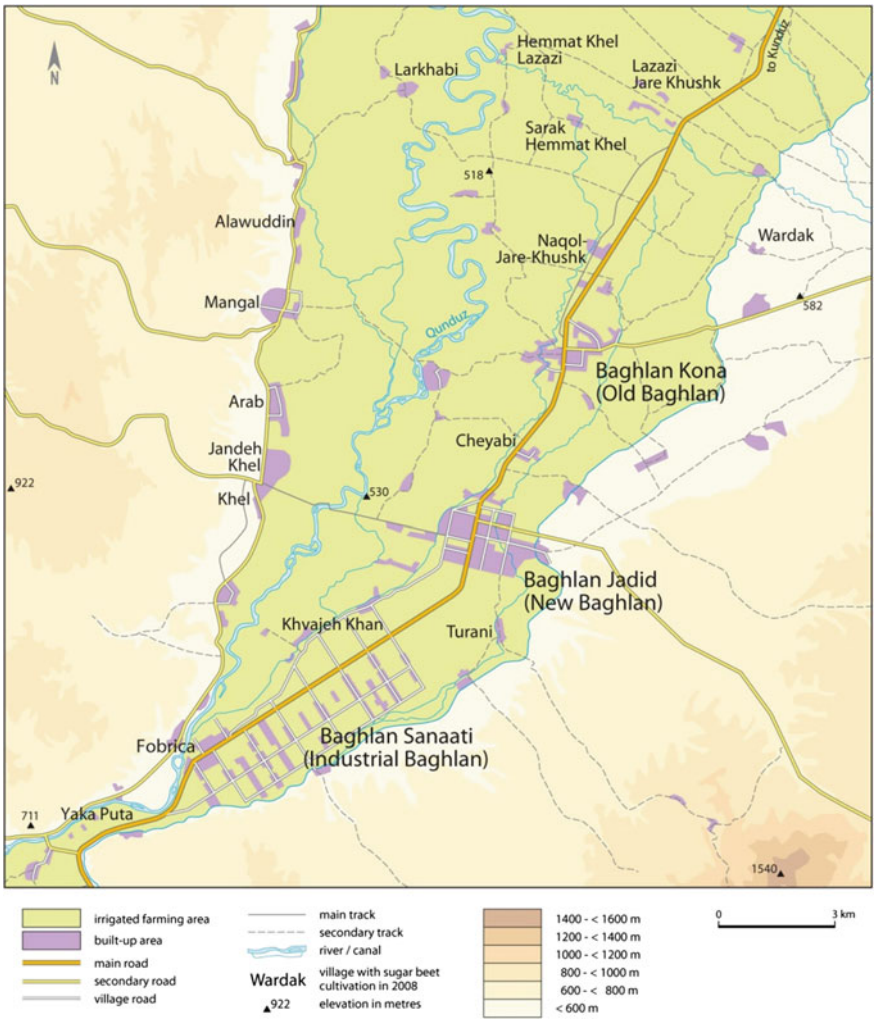


Fig. 3 Baghlan Fobrica, the immediate oasis location for the supply of sugar beet roots to the Baghlan sugar factory. Design adapted and modified from Kreutzmann and Schütte (2010: 5), cartography: Bernd Hilberer

the 1935 bilateral agreement, the Baghlan region was identified as an experimental ground for new agro-technical innovations. The first impetus for industrial sugar production in Afghanistan originated from the formation of the Baghlan Sugar Factory through the Afghan National Bank (Bank-i-Melli) in 1936/37. Louis Dupree commented: "The Bank-i-Melli served as a centre for capital accumulation, and investments flowed back from the bank to northern Afghanistan and

