



Water rights and conflict resolution processes in Afghanistan: The case of the Sar-i-Pul sub-basin

Vincent Thomas

with

Mujib Ahmad Azizi and Ihsanullah Ghafoori



European Commission



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**Afghanistan Research and Evaluation Unit
Case Study Series**

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Glossary

<i>abandâz</i>	A customary, temporary agreement on the allocation of water between upstream and downstream communities during periods of drought or water scarcity
<i>arbakai</i>	Local militia
<i>asyab</i>	Water mill; unit of water measurement equivalent to the flow required to supply a single water mill (although there is no fixed common equivalent in litres/second across regions)
<i>bawri</i>	Land cultivated in rotation from one year to the next. For instance, for a four-bawri land, only one-quarter is irrigated the first year, the second quarter is irrigated for the second year, etc...
<i>chak</i>	Unit of land measurement equivalent to 50 jeribs or approximately ten hectares
<i>chak bâshi</i>	Assistant of canal mirab in Sar-i-Pul. Note that in Jawzjan this term is used for a person supervising a group of farmers working for a landlord, and does not imply a water management function
<i>darakband</i>	Proportional divider between different canals or juis.
<i>darya</i>	River
<i>ekhtyar</i>	Conflict resolution principle in which disputants grant sole resolution authority to specific actors
<i>Hakeem</i>	In the administrative structure defined by the Amir Abdur Rahman (reign: 1890-1901), the Hakeem was the agent and the most powerful and authoritative representative of the Amir outside of Kabul. The Hakeem performed the functions of governor, judge, tax collector and, in some cases, military leader
<i>islah</i>	Conflict resolution principle in which peace and social cohesion are pursued through a process of negotiation and reconciliation
<i>jerib</i>	Unit of land measurement equivalent to approximately one-fifth of a hectare
<i>jui</i>	Small canal branching from a higher level canal and usually supplying water directly to a plot
<i>juicha</i>	Sub-branch canal dividing off a jui
<i>lalmi</i>	Rainfed land. Some farmers also refer to the term daima
<i>mirab</i>	Water master; generic term used to refer to individuals acting as service providers for water distribution within river/canal systems
<i>mohajerin</i>	Migrants arriving in northwestern Afghanistan, often as a result of displacement from neighbouring provinces. Mohajerin are usually expected to be temporarily displaced (as opposed to naqelin; see below)
<i>nahr</i>	Canal

<i>naqelin</i>	Families relocated north by the government during the colonisation of northwestern Afghanistan during the reign of Abdur Rahman (late 1880s-early 1900s)
<i>paykal</i>	Unit of land measurement equivalent to 400 jeribs or approximately 80 hectares
<i>qaryadar</i>	Village representative to the government
<i>saatchi</i>	“time-keeper”; the member of the larger mirab organisational structure in charge of water distribution at the jui level
<i>sarband</i>	Unregulated intake; diversion structure for channelling water from the river to the canals. In its traditional form, it is made of boulders, straw, branches or sandbags. Some sarbands are now concreted through development projects.
<i>shura</i>	Community council; normally involved in governance roles and possessing a standing membership
<i>shura-i-ab</i>	“water group”; body composed of canal, river and provincial mirabs from Jawzjan, responsible for closing and monitoring sarbands in Sar-i-Pul during Jawzjan’s water turn

Acronyms

CDC	Community Development Council
DAIL	Department of Agriculture, Irrigation and Livestock
DDA	District Development Assembly
GIS	Geographic Information System
GPS	Global Positioning System
ha	Hectare
IA	Irrigation Association
IDI	In-depth interview
INGO	International non-governmental organisation
IWRM	Integrated water resources management
km	Kilometre
MAIL	Ministry of Agriculture, Irrigation and Livestock
MEW	Ministry of Energy and Water
MRRD	Ministry of Rural Rehabilitation and Development
MSP	Multi-stakeholder platform
NDVI	normalised difference vegetation index
NSP	National Solidarity Programme
PC	Provincial Council
RBA	River Basin Agency
RBM	River Basin Management
RBC	River Basin Council
WMD	Water Management Department
WUA	Water Users Association

Executive summary

Over the past decade, research in Afghanistan has paid a great deal of attention to justice and dispute resolution processes related to civil and criminal issues. However, studies dealing with water-related conflicts have been extremely limited. This research is an attempt to fill this gap, and focuses specifically on water rights and the resolution of conflicts related to water-sharing at different hydraulic and social levels within the Sar-i-Pul sub-basin in northwestern Afghanistan. In doing so, it examines the on-going gulf between actual water management practices and the recent “good water governance” models that have been enshrined in the 2009 Water Law.

The study first analyses water institutions by providing a detailed account of water rights and distribution principles from plot- to inter-provincial level (within the borders of the sub-basin) as well as outlining the key actors engaged in water sharing practices. It then captures and analyse the main types of water-related conflict occurring at different levels of the river or canal system. Based on eight case studies, it describes how local actors and institutions engage in resolving water-related conflicts, with a particular focus on the different decision-making processes and choices involved.

The study shows that nature of water-related conflict resolution in each province varies according to the specific canal layouts, water-sharing rules, mirabs (water masters), organisational structures and types of conflict involved. In Jawzjan Province, characterised by proportional division and “branch canal layout,” most significant conflicts were related to the (re)-design of water division infrastructure. This is because these efforts—driven by large power gaps in the social and political context—threaten to produce long-term changes in water access. By contrast, in Sar-i-Pul’s “hierarchical canal layout,” most conflicts were about water stealing at the canal sarbands (unregulated intakes) and defaulting on the implementation of water-sharing agreements in the upper reaches of the Sar-i-Pul River. The poor security environment in upstream areas further exacerbated these tensions.

Evidence from the case studies highlights the fact that there are no fixed procedures when it comes to mobilising actors in resolving water related conflicts, whether at the level of individual plots, or in inter-provincial disputes. In fact, different conflicts at different levels require the mobilisation of different actors and organisations. The vast majority of conflicts within the lower levels of the canal system were contained by the saatchi (“time-keeper”; the member of the larger mirab organisational structure in charge of water distribution at the level of the smallest canals). If saatchis were unable to prevent conflict, responsibility shifted to existing village institutions. In general, conflicts were not taken outside this social space, since doing so was seen to reflect negatively on the community and its leadership. At this level, the footprint of local government institutions—such as the Water Management Department (WMD) or the Department of Agriculture, Irrigation and Livestock—is almost non-existent.

A much broader range of actors and institutions were mobilised to resolve conflicts occurring at a higher hydraulic level of the river or canal network. This included local government officials, state representatives such as provincial governors, provincial-level elected bodies, national political figures and in rare cases the formal judicial system. At this level, mobilising external actors was not seen as a problem, but as the legitimate next step in the process should informal meetings among elders from both parties failed to resolve the dispute.

The case studies also suggest that different conflicts at different levels are associated with different types of decision-making processes and norms. At lower levels, where resolution processes are embedded with village and mirab institutions, there is normally a preference for consensual and informal decisions. At higher levels, where most significant conflicts are located, modes of decision-making vary between: consensual decisions on the one hand,

and the mobilisation of power vested in single individuals on the other (following the principle of *ekhtyar*¹). Preferences for each mode are likely to vary as the decision-making process progresses.

In general, parties to a water-related conflict will try to resolve it through community based mechanisms as a first step. However, if this proves unsuccessful, local powerholders and sometimes high-ranking political figures are mobilised to break the deadlock. When conflicts with a water component overlap with criminal cases, tensions may develop between community and local government norms for conflict resolution.

Provincial governors are not normally directly involved in enforcing final decisions, but they are an important focal point for facilitating and legitimising both the processes and outcomes of conflict resolution. Similarly, the local WMD usually does not play a role of deadlock breaker, but is still considered a legitimate actor in contributing to the process, for example by providing technical or logistical support. Even when *ekhtyar* is invoked, the successful (or otherwise) resolution of higher-level conflicts will ultimately depend on how different actors' contributions to the process complement each other.

External actors mobilised to break deadlocks in a conflict resolution process are selected more for their personal attributes and capacities than for their organisational or institutional affiliations. They are also picked on the basis of their understanding of the broad social and political dimensions of the conflict rather than of the specific, water-related "rules of the game." Their experience in previous conflict resolution processes and the extent and variety of their support networks are critical to their legitimacy among parties to the conflict. Also critical is the extent of their social capital within the communities involved.

Understanding the factors that prompt key actors to take specific actions and decisions in resolving water-related conflicts requires going beyond technical questions of water management to examine their wider social and political repercussions. In most cases, the main concern is to limit possible further escalation or broadening of conflict rather than the strict application of water rights. Furthermore, the political interests of local powerholders or national political figures may also drive decisions that lead to obvious violations of water rights.

Ways forward

The evidence presented in this paper suggests that the influence of both local and national politics needs to be acknowledged and taken into consideration during policy formulation. In a context where choices in the resolution of water related conflicts are driven by broader social and political considerations, a narrow focus on improving water rights is likely to have results that are limited at best.

In this context, the relevance and added value of the current Sub-Basin Agency/Council (SBA/SBC) model of water governance in terms of dealing with conflicts around water sharing are also open to question. On one hand, current practices of resolving conflict are characterised by flexibility and adaptability when it comes to mobilising the actors involved in settling them. This allows them to be responsive to local context and the specific dynamics of each conflict. By contrast, the SBC model promotes a fixed, one-fits-all composition of actors, adopting the standard integrated water resources Management (IWRM) logic of representation based on water use categories. The failure of SBCs to fit and adapt to the dynamics of the "problem-shed" may thus be a major limitation of the model. Instead, their composition should do more to integrate the complementarity capacities of the different actors involved in conflict resolution rather than blindly following the principles of water usage representation.

¹ *Ekhtyar* can be defined as "authority; agreement of the disputants granting resolution authority to specific resolution actors." (Gang, 2010).

The ill-defined role and responsibilities of provincial governors in the SBA/SBC regulations is another limitation considering their current contribution in facilitating and legitimising conflict resolution processes. This is especially important during higher-level conflicts between groups of villages or across provincial boundaries. The mandate of provincial governors in the SBA/SBC thus needs to be clearly defined.

The current role of local powerholders and political figures in breaking deadlocks during the resolution of certain higher-level conflicts may not be in line with the ideals of decentralisation and devolution of decision-making to water users. This means that such key actors—who are able and entrusted to take final decisions—may not necessarily fit the regulations regarding the composition of SBCs. In resolving conflicts over water-sharing, policymakers and local government should therefore adopt a more pragmatic approach in balancing decision-making roles among various stakeholders, and avoid overly dogmatic adherence to principle.

Finally, the research also highlights important limitations in recent approaches to understanding the nature and role of the different actors and organisations involved in conflict resolution. First, the use of rigid, either/or distinctions when identifying the actors and organisations engaged in conflict resolution—“community versus government,” or “local versus external”—may ultimately be misleading given how blurred these lines often are on the ground. Second, the tendency in recent quantitative surveys on conflict resolution to rank respondents’ preferences when they are presented with a choice of actors or organisations to mobilise is problematic. This is because it does not necessarily provide a useful insight into conflict resolution norms. Choices of actors are not static and pre-determined. Instead, they change as the conflict evolves, meaning that first choices are not always the most effective in the end.

1. Introduction

Over the past decade, there has been a sustained interest in understanding the mechanisms deployed by Afghan institutions during conflict resolution processes. This has been motivated by the belief that stability in Afghanistan requires the development of a comprehensive justice system with the legitimacy and means to resolve disputes peacefully. It is widely acknowledged that “the justice institutions are barely functioning in much of the country and are incapable of meeting many justice and dispute resolution needs of Afghans.”² In the absence of a functioning formal justice system, traditional justice mechanisms—including community councils and village and religious leaders—remain the primary means to address civil and criminal cases.³ As a consequence, numerous recent studies have focused on the relationship between state and community-based conflict resolution institutions.⁴ These have often led to suggestions on how to balance both systems through a transitional, hybrid model, as suggested in the Afghanistan Human Development Report of 2007.⁵

However, very few of these studies have focused specifically on conflicts related to irrigation water.⁶ While water has been mentioned as a “major source of conflict”⁷ or depicted as an element “fuelling conflict,”⁸ these insights have mostly been gleaned from broad quantitative surveys. Due to their lack of depth, these have generally failed to provide substantial clues on either the nature of these so-called “water conflicts,” the way local institutions frame water management rules, or the complexity of the social processes deployed for their resolution.

Nevertheless, despite this important knowledge gap, the decade-long effort to reform Afghanistan’s water sector continues apace. In the course of this process, the Government of Afghanistan has led the piloting of new governance ideals of integrated water resources management (IWRM), river basin management (RBM) and participation through multi-stakeholder platforms (MSPs), which have been developed and promoted in key policy documents such as the 2008 Water Sector Strategy and the 2009 Water Law. These institutional changes have led to the establishment of new organisational structures at both the local (sub-canal or tertiary) and the meso (sub-basin level) level.⁹

2 Dempsey and N. Coburn, “Traditional Dispute Resolution and Stability in Afghanistan” (Washington, DC: United States Institute of Peace, 2010).

3 Dempsey and Coburn, “Traditional Dispute Resolution.”

4 See for instance the work of Thomas Barfield, including T. Barfield, “Informal Dispute Resolution and the Formal Legal System in Contemporary Northern Afghanistan” (Washington, DC: United States Institute of Peace, 2006), and “Culture and Custom in Nation-Building: Law in Afghanistan,” *Maine Law Review* 60, no. 2 2008: 348-73. See also Norwegian Refugee Council, “The Relationship between the Formal and Informal Justice Systems in Afghanistan” (Kabul: Norwegian Refugee Council, 2007), and C. Jones-Pauly and N. Nojumi, “Balancing Relations Between Society and State: Legal Steps Toward National Reconciliation and Reconstruction in Afghanistan,” *American Journal of Comparative Law* 52 (2004). More recent work includes the research conducted by the Afghanistan Research and Evaluation Unit (AREU) on community-based dispute resolution, which involves context-specific case studies in various provinces detailing with resolution mechanisms for conflicts at community level. See for instance D. J. Smith and L. Kim, “Community-Based Disputes Resolution Processes in Nangarhar Province” (Kabul: Afghanistan Research and Evaluation Unit, 2009).

5 Center for Policy and Human Development, “Afghanistan human development report 2007: bridging modernity and tradition: Rule of law and the search for justice” (Kabul: United Nations Development Programme/Kabul University, 2007).

6 Deschamps and Roe and Patterson have both focused on land (mainly pasture) issues, and recently Sexton has examined natural resource management, although not focusing specifically on the balance between local and state actors. See C. Deschamps and A. Roe, “Land Conflict in Afghanistan Building Capacity to Address Vulnerability” (Kabul: Afghanistan Research and Evaluation Unit, 2009); M. Patterson, “The Shiwa pastures, 1978-2003: Land tenure changes and conflict in northern Badakhshan” (Kabul: Afghanistan Research and Evaluation Unit, 2004); and R. Sexton, “Natural Resources and Conflict in Afghanistan. Seven Case Studies, Major Trends and Implications for the Transition” (Kabul: Afghanistan Watch, 2012).

7 M. Waldman, “Community Peacebuilding in Afghanistan: The Case for a National Strategy” (Oxford: Oxfam International, 2008); The Asia Foundation, “Afghanistan in 2011: A Survey of the Afghan People” (Kabul: The Asia Foundation, 2011).

8 Sexton, “Natural Resources and Conflict.”

9 See model in Annex 4.

With the backing of international non-governmental organisations (INGOs) and consultancy firms, the government has supported—at least officially—the introduction of new institutions such as Water Users’ Associations (WUAs) or Irrigation Associations (IAs) at sub-canal and canal level, and River Basin Agencies (RBAs) and River Basin Councils (RBCs) at the sub-basin level. However, recent research suggests that these proposed models are largely based on western liberal ideals of “good” water governance, and in practice receive little buy-in from local and national actors¹⁰. Furthermore, they have generally been developed with little reference to or understanding of existing institutional arrangements.

Recently, government stakeholders have raised questions over the potential impact of proposed new institutional changes on the regulation of conflicts over water access. This reflects a growing realisation that existing and long-established conflict resolution mechanisms¹¹ have not been subject to adequate systematic analysis—including areas where institutional change has not been introduced. Afghan officials and policymakers currently see *mirabs* (water masters)¹² as the central actors in conflict resolution and water distribution. However, there is currently a lack of clarity on how conflict and cooperation regulating water access is managed in practice across a much wider range of different institutions. As well as *mirabs*, these include *shuras* or *jirgas* (community councils)¹³, Community Development Councils (CDCs) established under the National Solidarity Programme (NSP), local powerholders, local government departments such as the Water Management Department (WMD) and the Department of Agriculture, Irrigation and Livestock (DAIL), district and provincial governors, provincial councillors, and insurgents. There is thus a clear need for more research into current practices on the ground to ensure that policymaking draws not just on external models, but on the complex realities of existing institutions.

1.1 Research objectives

The objective of this research is to support relevant policy and programming by providing an understanding of the institutional arrangements governing conflict resolution and cooperation over irrigation water sharing at different levels of a sub-river basin. Following consultation with representatives at the Ministry of Energy and Water (MEW) and the Ministry of Agriculture, Irrigation and Livestock (MAIL), the research chose to focus on the Sar-i-Pul sub-basin as a case study. This was for two main reasons. First, it represents a system that has not yet been exposed to reforms proposed in the Water Law, and has so far experienced minimal research and programme interventions. Second, it is situated in the Northern Basin, where the government plans to implement new reforms in the course of 2013. This makes research findings more immediately relevant.

1.2 Research questions

1. How do formal and informal institutions frame conflict resolution and cooperation over irrigation water sharing at different levels of the sub-basin?

¹⁰ V. Thomas, W. Mumtaz and M. Ahmad, “Mind The Gap: Local Practices and Institutional Reforms for Water Allocation in the Panj-Amu River Basin, Afghanistan” (Kabul: Afghanistan Research and Evaluation Unit, 2012).

¹¹ According to government rhetoric, the “long-established institutions” dealing with irrigation water management are also referred to as “community-based institutions.” The relevance of this term is however contested (see V. Thomas and M. Ahmad, “A Historical Perspective on the Mirab System: A Case Study of the Jangharoq Canal, Baghlan” (Kabul: Afghanistan Research and Evaluation Unit, 2009)).

¹² Mirab is a generic term used to refer to the person acting as service provider for water distribution within river/canal systems. See Section 5 for more details.

¹³ While *shuras* and *jirgas* may be used interchangeably, a *jirga* is normally an ad-hoc body formed to resolve specific issues, whereas *shuras* possess a standing membership and may be involved in community governance roles.

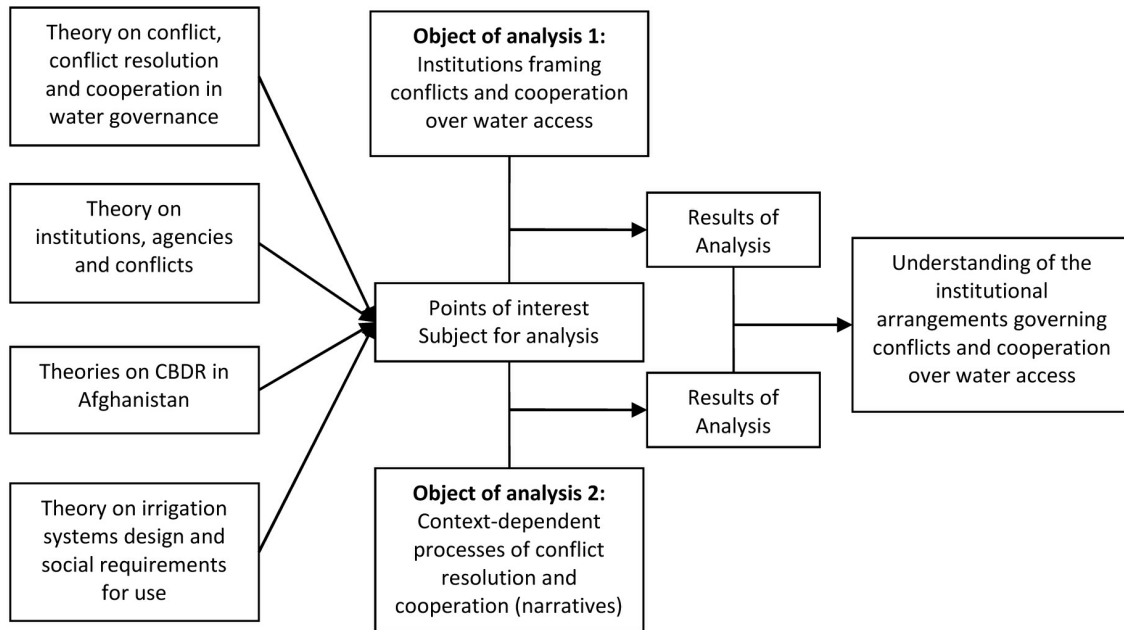
- 1.1. What are the general rules regarding water sharing at different levels of the sub-basin?
 - 1.2. Who are the key actors and organisations managing water sharing at different levels of the sub-basin?
 - 1.3. What is the canal and infrastructure layout and water distribution infrastructure, and how does it facilitate or limit the occurrence of conflicts?
 - 1.4. What are the main types of conflicts over water sharing at different levels of the sub-basin?
- 2. What are the processes of social interaction deployed during conflict resolution at different levels of the river/canal system?**
- 2.1. Who are the actors and organisations that are mobilised during conflict resolution processes? What role do they play and how do they interact?
 - 2.2. What are the different processes, modes and choices regarding decision-making during resolution of conflicts over water sharing at different levels of the sub-basin? What factors explain these differences?

The remainder of the paper is structured as follows. Section 2 examines the conceptual framework that has guided the design and analysis processes in this research. Section 3 describes the methodology. Section 4 provides contextual information on the study area. Section 5 provides a general view of water institutions in the Sar-i-Pul sub-basin with a particular focus on water sharing. Section 6 documents conflict resolution practices through the detailed narrative of eight case studies. Section 7 cross-analyses these case studies to provide an understanding of the social interactions deployed during conflict resolution at different levels of the river/canal system, and concludes with a discussion of policy recommendations.

2. Conceptual Framework

This section examines theories on conflict and cooperation, institutions, irrigation system designs, and their social requirements for use. These provide the basis for analysing both the institutions and the practical processes of conflict resolution and cooperation that facilitate access water in a competition setting (see Figure 1 for the analytical framework employed).

Figure 1: Analytical framework



2.1 Conflicts, conflict resolution and cooperation in water governance

Understandings of conflict in water management

Wallensteen defines conflict as “a social situation in which a minimum of two actors (parties) strive to acquire at the same moment in time an available set of scarce resources.”¹⁴ Echoing this definition, Funder et al. describe competition over water as “a social situation in which two or more parties have competing interests in the same water resource.” In both cases, the occurrence of conflicts is thus based on the idea of real or perceived incompatibility of interests.¹⁵ Although a distinction among conflicts, disputes and tensions is sometimes made in theory, we use the term of conflict rather loosely in this study.¹⁶

¹⁴ Wallensteen *Understanding Conflict Resolution, War, Peace and the Global System* (New York, NY: Sage, 2002).

¹⁵ F. Thomasson, “Local Conflict and Water: Addressing Conflicts in Water Projects” (Stockholm: Swedish Water House, 2005); B. Korf, *Conflict, Space and Institutions. Property Rights and the Political Economy of War in Sri Lanka: Volume 19. Institutional Change in Agriculture and Natural Resources* (Aachen: Shaker, 2004).

¹⁶ See for instance Kramer, A. “Water and Conflict - Policy Brief for USAID.” Berlin/Bogor/Washington DC: Adelphi Research/Center for International Forestry Research, 2004. Here, the author makes a distinction among conflicts, disputes and tensions; terms that are often used interchangeably in general studies. In her terms, “conflict” is defined as “a situation of incompatible or adverse interests, in which one more parties pursue, or threaten to pursue, their interests through violent means.” This may range from sporadic violent actions to large-scale civil violence and war. “Dispute” is best used to describe “situations in which parties pursue their interests through non-violent means, including verbal arguments and political, legal, or economic actions.” “Tension” describes “a state of latent hostility or opposition between parties with adverse or incompatible interests.” In most case studies investigated in this research, Kramer’s notion of “dispute” may be the most appropriate. However, the use (or threat) of violence was often present, complicating matters. For simplicity of discussion, the research will therefore refer loosely to the term “conflict.”

In analysing conflict dynamics, Cossio et al. view competition for water as involving a “nested relationship of ‘situations’, ‘events’ and ‘context.’”¹⁷ Situations are defined as “social situations where two or more parties have competing interests in the same water resource.”¹⁸ Events are seen as a set of conflictive or cooperative actions between parties, through which the actual social process of competition to secure water access takes place.¹⁹ In turn, events take place within a national and local context—for example the physical and hydrological regime, the socioeconomic and political setting, and so on. This framework is critical, since many conflictive “events” and related resolution mechanisms can only be understood by referring to the lessons learned from previous “events” emerging from the same “situation.” For example, the interprovincial conflict events that occurred in northern Afghanistan during the dry year of 2011²⁰ were largely shaped by the lessons learned from a similar situation of water stress during 2008. Consequently, this research has attempted to study particular conflictive events in the light of similar events occurring within the same situation that have unfolded years or decades earlier.

In approaching conflicts and their causes, studies have often sought to sort and rank them into rigid categories such as “land,” “water,” “ethnicity” or “family.”²¹ While these may represent useful entry points for analysis, they also risk limiting understandings of the complexities, interrelations and dynamics of both the social situations defining conflicts and the rationale behind their resolution. Consequently, while this study focuses on conflicts in relation to water access, it is critical to acknowledge that the water aspect is very often embedded in other conflictive social settings. As Thomasson puts it:

*The situations where water is cited as one of the central grievances in a conflict are often situations where a propensity for violent conflict already is present. [...] Many areas which have seen eruption of violence in conflicts with a water component had already seen instances of violence in connection to other social issues.*²²

In addition, it is important to emphasise that the motivations for conflict resolution processes are often to be found outside the water sphere. For example, in several cases studies for this research, local and national political dynamics were more important than questions of water rights in influencing choices and decisions in the resolution processes. This research thus aims to discuss “conflicts with water components”²³ rather than simply referring to “water conflicts.”

Conflict prevention, management and resolution

The concept of “conflict resolution” can be seen as part of a broader spectrum including conflict prevention, conflict management, and conflict resolution:

- Conflict prevention refers both to immediate measures that aim to limit the escalation of an impending conflict, as well as long-term approaches to address the underlying causes of a potential conflict.²⁴

17 V. Cossio, L. Soto and T. Skielboe, “Case studies on conflict and cooperation in local water governance - Report No. 1 - The case of the Tiraque highland irrigation conflict Tiraque, Bolivia” (Unpublished presentation, 2010)

18 Cossio et al., “Case studies on conflict.”

19 Cossio et al., “Case Studies on conflict.”

20 See Thomas et al., “Mind the Gap?”

21 See for instance Waldmann, “Community Peacebuilding in Afghanistan”; K. Rassul, “Water Use and Local Conflict: Case Study from Kunduz” (Kabul: Cooperation for Peace And Unity, 2011); and The Asia Foundation’s annual “Survey of the Afghan People.”

22 Thomasson, “Local Conflict and Water,” 14.

23 Thomasson, “Local Conflict and Water,” 11.

24 N. L. P. Swanström and M. S. Weissman, “Conflict, Conflict Prevention, Conflict Management and Beyond: a conceptual exploration” (Washington, DC and Uppsala: Central Asia-Caucasus Institute/Silk Road Studies Program, 2005). F. Tanner, “Conflict Prevention and Conflict Resolution: Limits of Multilateralism,” *International Review of the Red Cross* 82, no. 839 (2000): 541-559.

- Conflict management refers to measures that aim to limit or contain a conflict, but may not necessarily resolve it.²⁵
- Conflict resolution refers to measures that aim to address the fundamental incompatibilities between parties in a conflict.²⁶

In practice, these different sets of measures may of course be closely interrelated. This research therefore refers to “conflict resolution” procedures in a broad sense, encompassing measures, decisions and actions that could in theory refer to either “conflict management” or “conflict resolution.” The main emphasis here is on what actors do to deal with a conflict, and whether this results more in the containment or the long-term resolution of a conflict. However, the conceptual distinction between “prevention,” “management” and “resolution” remains useful in understanding and framing the roles of the different actors involved. For example, mirabs tend to act primarily in the realm of conflict prevention, rather than conflict resolution or management.