contributed greatly to the creation of almost all pre-World War II industrial development at Pul-i-Khumri, Kunduz, and Kabul".[14] A catalytic effect was attributed to the bank's investment strategy, promoting the involvement of Afghan entrepreneurs in industrial activities that were based on the latest imported foreign technology.[15] At the same time, a socio-demographic experiment was closely linked to the oasis development. Close to the factory, about 600 households of Pashtun, Tajik and Uzbek agriculturists were settled to form the irrigation colony; big landholdings were rejected as the small farming households were meant to provide a new element in a modernised agriculture. In no way were they free and independent in making decisions about their production. By royal order, all colonists were meant to cultivate the crops that were needed for processing. Baghlan Fobrica was no exception to the rule with its emphasis on sugar beet, while in other oases cotton was the main cash crop. The initial plans calculated a compulsory sugar beet cultivation area of one-third of the Baghlan and Ghori oasis but, over time, the pressure exerted resulted in only one-fifth of the harvested area.[16] Farmers were even encouraged to grow beet beyond the mandatory 20 per cent limit by providing them with incentives such as credit facilities and attractive subsidies for agricultural inputs. Crop cultivation commenced in 1940 with about 8400 tons of sugar beet from approximately 1100 ha (5800 *jerib*), which enabled the factory to run for 23.5 days that year. The capacity was estimated as using 60,000–70,000 tons during a processing period of 90–100 days.[17] The maximum beet acreage was reached in 1975 when, during the longest campaign ever (175 days), an area of 24,131 *jerib* (five *jerib* equals one hectare) of dedicated fields yielded 108,046 tons of sugar beet.[18] Consequently, the factory has rarely fulfilled the dreams and aspirations of its planners; it took two decades to reach full capacity production and the peak period was between 1962 and 1979 with a significant decline in the 1980s when campaigns lasted less than a month. Although it was the only sugar plant specialising in beet processing in all Afghanistan, its productivity varied significantly. Afghanistan never reached the goal of substituting half of its sugar imports; rather one-sixth was achieved during the prosperous 1970s. Nevertheless, two-thirds were contributed by sugar beet and almost solely from Baghlan and the Ghori Plain (north-west of Pul-e Khumri and adjacent to Baghlan). Already in the mid-1950s, Michail Pikulin confirmed that the textile factory in Pul-e Khumri and the sugar factory in Baghlan had developed into the major industrial plants of Afghanistan.[19]

[14]Dupree (1973: 472).

[15]Grötzbach (1972: 69), Rhein and Ghaussy (1966: 65–72).

[16]Grötzbach (1972: 69, 155), Michel (1959).

[17]Michel (1959: 100–101).

[18]The data were recorded from the table displayed in the Baghlan sugar factory during fieldwork in 2008.

[19]Pikulin (1956: 229–230).

All machinery and expertise were imported from Europe; Austrian and German engineers directed the factory, the latest equipment came from the German-occupied Czech Škoda factory, a leading manufacturer in sugar technology, fuse boxes from Zurich and cutting machinery from Stuttgart. UK firms supplied Scottish special processing equipment from Paisley and agricultural machinery from Ipswich. The aim was to substitute half of Afghanistan's sugar imports in the long run. In order to reach this goal, the autocratic rule of the Afghan monarchy cooperated with German expertise. The state was meant to force the farmers to cultivate beet by applying German agricultural extension that introduced mechanisation, mineral fertilisers, high-yielding varieties, pesticides and fungicides. Mohammed Ali summarised the expectations and the vision: "The cultivated land of Baghlan was divided in plots of 12 *jerib* each. Each farmer was given one of these plots with a sum of 3300 Afghanis as loan to purchase the necessary implements. As a result of this encouragement, cultivators from all parts of the country flocked there, and those very lands which were arid and the home of scorpions, snakes, mosquitoes and poisonous spiders, were turned into smiling fields, and have now become the centre of hopes of the whole nation, and supplies, besides cereals and cotton, all the beet requirements of the Sugar Factory. Every one now wishes to have a piece of land in this area because of its fertility and good climate".[20]

The modernising spirit found its structural expression in the layout of the state-of-the-art architecture of the factory, its premises and its additional buildings for housing the factory administrators and workers, for marketing agricultural goods called "Agropunkt" and neighbouring bazaar facilities for the modern community in "Fobrica" as the central institution of "Industrial Baghlan".[21] The modernist layout, with separate functions devoted to different areas, was supposed to be the nucleus of further development in a growing and highly productive oasis settlement. A planned settlement with housing and cultivated land was established along a rectangular street grid east of the factory (Fig. 3). Twelve *jerib* of fertile-irrigated land was distributed among farming households in the vicinity of the factory premises. This policy encouraged many farmers to inhabit the new town of "Baghlan Sanaati" (Industrial Baghlan).