Cooperation in water management: the other side of the coin

Broadly defined, cooperation happens “in response to situations of actual or potential competition, i.e. situations in which two or more parties seek access to the same water resource.”²⁷ Just like conflict, cooperation is likely to be found in contexts characterised by multiple actors dealing with multiple issues, and characterised by uncertainty, complexity, and significant imbalances in access to power and resources.²⁸ Consequently, cooperation does not necessarily imply an equal power relationship.²⁹ Although the main focus of the research is conflict resolution, it also attempts to highlight instances of cooperation, since these may have an effect on limiting the development of conflicts, for instance by creating or re-enforcing social capital (see Section 6 for further discussion).

2.2 Approaching conflicts and institutions

Institutions are central to conflict governance. Success or failure in mitigating and resolving conflicts is largely shaped by the accessibility of the institutions involved, as well as the social acceptability of mechanisms deployed to address the grievances or incompatibilities of interests among the parties involved.³⁰

The central role of institutions in dealing with conflicts

Conflicts are not abnormal or essentially bad. Rather, they are inherent to social interactions, meaning that communities may develop specific institutions to deal with them.³¹ Conflict resolution can in fact be seen as a “resource management mechanism”

25 F. Tanner, “Conflict Prevention and Conflict Resolution: Limits of Multilateralism,” *International Review of the Red Cross* 82, no. 839 (2000): 541-559.

26 Wallensteen, *Understanding Conflict Resolution*.

27 H. M. Ravnborg, R. Bustamante, A. Cissé, S. M. Cold-Ravnkilde, V. Cossio, M. Djiré, M. Funder, L. I. Gomez, J. Koch, P. Le, C. w. Maseka, C. Mweemba, I. Nyambe, T. Paz, R. Rivas, J. Sjorslev, T. Skielboe, B. V. Koppen and N. T. B. Yen, “Competing for water: Conceptual and methodological framework for understanding conflict and cooperation in local water governance” (Montpellier: XIIIth World Water Congress: Global changes and water resources: confronting the expanding and diversifying pressures, 2008), 2.

28 U. Q. Amjad, *Water, Conflict, and Cooperation: Ramallah, West Bank* (Blacksburg VA: Virginia Polytechnic Institute and State University, 1999).

29 J. L. Facius, “Water scarcity in Tanzania - conflict or cooperation? An analysis of the relationship between institutions and local water conflict and cooperation” (Unpublished Masters Thesis, University of Sussex Institute for Development Studies, 2008).

30 Thomasson, “Local Conflict and Water.”

31 Korf, *Conflict, Space and Institutions*; Thomasson, “Local Conflict and Water”; F. Thomasson, “Water and Local Conflict: A brief review of the academic literature and other sources” (Stockholm: Swedish Water House, 2004).

since it leads to changes in resource management.³² On the positive side, resolving conflicts can create new social situations that reduce grievances and incompatibilities.³³ However, social conflicts that escalate into violence are more problematic.³⁴ This is where the existence of effective institutions becomes critical. This research focuses on institutions and their responses to conflicts. Although it examines different types of conflicts, along with their origins, causes and drivers in a specific context, its main interest is more in how local institutions respond to them, what lessons can consequently be learned, and whether current policy responses are adequate.

Understanding institutions

Theories of New Institutional Economics present institutions as “the rules of the game,” the constraints that structure social interactions. According to North:

*Institutions are the rules of the game in a society or, more formally, are the humanly devised constraints that shape human interaction. In consequence they structure incentives in human exchange, whether political, social, or economic. [...] Institutions reduce uncertainty by providing a structure to everyday life.*³⁵

In line with this approach, Section 5 goes on to provide a comprehensive examination of these “rules of the game” as they currently apply in the Sar-i-Pul sub-basin.

However, several anthropologists have highlighted the limitations of this approach to conceptualising institutions. Rather than viewing institutions as a fixed and constraining framework of “rules of the game,”³⁶ these authors see them as regularised patterns of behaviour emerging from the underlying structure of “rules in use,” and thus as both the process and the product of social and political practices:

*Institutions are not merely rules of the game or formal institutions. Instead, they emerge as sites of social interaction, negotiation and contestation comprising heterogeneous actors having diverse goals.*³⁷

In this view, rules are constantly made and remade in the course of daily interactions between individuals.³⁸ What matters is not so much the “rules of the game,” but rather “what people do” and “how they behave.” The concept of agency and its role in (re) shaping institutions is thus central to this approach toward institutional analysis.³⁹ However, adopting this approach comes with its own challenges as it requires an understanding of how institutions are embedded in history and political struggles.⁴⁰ The anthropological view of institutions is reflected in Section 6. By looking at different case

32 J. Boesen, R. Odgaard and F. Maganga, “Rules, norms, organizations and actual practices: land and water management in the Ruaha River Basin,” in T. Granfelt (ed.) *Managing the Globalized Environment: Local strategies to secure livelihoods* (Trowbridge UK: Cromwell Press, 1999).

33 Thomasson, “Local Conflict and Water.”

34 Korf, *Conflict, Space and Institutions*.

35 D. North, *Institutions, Institutional Change and Economic Performance* (New York, NY: Cambridge University Press, 1990). See also the work of Elinor Ostrom on conceptualising institutions. For instance, E. Ostrom, *Crafting Institutions for Self-Governing Irrigation Systems* (San Francisco, CA: Institute for Contemporary Studies Press, 1992).

36 M. Leach, R. Mearns and I. Scoones, “Environmental Entitlements. A Framework for Understanding the Institutional Dynamics of Environmental Change” (Brighton: University of Sussex Institute for Development Studies, 1997).

37 L. Mehta, *The politics and poetics of water: Naturalising scarcity in Western India* (New Delhi: Orient Longman, 2005).

38 T. Franks and F. Cleaver, “Water Governance and Poverty: A Framework for Analysis,” *Progress in Development Studies* 7, no. 4 (2007): 291-306.

39 L. Mehta, M. Leach, P. Newell, I. Scoones, K. Sivaramakrishnan and S. A. Way, “Exploring Understanding of Institutions and Uncertainty: New Directions in Natural Resources Management” (Brighton: University of Sussex Institute for Development Studies, 1999), 13.

40 D. Mosse, “The Symbolic Making of a Common Property Resource: History, Ecology and Locality in a Tank-irrigated Landscape in South India,” *Development and Change* 28, no. 3 (1997): 467-504.

studies with detailed descriptions of events in their contexts, it aims to develop a better understanding of what people do and how they behave in conflict resolution processes—and one that extends beyond documenting static “rules of the game.”

Distinguishing between institutions and organisations, and between formal and informal institutions

Although “institutions” and “organisations” are sometimes used interchangeably, it is important to distinguish between the two. For North, an organisation is a series of actors collaborating within the framework of certain rules of the game and toward a shared objective.⁴¹ Uphoff adds that “some kinds of institutions have an organization’s form with roles and structures, whereas others exist as pervasive influences on behaviour.”⁴²

It is also important to distinguish between formal and informal institutions. On the one hand, formal institutions are usually associated with codification and written forms of rules. On the other, informal institutions are usually associated with the expression of local cultural norms, values, customs or practices. While formal institutions may require enforcement from outside, informal institutions tend to be more self-reinforcing, upheld through local power relations or social sanction.⁴³ Furthermore, informal institutions are seen to evolve over a long time frame, being subject to slower changes relative to formal ones.⁴⁴

In the context of this study, the above distinctions are important when it comes to understanding the actors, organisations and institutions (as rules of the game) that are mobilised or deployed during conflict resolution events. For instance, certain actors may belong to certain organisations or institutions but may take decisions that are not within the mandate of their organisation or institution.

Institutional changes in armed conflict settings

Several of the case studies presented below deal with conflict resolution procedures in rapidly transforming institutional settings, offering insights into processes of social interactions in armed conflict environment. They suggest that the changes occurring in these conditions are opportunistic and conditional in nature, and linked to the presence of existing tensions.

Rapid institutional changes

In conflict settings, Korf contests the view that formal institutions such as state law are subject to rapid change while informal ones are more durable. She explains that in the context of civil war, “effective rules that govern social interaction may change considerably over the short run.”⁴⁵ This in part due to the fact that “in civil wars, war entrepreneurs use their military power to establish new rules of the game that co-exist with the formal institutional framework.”⁴⁶ The emergence of various military commanders thus “reshuffles the social arenas in which the rules of the game are negotiated.”⁴⁷ Where the state shows a weakened presence, what can be observed is:

41 D. North, *Institutions, Institutional Change and Economic Performance* (New York, NY: Cambridge University Press, 1990).

42 N. Uphoff, *Local Institutional Development: An Analytical Sourcebook with Cases* (West Hartford, CT: Kumarian Press, 1986), 9.

43 T. Eggertsson, “A Note on the Economics of Institutions.” In L. J. Alston, T. Eggertsson and D. North (eds.) *Empirical Studies in Institutional Change*, 6-24 (Cambridge: Cambridge University Press, 1996).

44 D. North, *Institutions, Institutional Change and Economic Performance* (New York, NY: Cambridge University Press, 1990).

45 Korf, *Conflict, Space and Institutions*, 4.

46 Korf, *Conflict, Space and Institutions*, 5.

47 Korf, *Conflict, Space and Institutions*, 4.

*[An] ambiguous governance structure with the state being formally present, but a powerful “underworld” of war entrepreneurs (rebels, army, militant groups) [which] has substantially altered the rules and the play of the game in their favour.*⁴⁸

In other words, life does not stop during civil war. Rather, “new institutions emerge during times of conflict and existing ones become distorted”⁴⁹ as civilians develop survival strategies. This point is particularly relevant for this research and is echoed in several of the case studies presented below.

Opportunistic and conditional institutional changes

Gunderson and Holling highlight how seemingly ordered institutional arrangements may collapse following periods of stress accumulation and tension, creating space for new re-organisations to take place. They thus suggest that the need and possibility for change is not uniform, but conditional and opportunistic.⁵⁰ This framing is especially relevant to the cases of conflict over infrastructure design documented in this research. Here, changes in design as part of a conflict resolution procedure can only be understood in the context of the accumulated tensions over the issue that have developed between the parties involved. In this respect, drastic shifts in political context may provide the necessary opportunities to facilitate such changes.

2.3 Studying conflicts in canal systems: Design, levels and social requirements for use

Two key factors are important when examining canal irrigation systems. First, it is critical to view irrigation systems as composed of multiple different levels. Second, understanding the layout of a given irrigation system is crucial to understanding how this goes on to shape water rights, distribution practices and the occurrence and limitation of conflicts.

The importance of studying conflicts at different levels of a canal system

Canal irrigation systems consist of a number of levels. A given irrigated system may be composed of different hydraulic levels of canals (such as main canal, sub-canals, tertiary channels) or branches, which are connected by hydraulic structures, (for instance proportional dividers or adjustable gated structures). These irrigation systems are interconnected along rivers that form (parts of) a sub-basin,⁵¹ and sub-basins may in turn form part of a river basin. Critically, these levels are not only hydraulic levels, but also social levels, each of which may involve different institutions and forms of organisation in relation to water management,⁵² as well as different forms of water rights and distribution practices.

In irrigated agriculture, conflicts may typically occur at a tertiary canal (or branch) level over the distribution of water between neighbouring fields belonging to (or cultivated by) two different farmers. However, they may also happen at a divider structure splitting water between two or more groups of villages, sometimes belonging to two different

⁴⁸ Korf, *Conflict, Space and Institutions*, 98.

⁴⁹ Korf, *Conflict, Space and Institutions*, 6.

⁵⁰ L. H. Gunderson and C. S. Holling (eds.), *Panarchy: Understanding transformations in human and natural systems* (Washington, DC: Island Press, 2002).

⁵¹ Also referred to as a watershed.

⁵² P. P. Mollinga, “Water Control in Sociotechnical Systems: A Conceptual Framework for Interdisciplinary Irrigation Studies,” Unpublished paper, 1997.

districts. Wider conflict may also take place at the inter-provincial level,⁵³ between groups of canal systems along the same river. As the hydraulic level increases, the social, political and institutional settings change, and so do the conflict resolution mechanisms involved.

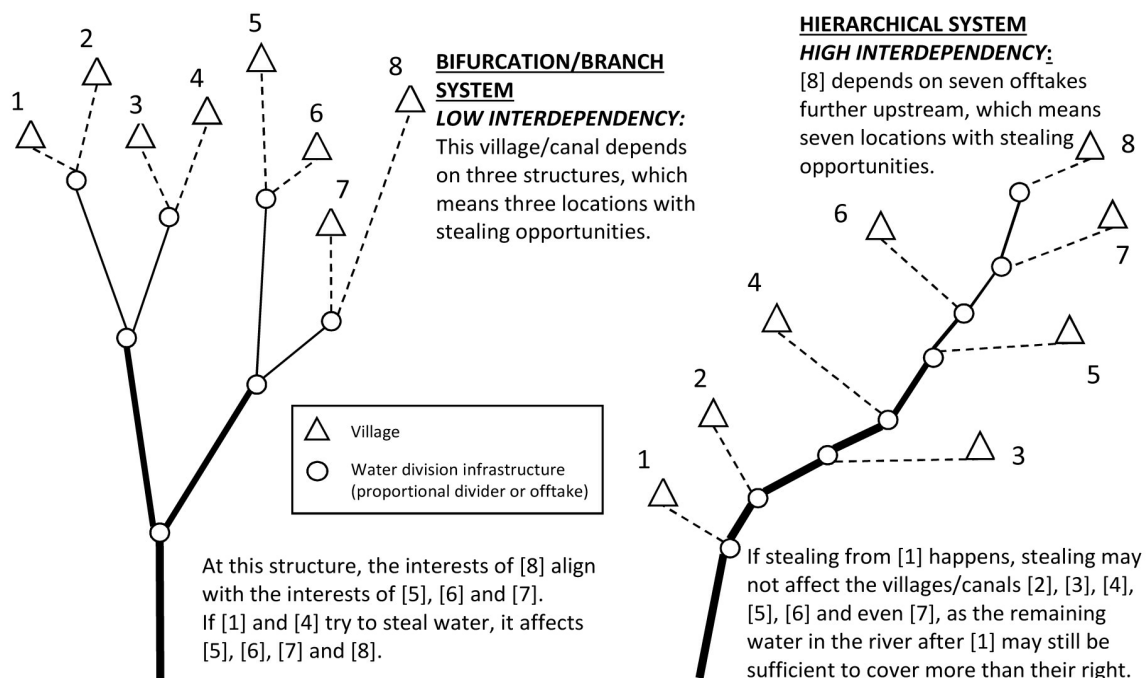
The concept of levels highlights how discussing water conflict in broad, generalised terms can result in highly misleading conclusions. Indeed, this represents a major weakness of many previous surveys on the issue, which have tended to conflate different levels together. Consequently, this study has used differing levels in irrigated systems as key criteria for selecting case studies on water conflicts.

The relationship between irrigation system design, conflicts and cooperation

Horst argues that the design of an irrigation system will determine the practical and institutional patterns governing its use, since “the choice of technology influences the social domains in which access to water is contained.”⁵⁴ He consequently argues that design can be the root of many conflicts in irrigation. As water sharing is in part mediated by technologies, it is therefore important to understand both the design of irrigation systems, and the demands this places on their management structure.⁵⁵

Critically, the layout of a canal will determine the degree of interdependency among the farmers or groups of farmers using it. In the case of non-engineered canal systems like the ones in the Sar-i-Pul sub-basin, studying canal layout and infrastructure gives an insight into how the relationship between communities was considered at the time of the design, and how it may still frame conflict and cooperation over water access. In this respect, Horst makes a distinction between bifurcation systems (or branch systems) and hierarchical systems (see Figure 2).

Figure 2: Levels of interdependency in bifurcation/branch systems and hierarchical systems



53 For an example in Afghanistan’s Panj-Amu River Basin, see Thomas et al., “Mind the Gap?”



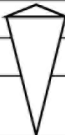
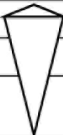
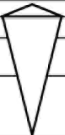






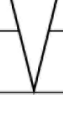






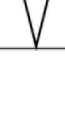
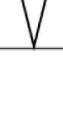
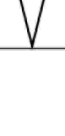


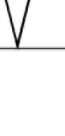
54 L. Horst, “The Dilemma of Water Division: Considerations and Criteria for Irrigation System Design” (Colombo: International Irrigation Management Institute, 1997).

55 These are sometimes referred as “social requirements for use.” See P. Mollinga, *On the Water Front* (New Delhi: Orient Longman, 2003).

A branch/bifurcation system is usually characterised—as it is the case in our study area—by structures called proportional dividers (see Image 1). In these structures, the flow of water is automatically divided in proportions related to the width of the branches. The structures cannot be adjusted, and sharing of flow is thus automatic. Consequently, the width of each branch relative to the size of the other branch (or branches) associated with the same divider is a direct indication of the water rights of each.⁵⁶ By contrast, in hierarchical systems, water division infrastructure usually consists of offtakes (see Image 2), which can be operated to adjust the flow supplying a sub-canal.

The choice for a branch or bifurcation layout is often the sign of an intention to reduce—by design—the interdependency among water users when it comes to accessing water (see Figure 2). This could be seen as an attempt to limit the risk and levels of conflicts. Although the design does not entirely neutralise existing power structures and dynamics among water users, it may limit farmers' ability to steal water. The higher level of transparency of proportional dividers tends to expose corrupt interference in distribution and misuse of water (i.e. water stealing) more blatantly. It is thus more likely to be sensitive to social control (see Figure 3).⁵⁷

Figure 3: Relations between type of structures and their operation, management and efficiency

	Potential for mismanagement	Operational flexibility	Reliability of supply	Decentralisation of management	Farmers' understanding of operation (transparency)	Degree of freedom for farmers	Efficiency (on paper)	Efficiency (in reality)
Fixed								
Open/closed								
Gradually adjustable								

Source: Adapted from Horst (1997)

This relationship between the choice of structures, the requirements for their use (including the potential for mismanagement, the reliability of supply, and the transparency of operation), and their efficiency is important to understand since it provides entry point into analysing the norms of water institutions and conflict resolution processes. For example, the presence of proportional dividers observed in the case studies reflects water allocation agreements, and is thus itself a testimony of an act of cooperation.

⁵⁶ For instance, if at a specific divider, the first branch is 1 m wide and the second one is 2 m wide, the second one would automatically receive twice as much water as the first one. This design indicates that the group of water users supplied by the second branch have a water right twice as large as the water users of the first branch.

⁵⁷ Horst, "The Dilemma of Water Division."



Image 1: Proportional divider (2 branches)



Image 2: Gradually adjustable (gated structures)

3. Methodology

Since there are very few existing studies on institutions and their responses to conflicts with a water component in Afghanistan, this research is primarily exploratory in nature. Adopting a mainly qualitative approach, it is divided into two parts. The first relies on in-depth interviews (IDIs) with key informants along with other tools such as timelines and stakeholder mapping to understand the wider contexts in which conflicts happen. The second adopts a multiple case study approach to explore how actors and organisations attempt to resolve their water-related conflicts.

3.1 Part 1: Understanding water institutions as rules of the game

Literature review

An initial literature review collected and analysed information to provide a general background on the sub-basin. The review placed particular emphasis on hydrology and overall water stress in the area, key livelihood indicators, and key political and security information. This helped provide a better understanding of the rationales of the conflict resolution processes observed in the case studies. Following this process, three canals were taken as case studies for historical analysis in Sar-i-Pul, and one large canal system in Jawzjan.

Canal mapping survey

A canal mapping survey was conducted in the field using Global Positioning System (GPS) devices and Geographical Information System (GIS) software. The main features surveyed included the main water division structures and their dimensions along each canal, along with other important contextual elements such as canal names, intake locations, number and names of villages covered, main ethnic groups in each village, and irrigable land. The survey results were entered onto Google Earth, and the resulting maps were a critical communication tool during later stages of the research.

Timelines

Alongside the mapping survey, 17 timeline-style interviews were conducted with elders in Sar-i-Pul and Jawzjan to obtain a historical perspective on canal development and its accompanying conflicts and cooperation events. The timelines focused particularly on: settlement history in current irrigated areas; the development of irrigated agriculture; the development of canal infrastructure; the creation and evolution of water rights; the emergence of conflicts over water; and the actors involved in water management and conflict resolution).

Analysis of water institutions: Semi-structured Interviews and stakeholders mapping

The research employed a two-stage process to build a more detailed picture of the water rights, actors and institutions involved in framing conflict resolution at different levels. The first involved semi-structured interviews and stakeholder mapping exercises with key informants. This provided an overview of the organisational structure of the different mirabs at different levels of the river/canal system, as well as highlighting the roles of other state and non-state actors formally involved in water management.

The second step involved using semi-structured interviews and field observations to investigate the different sets of water rights and water distribution practices and principles occurring at different levels in the sub-basin, including:

- Water rights and distribution between provinces (i.e. between Sar-i-Pul and Jawzjan)
- Water rights and distribution among canals along the same river (i.e. a hierarchical system) in Sar-i-Pul Province
- Water rights and distribution within the branch system of Jawzjan Province
- Water rights and distribution between plots along the same jui (small canal branching from a higher level canal and usually supplying water directly to a plot) in Sar-i-Pul and Jawzjan Provinces

In both steps, key informants included village elders, retired and current mirabs, farmers and local WMD staff. In total, 25 interviews were conducted in each province.

NDVI analysis and water access mapping

The team also conducted a normalized difference vegetation index (NDVI) analysis⁵⁸ of the study areas as a way to establish how far water rights and infrastructure design translated into water access outcomes. In this process, the different levels of vegetation observed in different areas were used as a proxy for water access. Irrigated land was thus divided into three categories—land with good water access, land with normal access, and land that was dry or had very limited water access. The analysis was conducted for different years so as to include different levels of surface water availability.

3.2 Part 2: Understanding institutions in context

Case study selection

Considering the critical importance of context in understanding the complex and dynamic processes of conflict resolution and cooperation,⁵⁹ the research opted for a case study approach. Here, the objective was to produce the greatest possible amount of information on specific processes of conflict resolution. The use of randomly selected samples or “average” cases emphasising representativeness was thus rejected as unlikely produce the desired level of rich insight. Instead, the study used “information-oriented selection,” where the goal was “to maximise the utility of information from small samples and single cases...[and]...to obtain information about the significance of various circumstances for case process and outcome.”⁶⁰

After informally discussing a range of possible cases with key informants, researchers selected a limited number on the basis of their potential information content. In accordance with the study’s conceptual framework, case study selection also attempted to encompass conflicts taking place at different levels along the river/canal system, ranging from disputes between farmers at the jui level to inter-provincial disagreements at the river level. The selection also attempted to focus on the most typical types of conflict encountered by water users. In Jawzjan, this corresponded to conflicts around the re-design of dividers; in Sar-i-Pul, it corresponded to water stealing and regulation of inter-canal water access during times of scarcity. Table 1 provides a list of the eight case studies selected along with a summary of their main characteristics.

58 NDVI is a technique widely used to monitor vegetation through an assessment of biomass by detecting the spectral signature of photosynthesising chlorophyll.

59 P. Kantor and A. Pain, “Securing Life and Livelihoods in Rural Afghanistan: The Role of Social Relationships” (Kabul: Afghanistan Research and Evaluation Unit, 2010); Deschamps and Roe, “Land Conflict in Afghanistan”; Thomas and Ahmad, “A Historical Perspective on the Mirab System”; See also Peattie, “Theorizing planning: Some comments on Flyvbjerg’s Rationality and power,” *International Planning Studies* 6, no. 3 (2001): 257-262; and B. Flyvbjerg, “Five Misunderstandings about Case-Study Research,” *Qualitative Inquiry* 12, no. 2 (2006): 219-45, on the relative strength of detailed case studies compared to broader attempts to produce generalizable “average” data.

60 Flyvbjerg, “Five Misunderstandings About Case-Study Research,” 230.

Table 1: List of the eight case studies and their main characteristics

	Name of case study	Level in canal/ river network	Type of conflict	Province
1	Conflicts over water rights between Sar-i-Pul and Jawzjan Provinces	Inter-provincial	Water distribution and water rights	Jawzjan and Sari-i-Pul
2	Conflicts over infrastructure design and water rights between Khwaja Du Koh and Darya-i-Safed	Between rivers; between districts; between groups of villages	Infrastructure design and water rights	Jawzjan
3	Conflicts over infrastructure design and water rights between Jui Qawchin and Salmazan Canal	Between <i>jui</i> and canal; between villages	Infrastructure design and water rights	Jawzjan
4	Conflicts over water stealing between Nahr-i-Gardana and Jui Jegdalek	Between <i>jui</i> and canal; between villages	Water stealing	Jawzjan
5	Conflict between farmers within a <i>jui</i> in Khwaja Du Koh irrigated area	Between farmers (individuals); within a village	Water distribution turns between plots along a <i>jui</i>	Jawzjan
6	Conflicts over infrastructure design and water rights between Jui Altkhoja and Nahr-i-Emshek	Between <i>jui</i> and canal; between villages	Infrastructure design and water rights.	Jawzjan
7	Conflicts over water distribution among canals along the Sar-i-Pul River	Inter-canal; between groups of villages	Water distribution—implementation of inter-canals water turns	Sar-i-Pul
8	Conflicts over water stealing at a water divider between Nahr-i-Afredi and Nahr-i-Akhtash	Intra-canal; between villages	Water stealing at a divider	Sar-i-Pul

Narratives and interviews

The case studies were investigated as narratives in order to better “approach the complexities and contradictions of real life.”⁶¹ To facilitate this approach, researchers developed an interview guide covering broad areas for investigation, which was then used to steer a semi-structured interview process (see Annex 1 for an example of the guide). Snowball sampling was used to conduct in-depth interviews (IDIs) with informants representing all parties involved in each conflict resolution process until “data saturation” was reached (i.e. when the research team no longer gained new information from additional interviews).

In addition to the IDIs, numerous informal discussions were conducted with mirabs, elders and local government staff as a way to share and discuss early analysis of the cases and develop additional questions. The fact that some actors were involved directly

61 Flyvbjerg, “Five Misunderstandings About Case-Study Research.”

or indirectly in the resolution of multiple different cases also allowed for discussions drawing comparisons between them. This helped provide a better understanding of the factors justifying certain practices and choices in decision-making over conflict resolution in different contexts. Finally, additional discussions of the case studies were conducted with key informants toward the end of the research as a way to cross-check initial analyses and control for possible misinterpretations. Annex 3 lists the interviews conducted for each case study.

3.3 Limitations

Perception and distortion of facts during retrospective investigation of conflicts

Most conflicts in the study were open-ended situations that included a number of recurrent events. When discussing such cases retrospectively, interviewees often tend to reshape the narrative or distort the facts of what actually happened. In some cases, past events may be reframed in the light of later events and experiences.⁶² This is likely to be further exacerbated when discussion also touches on sensitive issues such as local or national politics, ethnicity or un-resolved water- and non-water-related conflicts. In the absence of direct observation, several fact-checking and iterative interviews were often necessary to ensure that the narratives obtained were close as possible to what actually happened. Despite this, however, some gaps and contradictions in the narratives were inevitable. In some cases, different actors gave different versions of events; these are presented as such.

Missing conflicts

Using key informant interviews as an entry point to selecting case studies has two important limitations. First, this approach may not reveal conflicts that matter to actors who are not represented in the traditional water management institutions. In particular, the absence of women in such institutions means their concerns are likely overlooked. Due to limitations in time, resources and staff capacity, no attempt was made to investigate such “below-the-radar” conflicts. There is thus a clear need for future research into this area.

Second, the approach may miss conflicts that have become “normalised.” Conflicts change in intensity over time, and may eventually disappear or “become transformed to ‘normal’ political issues.”⁶³ However, this may not necessarily result in positive outcomes for both parties. In some cases, contestation over incompatibility of interests dies off because the weakest party does not believe change is possible and accepts the status quo. Consequently, situations of inequality that have been prone to conflict events in the past may eventually become the “normal” state of affairs, and are thus effectively invisible. While two of the case studies (Emshek and Khwaja Du Koh/Darya-i-Safed proportional dividers) provide some insights into such conflicts, the selection method is again likely to under-sample them.