The factory operated almost continuously for half a century up to 1990. Although there was a significant decline in production after the Soviet occupation of Afghanistan in the 1990s, the factory was still up and running, and closed only at the beginning of the civil war in the early 1990s (cf. Fig. 4). During the Soviet occupation, heavy fighting occurred around the factory. As a government enterprise, it was protected by Soviet tanks, but came under attack from Mujaheddin forces. Factory workers were caught between the lines, being obliged to resume

[20]Ali (1946: 27–28).

[21]A redrawn sketch of the original plan from 1942 is reproduced in Kreutzmann and Schütte (2010: 6) as well as a map of the state of the New Baghlan sugar factory and its surroundings in 2008.

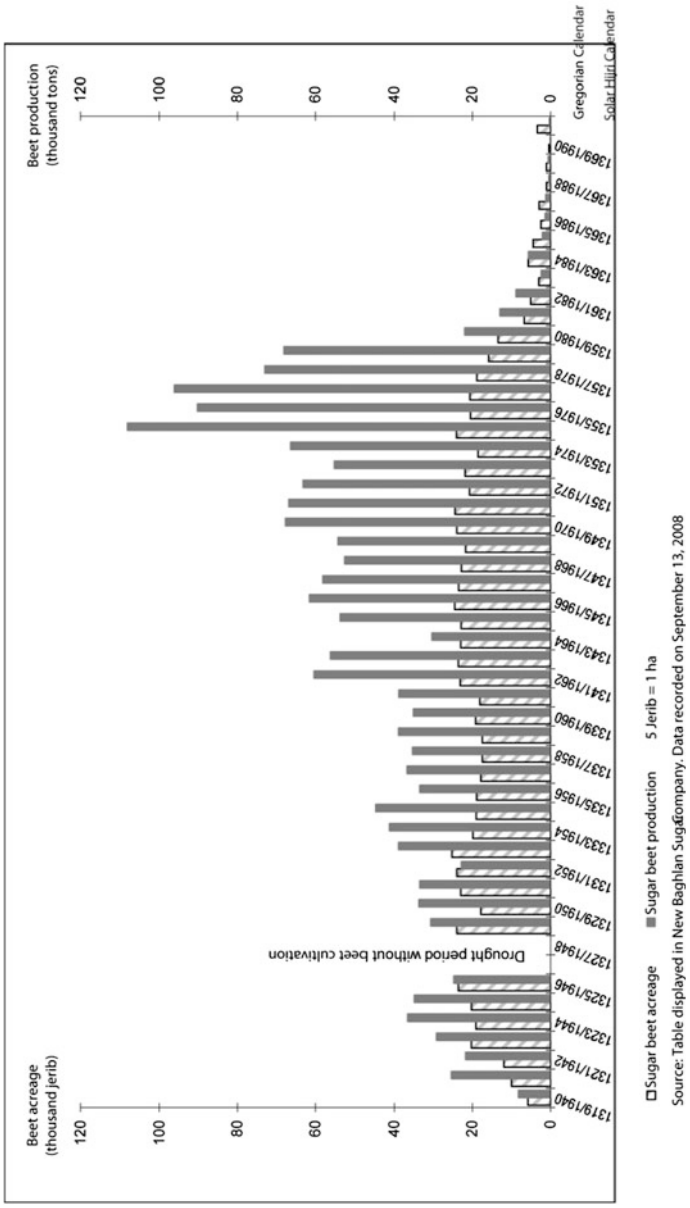


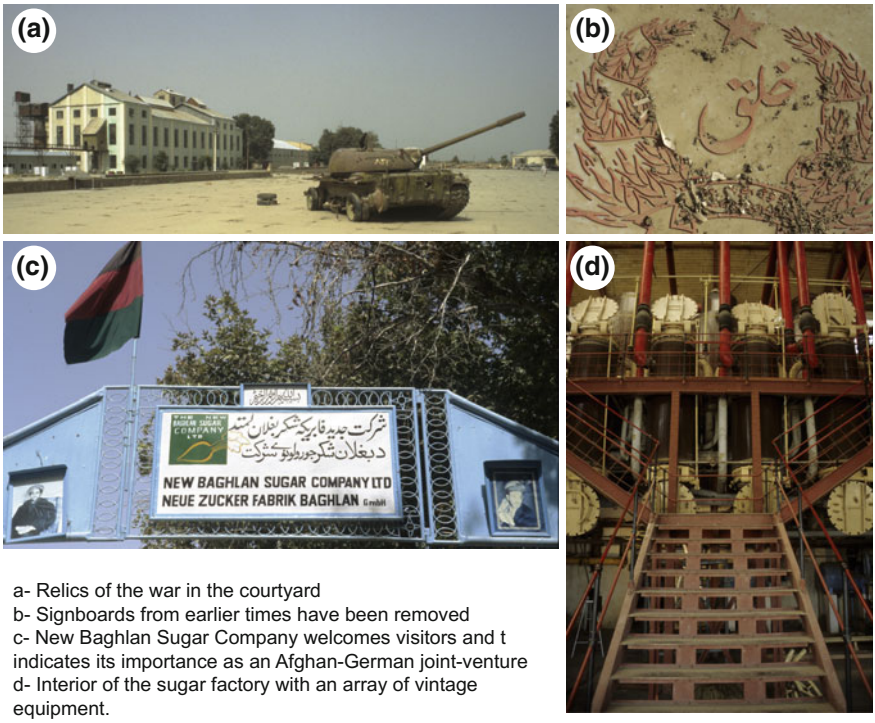
Fig. 4 Sugar beet production and acreage under sugar beet from 1940 to 1990. *Source* Reproduced from Kreutzmann and Schütte (2010)

their duties in the formally operating factory while, at the same time, having their lives threatened by anti-government forces. Workers recalled night visits, harassment and violent agitation, and many colleagues being killed by the Mujaheddin

simply because they went to work in the factory. In this way, the tactics of today's insurgency in Afghanistan strikingly resemble those of the Mujaheddin. However, the sugar factory itself remained untouched, even in the subsequent civil war, and offered the opportunity of re-opening despite heavy fighting in the Baghlan oasis and the changing control of Baghlan at the crossroads that links northern and central Afghanistan. In the vicinity, the pressure on settlement space and agricultural resources has increased significantly.

5 New Baghlan Sugar Company—An Oasis in Transition?

Against this historical background, the establishment of the New Baghlan Sugar Company (NBSC) in 2004 sought to revive sugar production in Afghanistan by reconstructing the deserted factory, which had survived the civil war and Taliban rule without its equipment being completely looted (Fig. 5). This endeavour formed part of the larger project of agricultural rehabilitation seen as the backbone of the



a- Relics of the war in the courtyard
b- Signboards from earlier times have been removed
c- New Baghlan Sugar Company welcomes visitors and t indicates its importance as an Afghan-German joint-venture
d- Interior of the sugar factory with an array of vintage equipment.