62 Korf, Conflict, Space and Institutions.

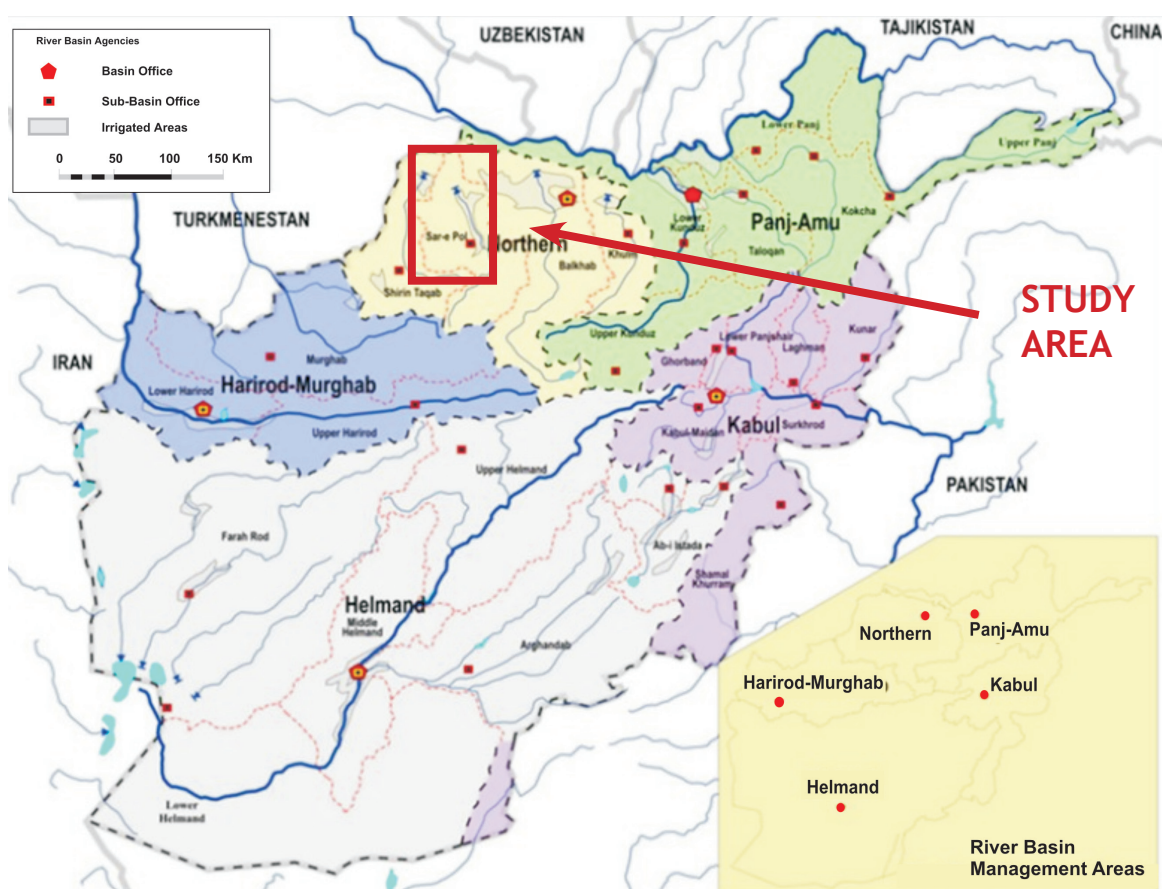
63 Thomasson, “Local Conflict and Water.”

4. Profile of the Sar-i-Pul Sub-basin

4.1 Sub-basin location and key features

The Sar-i-Pul sub-basin is one of the four sub-basins that compose the Northern River Basin (see Map 1). The Northern basin is Afghanistan's most water scarce, with water availability estimated at 676 m³ per capita per year.⁶⁴ This is a long way below the water stress threshold of 1,700 m³ per capita per year,⁶⁵ and is barely above the absolute scarcity threshold of 500 m³ per capita per year. As Map 2 illustrate, the sub-basin falls mainly within the borders of Jawzjan and Sar-i-Pul Provinces.⁶⁶ The basin's estimated irrigable area falls between 102,302 hectares (ha) and 109,200 ha (see Table 2), representing approximately seven percent of the total land coverage in the basin. Approximately 72 percent of this land is located in the downstream province of Jawzjan, and mainly within the borders of Shiberghan District.

Map 1: The five river basins and 34 sub-basins of Afghanistan



The Sar-i-Pul River emerges from its source in Kohistanat District and flows through the main irrigated plain of Sar-i-Pul (see Map 2). A few kilometres (km) upstream from Sar-i-Pul City, the main stream is fed by the Shorab River,⁶⁷ which originates from four main

64 V. Thomas, and N. Eqrar, "Managing Water Resources, Scarcity and Climate Shocks," in Afghanistan Human Development Report 2011–The Forgotten Front: Water Security and the Crisis in Sanitation (Kabul: Center for Policy and Human Development, 2011).

65 Defined as the amount needed to satisfy the water demand of a given population for domestic, food production, industrial, energy and environmental uses.

66 Although part of the sub-basin border cuts across Faryab Province, there is practically no irrigated area in that zone.

67 The Shorab River may also be called Ab-i-Sya, according to R. Favre and G. M. Kamal, Watershed Atlas of Afghanistan (Kabul: Ministry of Irrigation, Water Resources and Environment, 2004).

rivers flowing through narrow valleys in Sang Charak District.⁶⁸ As it enters the Jawzjan Province, the Sar-i-Pul River splits in two parts.⁶⁹ On the western side, the river becomes Darya-i-Safed (“the white river”), while the branch on the eastern side is called Darya-i-Sya (the “black river”). As discussed further in Section 5, only the canals located in Sar-i-Pul District are tied by a water rights agreement with Jawzjan (thus excluding the canals that fall inside Kohistanat District, Sangcharak and Sozma Qala).

Map 2: Sar-i-Pul sub-basin

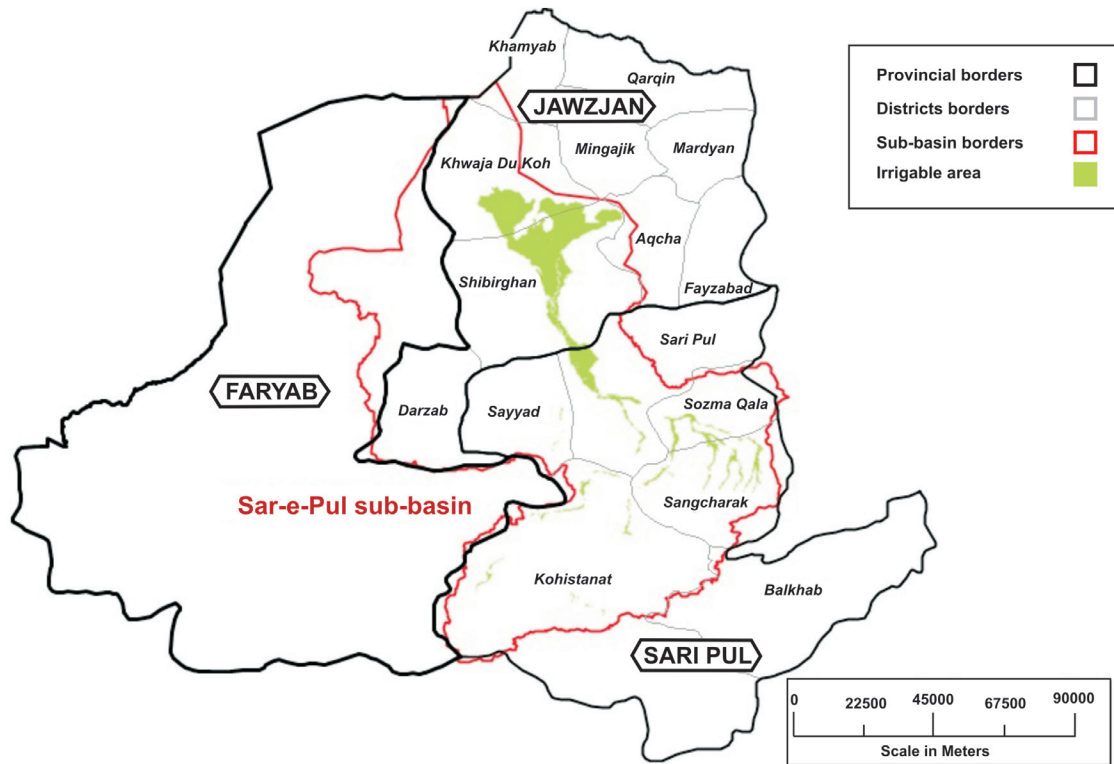


Table 2: Estimated irrigable area within the Sar-i-Pul sub-basin

	Source: GIS survey	Source: Watershed Atlas
Estimated irrigable area (ha) ⁽¹⁾	102,302	109,200
Estimated irrigable area within Jawzjan Province (ha)	73,328	NA
Estimated irrigable area within Sar-i-Pul Province (ha) ⁽²⁾	28,974	NA

(1) Both intensively and intermittently.

(2) There are minor differences between the area falling within the borders of Jawzjan and Sar-i-Pul and the area attributed with water rights for each province. Two canals falling under the geographical borders of Jawzjan are considered to have water rights in Sar-i-Pul Province (see Section 5).

⁶⁸ The Jifan, the Lar-i Badamak, the Lar-i Surkh and the Kashan.

⁶⁹ The splitting of the two rivers has natural origins. However, it has since been formalised through the construction of a division structure regulating the proportion of flow passing through each river.

4.2 Historical developments in northwestern Afghanistan: Key points in the context of water sharing and conflicts

The colonisation of northwestern Afghanistan

More than a hundred years ago, the study area was part of a region called Afghan Turkestan. At the beginning of the reign of Abdur Rahman (1880-1901), the settled population included Turkic-speaking Uzbeks, Turkmen, Arab and Aimaq pastoralists. However, these communities had become weakened and depopulated by famine (1871-1873), Turkmen raids, cholera epidemics and internal wars.⁷⁰ Consequently, much of the fertile land in the area remained unused. In the early 1880s, the British Major A.C. Yate mentioned that “water was in far excess of present requirements, and cultivators were the only things wanting.”⁷¹ During the same period, Peacocke observed that “granted only a sufficient population, a very few years would suffice to develop the plains of Afghan Turkestan into a granary that would quite eclipse that supposed to be afforded by the Herat Valley.”⁷²

In 1882, Abdur Rahman decided to settle Pashtun tribes from southern and eastern Afghanistan in the depopulated northwestern areas.⁷³ His main aim in doing so was to establish security and defend the frontier against Russian expansion. However, he also intended to promote the settlers’ prosperity as well as the nation’s wealth by exploiting the region’s vacant fertile land.⁷⁴ In addition, the resettlement also had a political dimension, aiming to weaken local (non-Pashtun) tribal power.⁷⁵ In 1885, the Amir reflected on the process:

*I had a great mind to make [Afghan Turkestan] a cultivated and inhabited place. I devised a plan to root out from Afghanistan the enmity of cousinship and domestic quarrels, which are mixed up in the nature of this people.*⁷⁶

On top of the Amir’s initiatives, migration to the North was also encouraged by grain shortages in other parts of the country.⁷⁷

A number of Pashtun migrants were experienced farmers, and rapidly developed agriculture (including irrigation) on their new lands. In fact, the Amir strongly encouraged the migrants to settle and cultivate⁷⁸ the land as he was concerned that pastoralists would be absent for many months of the year and hence unable to defend the border.⁷⁹ To encourage cultivation, the government provided incentives including travel expenses and advances for agricultural inputs, and only began collecting taxes some years later.⁸⁰

Northward migration continued throughout most of the 20th century under the leadership of Amanullah Khan (1919-1929) and Zahir Shah (1933-1973). However, there were a number of political repercussions of the so-called “Pashtunisation” of the north-west.

70 N. Tapper, “The advent of Pashtun maldars in north-western Afghanistan,” *Bulletin of the School of Oriental and African Studies* 36, no. 1 (1973): 55-79.

71 Tapper, “The advent of Pashtun maldars.”

72 R. S. Phillips and A. J. McCulloch, *Gazetteer of Afghanistan Part II: Afghan Turkestan* [4th edition] (Calcutta: Government of India, 1907), iv.

73 M. H. Kakar, *Government and Society in Afghanistan: The Reign of Amir Abd al-Rahman Khan* (Austin and London: University of Texas Press, 1979). Tapper also mentions 1885 as the beginning of the colonisation of the “Turkistan waste-lands”.

74 Tapper, “The advent of Pashtun maldars.”

75 Kakar, *Government and Society in Afghanistan*.

76 Tapper, “The advent of Pashtun maldars.”

77 Ibid.

78 As part of this strategy, the Amir confiscated the lands of migrants in their area of origin and thus pushed them to acquire new land (Kakar, *Government and Society in Afghanistan*).

79 Tapper, “The advent of Pashtun maldars.”

80 Tapper, “The advent of Pashtun maldars.”

According to Tapper:

*The Pashtuns brought with them ideas of their ethnic superiority which were reinforced by Government support and by the grant of both formal and informal privileges over the other ethnic groups. With these political and economic advantages, the Pashtun Khans were from the beginning able to assert and maintain their dominance in the north-west.*⁸¹

This domination continued throughout the 20th century. In 1973, Tapper observed that the Pashtuns in Jawzjan Province were politically dominant over the other ethnic despite representing no more than 25 percent of the population.⁸²

Development of irrigated systems

The political dynamics associated with the colonisation of the North had a significant impact on the development of irrigation systems in the area, shaping both canal layout and the emergence of water rights (see Section 5 for more detail). Initially, the land in current canal command areas in Sar-i-Pul and Jawzjan was predominantly dedicated to pastoralism. However, the in-migration of Pashtun settlers and accompanying government incentives led to the acquisition of these common property pastures for the development of irrigation—a process which involved numerous cases of perceived forced appropriation.⁸³

The colonisation of the Sar-i-Pul sub-basin area and the subsequent development of irrigated agriculture thus set the scene for conflicts over the control of water between the endogenous population and the new settlers. These conflicts frequently—but not exclusively—flowed along lines of ethnic difference. The subsequent deployment of conflict resolution processes in turn led to changes in the layout of the area’s canal systems. From the very beginning, there have been attempts to lay canals out in ways that limit interdependency among farmers when it comes to water sharing. In practice, this has meant either the construction of a large number of separate sarbands (canal intakes) along the Sar-i-Pul River in Sar-i-Pul Province, or the multiplication of juis in the Jawzjan bifurcation/branch system (see Box 1 and Annex 6).

Government incentives and coercion have also played a major role in supporting the development of canal systems and their associated water rights. However, the level of government influence and the overall balance between community and government management of irrigation systems has shifted over the years. Today, government influence is significantly diminished when compared with much of the 20th century.⁸⁴

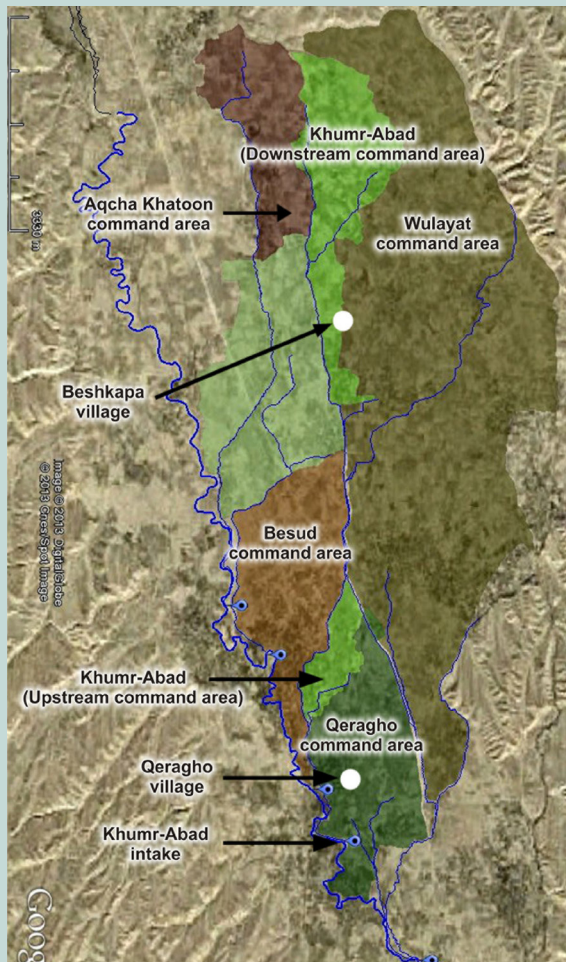
81 Tapper, “The advent of Pashtun maldars,”: 79.

82 Tapper, “The advent of Pashtun maldars,”: 79.

83 Tapper, “The advent of Pashtun maldars”; Kakar, *Government and Society in Afghanistan*. In several interviews for this study, Uzbeks elders remembered the bitter comments of their forefathers regarding the government-supported coercive methods used by Pashtun settlers to acquire pasture land and turn it into irrigated land.

84 However, viewing the canal systems as entirely community-based would be misleading, including in the context of conflict resolution process.

Box 1: Development of canal systems in Sar-i-Pul: The origins of Khumr-Abad canal command area



Prior to the Pashtun colonisation of the North, the current Khumr-Abad canal command area was pasture land. This was managed as common property by the (mainly) Uzbek populations of Qeragho, Beshkapa and other villages in Besud and Wulayat canal areas.

Progressively, Pashtun migrants were settled in the areas neighbouring Khumr-Abad (including Wulayat, Aqcha Khatoon, Besud and Qeragho). Soon after their arrival, the new migrants were encouraged by the Hakeem⁸⁵ to acquire land and develop irrigated agriculture.

With government support, Pashtun and Baluch settlers began to acquire the pasture land for agricultural development. In the first years following this land acquisition, water was supplied by extending branches from neighbouring canals in Wulayat, Qeragho and Besud.

Soon, the endogenous Uzbek pastoralists realised that their lands were under threat with government authorities not recognising their common property rights. Consequently, they took the initiative to register their land to stop further encroachment by Pashtun settlers.⁸⁶ They also started putting their land under irrigation and developing pastures further uphill.

However, new conflicts started when the Uzbeks and Pashtun settlers with land in the current Khumr-Abad command area needed to acquire a consistent supply of water for irrigation. In discussions with their ethnic counterparts in the Khumr-Abad area, Uzbek elders from Wulayat, Besud and Qeragho refused to extend their respective canals to supply newly-irrigated Uzbek lands around Khumr-Abad. They justified this decision by explaining that if they provided a supply of water to their co-ethnics in Khumr-Abad, the Pashtun settlers there would also demand access, representing a potential source of conflict. As an alternative, the Hakeem recommended that Pashtun settlers begin the excavation of what became the current Khumr-Abad canal.

85 According to Tarzin (2003), in the administrative structure defined by the Amir Abdur Rahman (reign: 1890-1901), the Hakeem was the agent and the most powerful and authoritative representative of the Amir outside of Kabul. The Hakeem performed the functions of governor, judge, tax collector and, in some cases, military leader. See A. Tarzin, "The Judicial State: Evolution and Centralization of the court in Afghanistan, 1883-1896" (New York, NY: New York University, 2003).

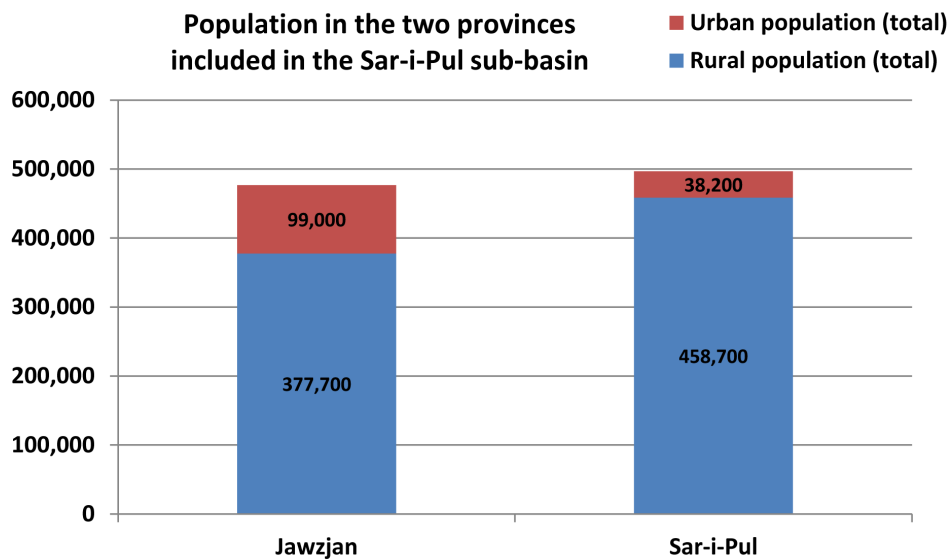
86 To do so, they divided their pastures into pieces of 50 jeribs (each representing approximately one fifth of a hectare), referred as chaks, and distributed these different pieces among the villagers.

4.3 Present socio-economic profile of the Sar-i-Pul sub-basin

Population

The total settled population in the sub-basin was estimated at 579,449 in 2004.⁸⁷ This represents approximately 60 percent of the 973,600 people living in both Sar-i-Pul and Jawzjan Provinces, as estimated in 2008/09 (see Figure 4).⁸⁸ Jawzjan and Sar-i-Pul have approximately the same population, although Jawzjan’s proportion of urban residents (21 percent—around the national average) is much higher than that of Sar-i-Pul (eight percent).

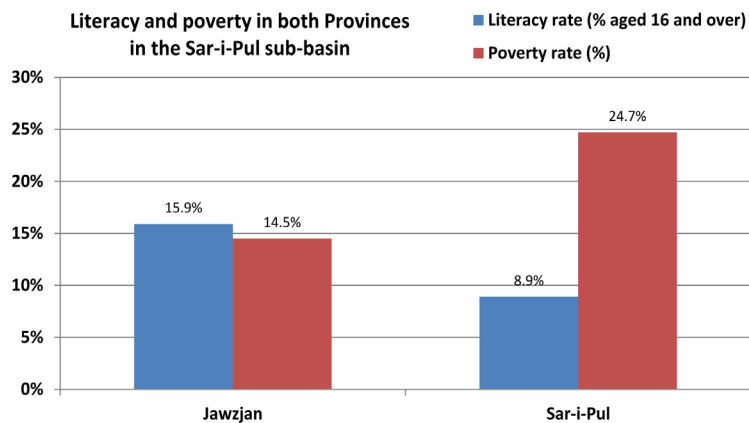
Figure 4: Population in Jawzjan and Sar-i-Pul Provinces



Source: MRRD/CSO, “National Risk and Vulnerability Assessment 2007/08.”

In Jawzjan, the main districts covered by the irrigated area of the sub-basin are Shiberghan (accounting for 31 percent of total provincial population) and Khwaja Du Koh (five percent of total provincial population). Shiberghan District is 53 percent urban and contains the provincial capital, while Khwaja Du Koh is considered 100 percent rural. In Sar-i-Pul, the three districts which covered by canal irrigation are Sar-i-Pul (28 percent of total provincial population), Sozma Qala (nine percent of total provincial population) and Sang Charak (18 percent of total provincial population). All are largely rural, despite the presence of the provincial capital of Sar-i-Pul City in Sar-i-Pul District.

Figure 5: Literacy in Jawzjan and Sar-i-Pul Provinces



Source: MRRD/CSO, “National Risk and Vulnerability Assessment 2007/08.”

⁸⁷ Favre and Kamal, *Watershed Atlas of Afghanistan*.

⁸⁸ Ministry of Rural Rehabilitation and Development/Central Statistics Organization, “National Risk and Vulnerability Assessment 2007/8: A Profile of Afghanistan” (Cologne: ICON-Institute/GmbH and Co KG Consulting Gruppe, 2009).

Literacy and poverty

In 2007-8, almost 25 percent of the population of Sar-i-Pul lived below the official poverty line (compared to a national average of 35.8 percent).⁸⁹ At the same time only 8.9 percent of the population was literate—well below the national average of 25 percent.⁹⁰ By contrast, Jawzjan had a poverty rate of only 14.5 percent, and almost double the literacy rate, at 15.9 percent.

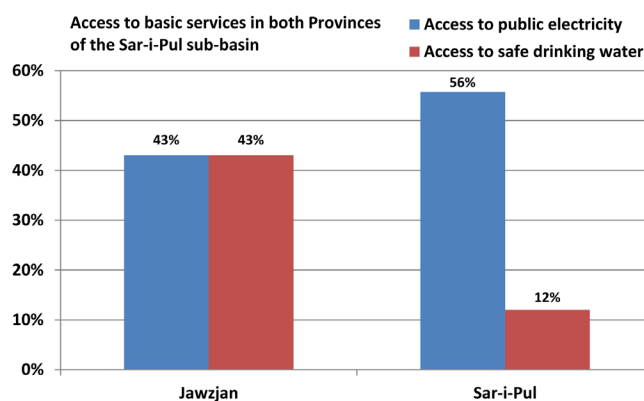
Access to basic services

The recent installation of a power station close to Sar-i-Pul City has brought electricity to a majority of the population (see Figure 6), compared to only four percent in 2005. However, access to safe drinking in Sar-i-Pul remained largely below the national average in 2007-08, and it is very common to see villagers in the province fill large ponds with canal water to ensure a decent supply (see Image 3). In Jawzjan, a much larger part of the population relies on wells. This is an important point of contention for Sar-i-Pul water users when in conflict with Jawzjan over inter-provincial water sharing during very dry years (see case study on inter-provincial water rights in Section 6).

Commerce and sources of income

The population in Sar-i-Pul has limited income diversity and is highly dependent on agriculture. The province is thus likely to be more vulnerable to water shortages (especially in very dry years) than Jawzjan (see Figure 7). While 75 percent of people in Sar-i-Pul reported agriculture (excluding livestock) as their main source of income, only 48 percent of Jawzjan residents did so. By contrast, the number of households dependent on trades and services and manufacturing is much higher in Jawzjan (37 percent and 25 percent respectively) than in Sar-i-Pul (13 percent and 6 percent respectively). This is likely related in part to Shiberghan's status as a major urban centre.

Figure 6: Access to basic services in Jawzjan and Sar-i-Pul Provinces



Source: MRRD/CSO, "National Risk and Vulnerability Assessment 2007/08."

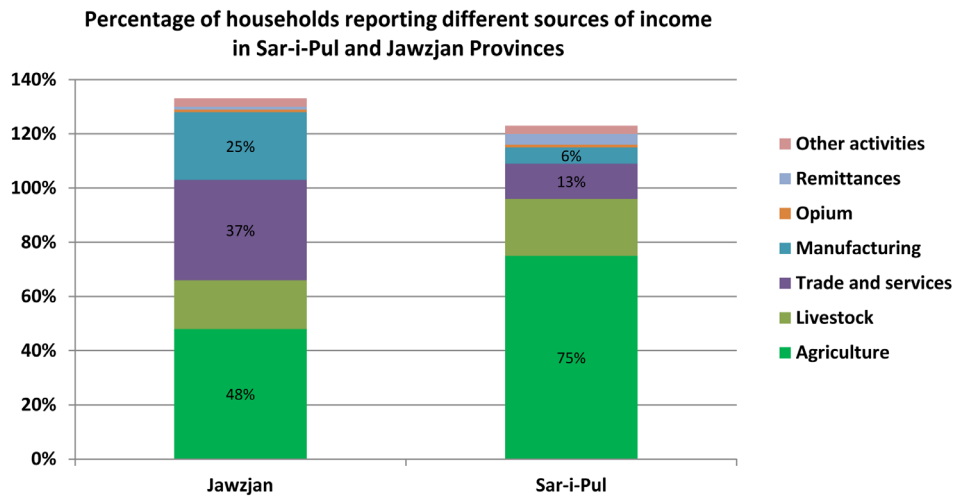


Image 3: Qeragho Village, Sar-i-Pul Province. From April/May during very dry years, surface water is only used to fill pools from which water is used exclusively for domestic uses.

⁸⁹ The National Risk and Vulnerability Assessment defines the poverty line as "1,255 AFN per person per month, representing the typical cost of attaining 2,100 calories per person per day and of meeting some basic non-food needs." See MRRD/CSO, "National Risk and Vulnerability Assessment."

⁹⁰ CSO/MRRD, "National Risk and Vulnerability Assessment."