Source: Photographs taken by Hermann Kreutzmann in September 2006 and September 2008

Fig. 5 Baghlan sugar factory in transition

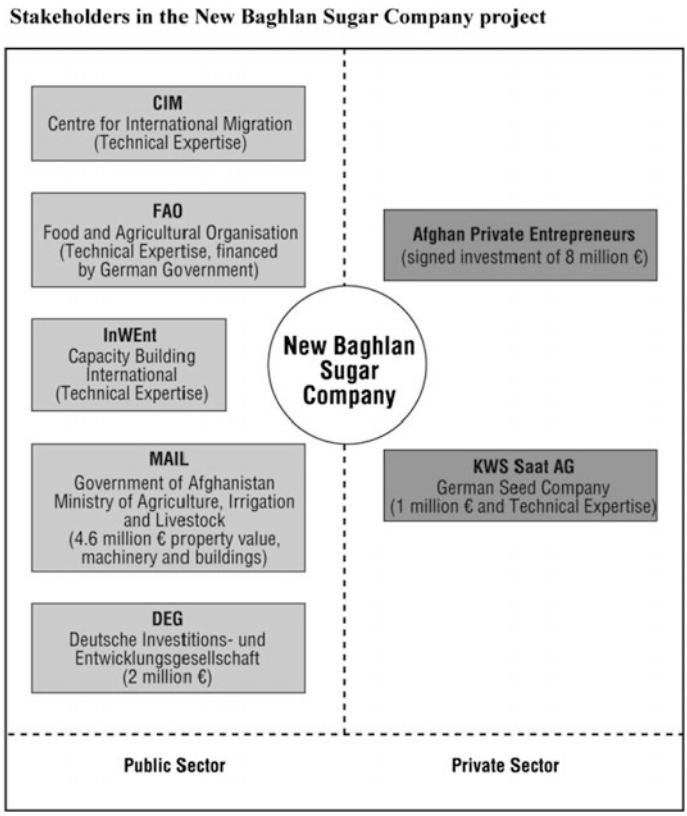


Fig. 6 Composition of the initial public–private partnership that financed and organised the re-opening of the sugar factory in 2004. This partnership has now been dismantled and further support for the venture has been phased out. *Source* Reproduced from Kreutzmann and Schütte (2010)

"alternative livelihoods" approach, the major intervention that directed international efforts to combat the war and illicit economies in Afghanistan. The basic premise of the New Baghlan Sugar Company was a public–private partnership (PPP) involving the Afghan and German governments as well as private investors from both countries (cf. Fig. 6). The contractual arrangements between state institutions and the private sector to revive sugar production were based on the promise to provide "win-win" situations where conflicts of interest could be resolved for the common good.

The explicit goal of the PPP was to provide alternatives to local farmers in the form of sugar beet cultivation as a renewed cash crop in Baghlan, which should help generate a stable income source for rural households. The transition of agricultural practices from subsistence orientation to market production was envisaged through the promotion of larger-scale commercial agriculture. The process of

reconstruction was guided by the currently dominant development narratives of privatisation of state-owned enterprises and the creation of open agricultural markets serving as "enabling environments" for the promotion of rural livelihoods and the transition of the oasis into a modernised agricultural landscape. However, these "narratives of rehabilitation" (Christoplos 2007) have, in the case of the New Baghlan Sugar Company, been confronted with many internal and external problems, which will probably result in the complete failure of the reconstruction project and the abandonment of the factory by its international donors. In order to comprehend how the rehabilitation process unfolded, and finally failed, in the attempt to re-industrialise Baghlan Fobrica, a focus on the networks of actors working in the context of a dominant development paradigm is required.

Specifically, the establishment of the New Baghlan Sugar Company was perceived as contributing to combating rural poverty through the creation of new markets for small farmers and the provision of incentives for enhanced productivity, as well as consultation through agricultural extension workers. Public support came from the Afghan Ministry of Agriculture, Irrigation and Livestock (MAIL) while the German side supported the project through training programmes and professional advice facilitated by Capacity Building International (InWEnt—now part of the GIZ, the German Federal Enterprise for International Cooperation) as well as through two million Euros of financial contributions channelled through "Deutsche Investitions- und Entwicklungsgesellschaft", which kept the factory running up until December 2014. In addition, the Food and Agriculture Organisation (FAO) of the United Nations contributed technical expertise financed by German attributions. The private sector was represented, on the one hand, by four Afghan entrepreneurs from an experienced trading family, who invested substantial capital in the enterprise, and on the other hand, by the German Kleinwanzlebener Saatgut (KWS), a leading company in improved seed production seeking to re-establish traditional markets for their products in Afghanistan.