Figure 7: Sources of income in Jawzjan and Sar-i-Pul Provinces



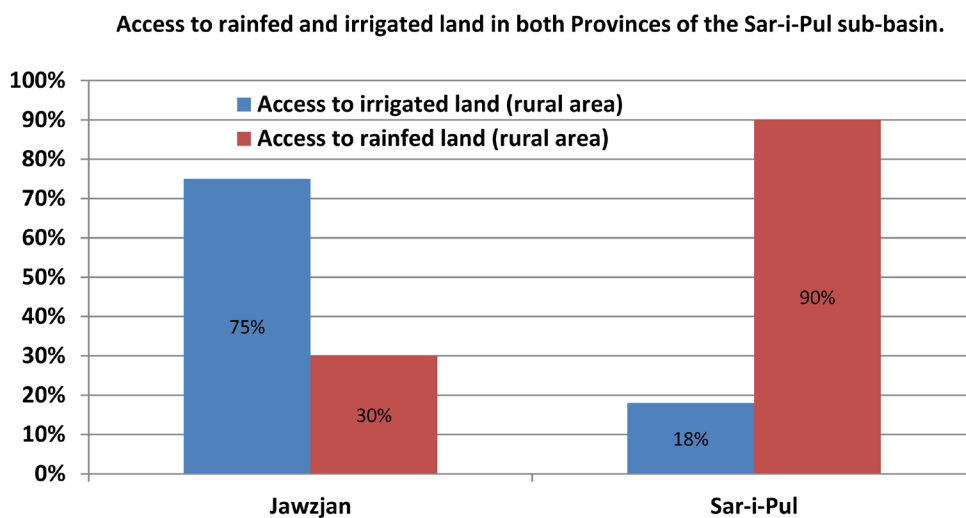
Source: MRRD/CSO, “National Risk and Vulnerability Assessment 2007/08.”

Access to irrigated and rainfed land

There is a sharp contrast between both provinces when it comes to access to irrigated and rainfed land. Around 75 percent of households in Jawzjan have access to irrigable land compared to 18 percent in Sar-i-Pul. This reflects the fact that the total area of irrigable land available in Jawzjan is almost six times higher than in Sar-i-Pul.

By contrast, the population of Sar-i-Pul relies heavily on rainfed land, with 90 percent of households reporting access compared to 30 percent in Jawzjan. This contrast is surprising considering that the area under cultivation with rainfed wheat is relatively similar in both provinces.⁹¹ It may thus be that there is a higher concentration of rainfed land in Jawzjan than in Sar-i-Pul.

Figure 8: Access to rainfed and irrigated land in Jawzjan and Sar-i-Pul



Source: MRRD/CSO, “National Risk and Vulnerability Assessment 2007/08.”

⁹¹ We used the MAIL data for rainfed wheat area in 2009 (a good year) and 2011 (a dry year) as a proxy for the amount of rainfed land. In both cases, the comparison between both provinces was relatively similar.

4.4 Hydrology and water balance⁹²

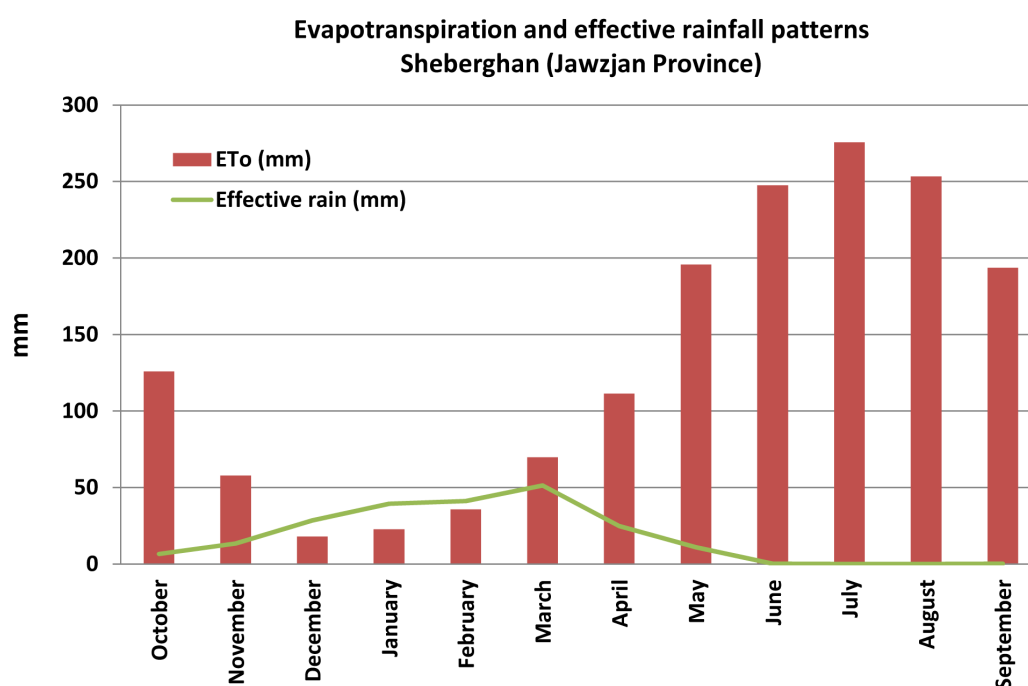
This section illustrates the high level of water scarcity that characterises the Sar-i-Pul sub-basin. As water availability is largely below irrigation water demand, this means that water sharing and water related conflicts occur in a context of water stress.

Irrigation water demand:

The Sar-i-Pul sub-basin is characterised by low rainfall and high reference evapo-transpiration relative to national averages. For example, in Shiberghan District, the effective rainfall (around 216 mm per year) is approximately 33 percent below the national average,⁹³ while reference evapo-transpiration (around 1,606 mm per year) is approximately 33 percent higher than national average.

There is no effective rainfall between June and September (see Figure 9). The period between December and February is the only period when average rainfall is sufficient to cover the reference evapo-transpiration, and thus meet water demand from crops. During the rest of the year, irrigation is required to satisfy crop water requirements.

Figure 9: Evapotranspiration and effective rainfall patterns in Shiberghan



Source: Crowth 8.0 and Climwat 2.0 for Cropwat. Data accessed 15 May 2012

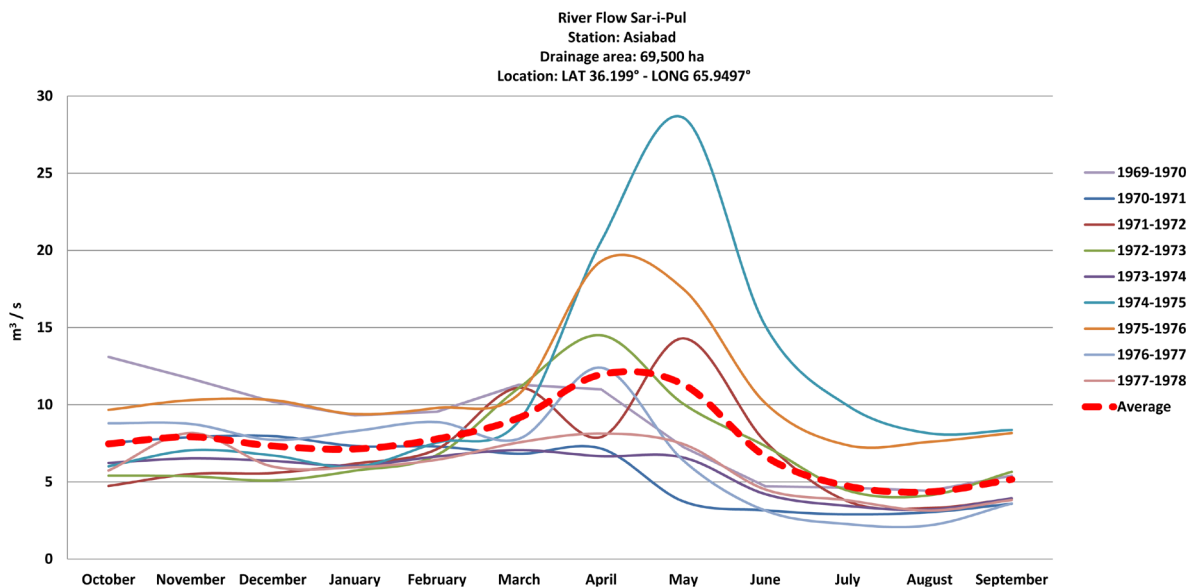
⁹² The only available data that could be used for this water balance analysis cover the 1969-1978. They have been extracted from two hydrological yearbooks. See Democratic Republic of Afghanistan, Ministry of Water and Power, "Hydrological Yearbook 1964-1975. Part IV-9 To 13. Murghab, Shirintagab, Sarepul, Balkh and Khulm River basins" (Kabul: Water and Soil Survey Department General Directorate of Hydrology, 1975).; and Democratic Republic of Afghanistan, Ministry of Water and Power, "Hydrological Yearbook 1976-1978. Part IV. North Flowing Rivers Murghab, Shirin Tagab, Sarepul, Balkh and Khulm" (Water and Soil Survey Department General Directorate of Hydrology, 1978). The flow measurement station from which the records were extracted and analysed is located in Asyabad, at the level of Sar-i-Pul City. The Water and Soil Survey Department estimated that the irrigable area below the flow hydro-meteorological station was 69,500 ha. Our estimation, based on Google Earth and our own canal mapping exercise, is approximately 73,500 ha. However, for our calculation we used the official figure. Crop water requirements have been estimated using Cropwat 8.0. Winter wheat has been taken as the reference considering that it is by far the main crop grown. Planting time was assumed to be 15 October and harvest time 11 June. For the second irrigation season, vegetables were chosen as reference crop. Climatic conditions for evaluate evapo-transpiration were based on the Shiberghan station (360m altitude). There were no data available for Sar-i-Pul.

⁹³ National average is estimated from the 31 selected stations as found in Favre and Kamal, *Watershed Atlas of Afghanistan*.

Highly variable and unpredictable flow

The availability of surface water from rivers in the Sar-i-Pul sub-basin is highly variable from one year to the other (see Figure 10). The standard deviation is particularly high during April, May and June⁹⁴ –the last three months of the first irrigation season. In May and June, the minimum and maximum average monthly flows vary by a factor of 7.6 and 4.8 respectively. The low predictability of surface water availability is a constraint for farmers as they plan their cropping patterns and intensity for the irrigation season.

Figure 10: River flow in Sar-i-Pul



Source: See footnote 92

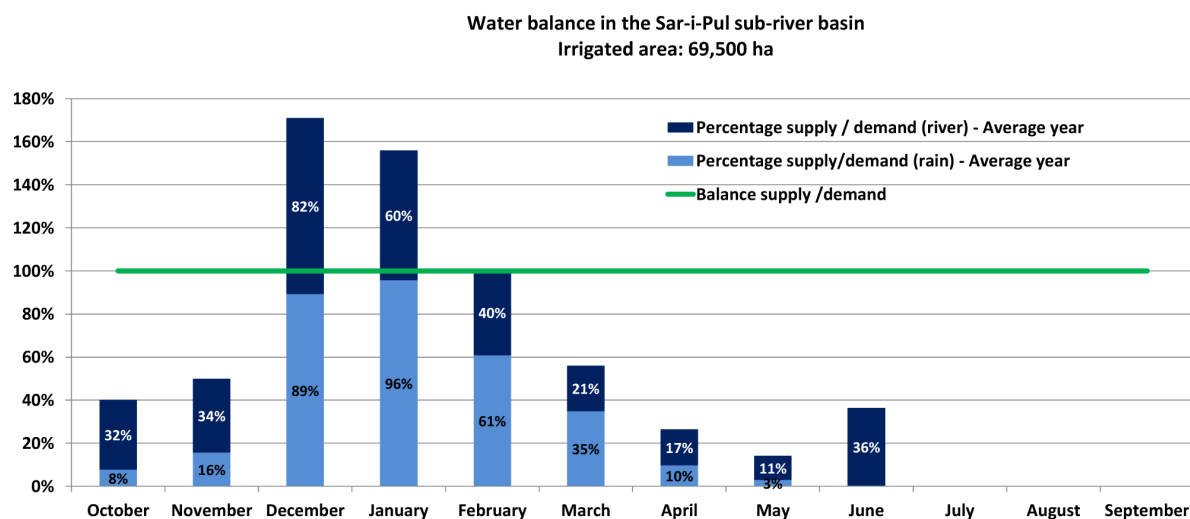
Water balance in the Sar-i-Pul basin during an average year

A water balance analysis for an average year⁹⁵ shows that there is a strong water deficit from March to June—rising from 44 percent in March to 74 percent in April and 86 percent in May—which prevents optimal irrigation across the entire sub-basin (see Figure 11). For May and June, surface water becomes virtually the only source of irrigation.

94 Average flow April: 11.3; Standard Deviation (STD) April: 7.8. Average flow May: 6.6; STD May: 3.9. Average flow June: 4.7; STD June: 2.4.