This specific group of actors had to handle high expectations while, right from the beginning, all partners struggled with many difficulties. Initially, the idea of a re-opened sugar factory tuned to modern development approaches sounded convincing to all those involved. The demand for sugar in Afghanistan is high and the supply is characterised by meagre domestic production and a high proportion of imported sugar, making substitution of imports appear a rational approach. Starting its operation in 2006, the full use of the production capacities in the renewed factory was already projected for 2009. Two thousand farmers were supposed to be engaged in the project and a significant acreage of 10,000 ha under sugar beet was targeted, predicting the creation of 11,000 direct and indirect new jobs in the Baghlan oasis. These expected prospects for a high-profit venture, as identified by a feasibility study carried out in 2003, encouraged Afghan businessmen to commit to high investments in the first place. However, these expectations were not even

remotely met, and from very early on led to disillusionment. Farmers were very reluctant to commit to sugar beet cultivation and, since the re-opening in 2006, the most successful production year was in 2013 when 260 farming households produced 5155 tons of sugar beet on 951 ha of farmland.[22]

As such, the idea of a PPP as a role model for development collapsed quickly and the Afghan businessmen withdrew their funds early on, after realising that their trust in the early assessments of German experts promising a golden future for the venture was totally misplaced. Reasons for the ineffective functioning of the New Baghlan Sugar Company can be specifically attributed to a number of unaddressed bottlenecks and constraints. These include the aversion of farmers to dedicating their irrigated land to growing sugar beet for numerous reasons, a lack of capacity enabling the operation of the sugar factory without the support of foreign experts, and the inability of the company to acquire sufficient landholdings of their own.

More generally, the absolute commitment to the rule of markets and the downright profit-oriented outlook on behalf of the factory administration paired with their general ignorance about the technical processes involved in large-scale sugar production in an antique heritage factory have been critical for the present state of affairs. Accordingly, a quick demise of the project can be expected, which stands as a symbol for an Afghan past in which industrial production played a significant role in agriculture and rural employment. The nexus of rehabilitation policies wedded to ideas of neoliberal development and the actual practices on the ground regarding sugar beet cultivation and its industrial processing in the factory is outlined below to determine its impact on agricultural production in the Baghlan oasis.

6 Sugar and Rural Development in the Baghlan Oasis

Two sets of activities were crucial in the endeavour to promote sugar beet cultivation and keep the factory up and running: encouraging farmers to engage in beet production and supporting them in this enterprise through agricultural extension programmes, and reconstructing the factory and its more than 60-year-old equipment while, at the same time, creating the conditions to enable a smooth day-to-day running of the sugar plant. These fields of intervention seemed straightforward enough and consisted of rather common agro-industrial development practices. Accordingly, the question remains why the prospect of failure loomed large over the New Baghlan Sugar Company right from the beginning.

It seems obvious that, after complete abandonment for 15 years, the re-vitalisation of sugar production in Baghlan needed long-term commitment and, at least initially, heavy and committed subsidies and a strong focus on capacity building in order to evolve gradually into a productive enterprise. This also meant

[22]Personal communication with the technical management of the New Baghlan Sugar Company in December 2014.

that farmers would have to be offered incentive prices to encourage them to take on production—without their active contribution, the project was at any rate doomed to fail in the long run. However, these rather apparent framework conditions were not taken into consideration in the day-to-day running of the re-opened factory. It seems that the responsible partners saw the venture as a self-propelling undertaking with prospects for immediate success, without having taken into account the specific situations of rural Afghanistan and the rationalities of rural farmers when deciding about which crops to cultivate on their lands. The profit-oriented outlook, with the focus on the rule of markets that is congruent with current development thinking, apparently turned out to be a cul-de-sac for the enterprise.

Farmers hesitated to engage in beet cultivation mainly for economic, social and technical reasons. Without the provision of incentive prices, sugar beet cannot compete with grain crops such as wheat and maize. In addition, preparing the field for sugar beet requires comparatively high input investments in mineral fertiliser, high-yielding seed material, fungicides and pesticides, seedbed preparation, irrigation and maintenance, and a manual labour force. These inputs are partly provided by the factory, but are paid by the farmers and accounted for after harvesting. With the looming risk of meagre harvests paired with low returns for their crop, this policy risks farmers falling into debt with the factory. This is especially true as sugar beet is a high maintenance crop, requiring daily care and a consistently high work input. The crop is very fragile, demanding daily removal of weeds and very careful watering. These factors are all the more important in that only good quality beet can be delivered and used for the production of white sugar. However, many farmers have expressed dissatisfaction with the technical support they receive from the factory as their only customer and they cannot meet the required cultivation standards. There have been notable exceptions; for example, when skilled farmers engaged in labour-intensive care of beet fields were able to fend off the infestation of diseases and achieve higher productivity. Nonetheless, these rare cases show that high yields are possible, which are invariably needed in order to achieve economic benefits. The average productivity is hardly sufficient to make up for the high investments in farm inputs. In addition, farmers have also expressed discontent with the *modus operandi* of beet cultivation and the lack of support they receive. Many apparently withdrew their acreage for these reasons, complaining about a lack of consultation with local institutions and the reluctance of the factory management to engage in participatory decision-making. For instance, in 2006, a large demonstration of farmers in front of the factory gates attempted to draw attention to the conditions that would enable them to engage in beet production, but this show of public discontent did not lead to a negotiated and mutually accepted solution. Here, an opportunity was missed to engage in dialogue and find solutions to the problems as perceived by farmers. A closer look at a quite similar situation in the 1970s would have helped. Incidentally, a World Bank report from 1975 assessed great potential in Afghanistan's industrial sugar sector with high prospects for self-sufficiency, but today identifies low productivity and lack of acreage under

sugar beet as major shortcomings to be urgently addressed.[23] According to the World Bank advisers, the major instrument for success would have been an appropriate pricing policy offering incentive prices that would have encouraged farmers to commit more land to beet cultivation. This, however, would have meant abandoning completely the market-based idea of running the factory, which apparently was not seen as an option by the factory administration and its donors. In fact, the productive use of available funds was monitored by the German Federal Audit Court, which repeatedly demanded proof of success of the sugar venture as measured in viable economic returns.[24] Failure to do so meant that the decision was taken not to release additional funds for the project to continue after 2014.

However, in terms of the technical running of the factory itself, things did not look so bleak. The sheer fact that the technical restoration of the factory has been successful, after 15 years of complete standstill, is remarkable in itself. This achievement was possible through the utilisation of foreign expertise and continues to be fully dependent on this external technical support, essentially provided by a single dedicated German sugar engineer, who has shared his expertise and trained employees in a variety of required skills. After seven years of constant supervision and capacity-building programmes, it seems that the complex task of operating a sugar factory that works with machines built in the 1940s has been attained under almost complete Afghan technical supervision. This is no small achievement as the sugar beet raw product has to pass through no less than 36 technically differentiated stations in the factory to be transformed and processed into refined white sugar, with maintenance and expert supervision of each of these stations being critical to the overall production cycle. Added to the difficulties of capacity building was the rather high turnover of trained personnel, who often forcefully left the factory. Thus, investments of time and effort by the technical management in capacity building are for various, mostly financial, reasons sometimes counteracted by the factory's administration. While two educated engineering personnel have been successfully trained over a long period and their services secured for the time being and a few station-experts have been effectively established, ordinary factory workers complain about working conditions. In particular, the reactivated experienced senior workers compare the present situation with the 1970s, when the conditions of employment as civil servants were perceived as very favourable. Today, however, the profit-oriented reconstruction has led to a cut-back in the most basic social security benefits. Still, the factory has managed to retain 64 permanent employees up until the last production campaign in 2014, which was further supported by 340 temporary employees. The positive effect on off-farm labour opportunities is evident, but it seems that 2014 was the last year of operation for the

[23]World Bank (1975, II: 13).

[24]Personal communication with a relevant desk worker at the German Federal Ministry for Economic Cooperation and Development, December 2014.

factory as external funds have run out and the Afghan Government, as the sole proprietor, does not seem in a position to finance the enterprise further on its own.

7 After Sugar—Rural Economies of the Baghlan Oasis

Evidently, sugar beet production has not become sustainable as a contribution to rural development and agricultural transformation in the Baghlan oasis. Although the most important personnel are still committed to the project, the outlook is bleak. What does this mean in terms of missed opportunities in shaping rural economies through agro-industrial production? The sugar factory continues to be a strong symbol of an economically viable past in the Baghlan oasis, and it was kept running, albeit on very low figures, in spite of detrimental policies shaping its operation, uninformed donors who had no prior understanding of the challenges involved in the project, and a factory administration that alienated rural farming households rather than providing incentives for beet cultivation. The business plan of the factory provided no blueprint for competition in a market economy. The failure of the project also exemplifies a failure of pure market-based development ideologies, which are seemingly "out of step" with agricultural realities in the country (Christoplos 2004). As a consequence, instead of sugar, the poppy crop appears to be on the rise[25] and, with the potential closing-down of the sugar plant, already limited rural income opportunities will become even less diversified. The failed agro-industrial transformation of the Baghlan oasis resembles another example of the development impasse in Afghanistan, which has already led to growing dissatisfaction among rural populations (Donini 2007). There might have been scope for reconciliation early on through the promotion of bottom-up approaches, which would have needed to incorporate all local stakeholders, including local farmers and factory workers, in participatory decision-making. However, this opportunity has passed, given the currently very firm donor stand, determined not to commit additional funds, and the lack of private investments. The failed modernisation of the agricultural economy in the Baghlan oasis thus can be pinpointed to a misdirected project design, which operated in the spirit of a neoliberal development policy and its sole focus on the rule of markets, but did not take into account local perceptions and priorities. It remains a mystery how project designers could have believed that the reconstruction of the sugar plant would generate profits right from the beginning. The illusive power of the dominant development narrative apparently prevented thinking about an arrangement that operated like a larger-scale development project, sustained even in the longer term by committed external support. The challenging technical reconstruction of the factory, the training of factory staff in specific skills (e.g. electrical maintenance,

[25]Personal communication with the technical management of the New Baghlan Sugar Company in December 2014.

turbine engineering, welding, lathe operating and locksmithing), the training of sugar technology experts and the long-term enlistment of farmers to cultivate sugar beet via initial price incentives in order to generate a constant supply could all have been achieved without the constraints of external financial pressures. This is especially deplorable as the funds that would have been required are rather reasonable and manageable amounts, when compared to the overall commitment of international donors to agricultural rehabilitation in Afghanistan. This ship has now sailed, and what is left after sugar has failed in Baghlan are missed opportunities at best, and a disillusioned rural population who are possibly turning to illicit crops and income opportunities, which may thwart the overall goal of rural reconstruction to improve livelihoods through the establishment of lasting opportunities in both farm and off-farm sectors.

The Qunduz River Basin in general and the Baghlan oasis in particular have become symbols of a faded impetus, which began three generations ago with great zeal and aspirations as a move to put Afghanistan on a par with their European counterparts. By draining the swamps and converting them into fertile and valuable oases, outsider interest increased and, during the subsequent conflicts, these became contested spaces that survived and were not destroyed. Surprisingly, the Baghlan sugar factory survived the battles with minor scars. The attempt to rejuvenate the historical experience of international cooperation in joint ventures in an alleged post-conflict setting had high symbolic value. For the rehabilitation of "modern" agriculture, it has been a required step in oasis development, but has remained an experiment without any implications for replication in other settings. A number of parameters have fallen short of the minimum requirements. Consequently, the oasis farmers have adapted themselves and their agricultural production to flexible strategies that support their survival.

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