95 Calculated on the basis of 1969-1978 river flow data and average rainfall from Climwat.

Figure 11: Water balance in the Sar-i-Pul sub-river basin (Average year - wheat crop)



Note: For the calculations, a 50 percent irrigation efficiency has been used

Source: See footnote 92

Water balance in Sar-i-Pul and Jawzjan during in an average year, taking into account inter-provincial water turns

Time-based water turns have been established between Sar-i-Pul and Jawzjan for more than a century (see Section 5). These stipulate an allowance of eight days for Sar-i-Pul followed by ten for Jawzjan, carried out in continuous rotation. Accounting for this allocation practice thus allows for a better estimate of the water balance in each province. It is assumed that Sar-i-Pul is given 44.4 percent (or eight days' worth) of river flow and Jawzjan 55.6 percent (ten days' worth).⁹⁶

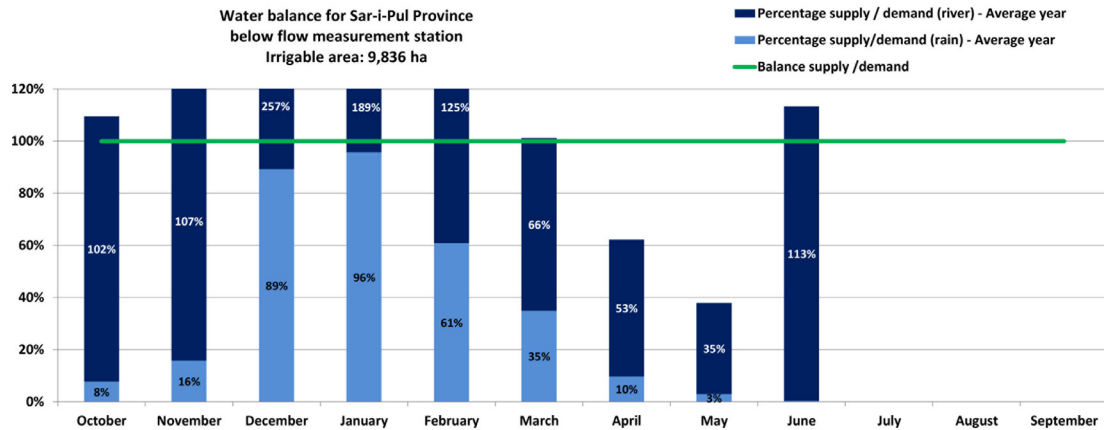
With water turns factored in, the water deficit for the first crop is much lower in Sar-i-Pul (Figure 12) than in Jawzjan (Figure 13). This is because while the irrigable area in Sar-i-Pul represents approximately 16 percent of the sub-basin's total irrigable land, it receives close to 45% of the water share. Water availability in the province is optimal until end of March, which corresponds to the end of wheat's development stage⁹⁷. Water deficit in April is around 37 percent, and then increases to 62 percent in May, when water stress has less impact on yields.⁹⁸

96 The 10 days for Jawzjan correspond to eight days water rights, with two days considered for water conveyance. In practice, Jawzjan may receive less than ten days if we take into account the time lost as water is conveyed from Sar-i-Pul toward Jawzjan. Nevertheless, in normal years, it takes far less than two days for water to reach Jawzjan. For ease of calculation we have considered that Jawzjan receives ten days of water.

97 Crops have four different growth stages: "initial," "development," "mid-season" and "late-season."

98 Water deficit at the development stage has a much bigger effect on yield reduction that it has at the late-season stage.

Figure 12: Water balance in Sar-i-Pul province
(Average year, taking into account inter-provincial water turns - wheat crop)

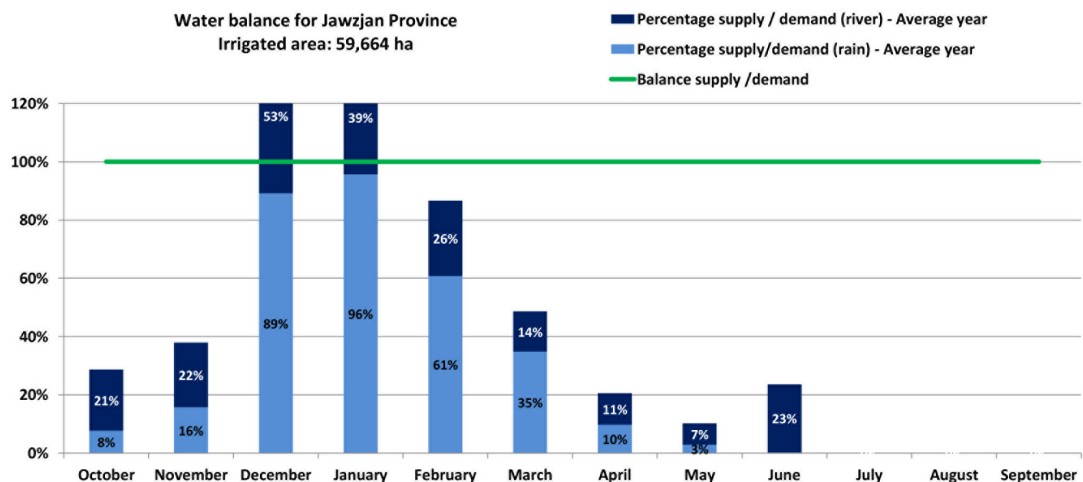


Note: For the calculations, a 50 percent irrigation efficiency has been used.
Source: See footnote 92

In Jawzjan, water deficit would begin earlier, in February. In practice, however, this is likely to be negligible since supply in Sar-i-Pul would at that point exceed demand (see Figure 12). During Sar-i-Pul’s turns, some surplus would therefore reach Jawzjan. The deficit would be most severe in March (51 percent), April (79 percent) and May (90 percent) (see Figure 13). Water deficit would also be significant in October and November during the initial stage of wheat cultivation, although some surplus water could again be expected from Sar-i-Pul’s water turns.

As a coping mechanism, farmers in Jawzjan—and to a lesser degree in Sar-i-Pul—only irrigate one part of their land. This practice is known as *bawri*, and involves irrigating a limited percentage of the land in rotation from one year to the next.⁹⁹ Consequently, irrigation may in practice be almost optimal until March (again, around the end of wheat ‘development’ stage). However, even when *bawri* is practiced, under-irrigation in Jawzjan is likely during the high-deficit months of April and May. This corresponds to the end of the mid-season stage and the late-season stage. As above, water stress for winter wheat during this period will have a more limited impact.

Figure 13: Water balance for Jawzjan Province
(Average year, taking into account inter-provincial water turns - wheat crop)



Note: For the calculations, a 50 percent irrigation efficiency has been used.
Source: See footnote 92

99 For instance, four-*bawri* land would mean landholdings of which only 25 percent were irrigated each year.

Water balance in Sar-i-Pul and Jawzjan during a good year: The example of 1974-75

Since there are no specific rainfall data for the year 1974-75, an average value is used.¹⁰⁰ In this scenario, Sar-i-Pul would have been able to optimally irrigate (i.e. with no water deficit) close to 100 percent of its command area under wheat cultivation. In Jawzjan, the deficit during March would have remained the same as in an average year, but come down in April and May to 61 percent and 79 percent respectively. If rainfall patterns were in fact better than average, the deficit may have fallen even further. However, even in good years, bawri is still practiced in Jawzjan.

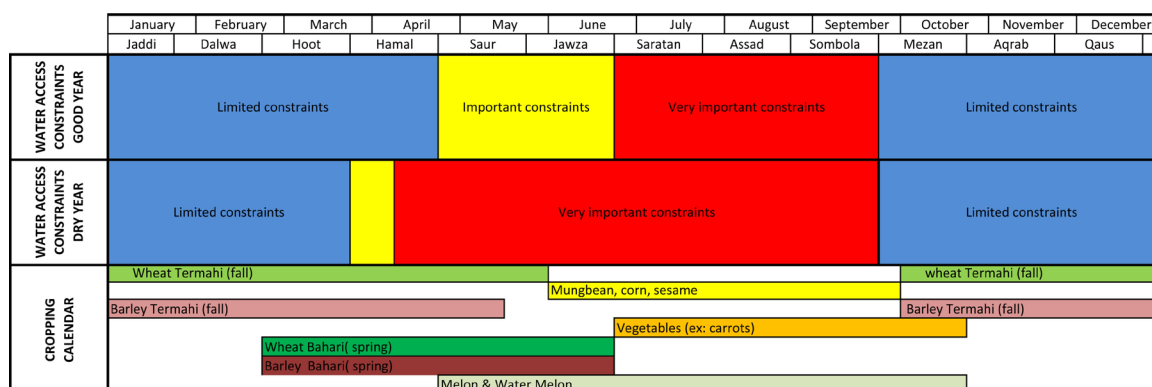
Water balance in Sar-i-Pul and Jawzjan during a very dry year: The example of 1970-71

As above, there are no specific rainfall data for 1970-1971. However, based on discussions with elders, it is likely that rainfall was insignificant from February and March onward.¹⁰¹ It is thus assumed that only surface water was available for the remainder of the year. In Sar-i-Pul, water deficit would have started in March at 51 percent, rising to 69 percent in April and 88 percent in May.¹⁰² In May, water would be diverted to fill pools in villages and be used only for domestic purposes (see Image 3). In Jawzjan, the deficit would have been very high during the whole irrigation season, with levels of 90 percent or more from March until harvest. Consequently only a very small part of the command area would have been optimally irrigated.

4.5 Irrigated Agriculture

The main crop grown in the Sar-i-Pul sub-basin during the first irrigation season (from October to May) is wheat. During this period, the harvest is largely dependent on both rainfall patterns (especially in March and April) and surface water. For the second irrigation season (from June to September), irrigated agriculture is very limited as it depends solely on scarce surface water in the absence of rain. Under such constraints, farmers tend to limit their agriculture to very small areas. Mung bean, corn and vegetables are among the main crops grown during this period (See Figure 14). In very dry years such as 2008 or 2011, water is almost entirely reserved for domestic consumption, supporting livestock and preserving perennial trees (see Section 6).

Figure 14: Cropping calendar and water access constraints in the Sar-i-Pul sub-basin



Source: Based on interviews with mirabs and WMD officials

100 The assumption was that in a good hydrological year, rainfall would be at least as good as during an average year.

101 During the 2008 and 2011 dry years, it was observed that rainfall was insignificant, and the vast majority of rainfed crops were lost.

102 This is in line with farmers' reported experiences of the dry year in 2011, when water shortage became seriously problematic by the end of March.

During both good and dry years, the areas irrigated in Jawzjan and Sar-i-Pul are proportionally similar to the percentage of surface water flow they receive according to long-established water rights during the first irrigation season. In fact, Jawzjan actually receives more water during dry years than the 56 percent they are entitled to. This is due to surplus water reaching Jawzjan during Sar-i-Pul's water turns in February and March. This may explain why Jawzjan irrigated slightly more land in 2008 than the size of its water share would imply (see Figure 15).

However, Sar-i-Pul has less land than Jawzjan. This means that while it is able to irrigate almost its entire command area in a good year and close to 85 percent in very dry year, Jawzjan is only able to manage 72 percent and 60 percent respectively. The fact that Jawzjan is able to irrigate such a high percentage of its command area during a very dry year may seem unusual given the scale of its water deficit (see above). However, it is important to note that the reduction in wheat yield during a very dry year is much more significant in Jawzjan (36 percent) than in Sar-i-Pul (20 percent—see Figure 16). The fact that even during a very dry year, Jawzjan irrigates an area proportional to the water it receives but with a lesser yield than Sar-i-Pul may be an indication that water rights are not being fully respected. While this would appear to confirm the case study findings presented below (see Section 6), other factors such as differences in rainfall patterns may also be involved.¹⁰³

Figure 15: Proportion of total command area under irrigated wheat cultivation during a good year (2009) and a very dry year (2008)

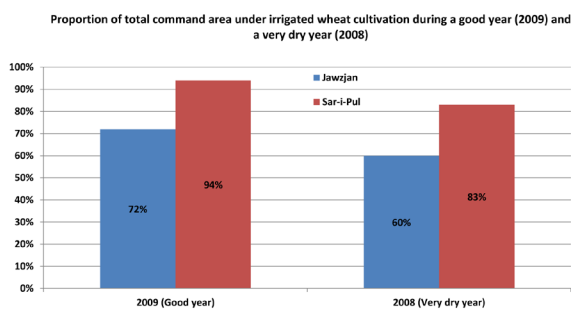
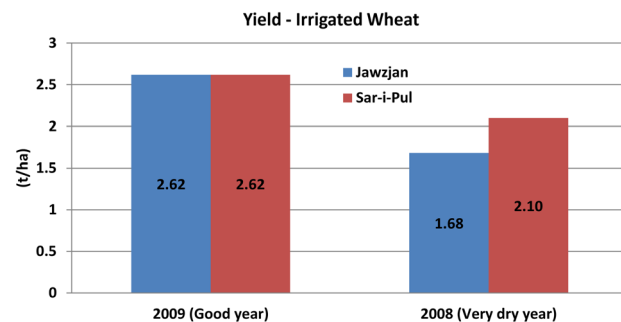


Figure 16: Irrigated wheat yield during a good year (2009) and a very dry year (2008)



Source: Ministry of Agriculture, Irrigation and Livestock General Department of Planning and Policy Marketing, Economics and Statistics Division, "Agriculture prospects report" (Kabul: MAIL, 2009); Ministry of Agriculture, Irrigation and Livestock General Department of Planning and Policy Marketing, Economics and Statistics Division, "Agriculture prospects report" (Kabul: MAIL, 2008).

4.6 Political economy and social background

This section summarises some of the key political economy features of the study area that have a bearing on the emergence of conflicts and their resolution processes.

Decentralisation and pragmatism

Northwestern Afghanistan is populated by a mosaic of different ethnic groups, among which Uzbeks and Turkmen are predominant. The area has a strong sense of regional identity, and perceives itself as distinct from other parts of the country.¹⁰⁴ In his study on the political economy of northern Afghanistan, Giustozzi explains that the northwest is particularly receptive to federalist doctrines. Most of the population see the central leadership in Kabul as manipulative player of divide and rule strategies rather than a

¹⁰³ Rainfall data were not available for Sar-i-Pul Province.

¹⁰⁴ A. Giustozzi, "The Resilient Oligopoly: A Political-Economy of Northern Afghanistan 2001 and Onwards" (Kabul: Afghanistan Research and Evaluation Unit, 2013).

positive force for change in the region. This is particularly true in the case of Junbesh-i-Milli—the leading political party in the study area, which has fragmented into factions as a result of manipulation from Kabul.¹⁰⁵ One of the case studies below shows that key political leaders that may sometimes play a role in conflict resolution are particularly reluctant to take part in any intervention involving central government actors (such as the MEW) or other external political figures. This is because they calculate that accepting central government help would be interpreted by other local powerholders as a sign of weak leadership.

However, political leaders in the region tend in general to remain pragmatic, looking for deals with the center and avoiding directly confrontational attitudes. This is because Kabul is still seen as a source of “support in terms of official appointments, access to illegal sources of revenue and immunity from prosecution.”¹⁰⁶ Evidence from one of the case studies on inter-provincial conflict suggests that some water users may also ask central authorities to (re)endorse local water rights agreements when they feel they are under threat from local actors.

Political parties and key political players

The rivalries that exist between different political leaders in and around the study area are also a critical component in understanding how conflicts and their resolution play out in practice. The main parties include Junbesh-i-Milli, Jamiat-i-Islami (which includes Balkh provincial governor Atta Mohammed Noor, one of the main strongmen in the North) and Hizb-i-Wahdat (with parliamentarian and former presidential candidate Mohammed Mohaqqueq and vice-president Karim Khalili as the leaders of its two main factions). Junbesh and its founding father General Dostum remain strong in Sar-i-Pul and Jawzjan, although both have lost influence in other northern provinces.¹⁰⁷ In several of the case studies,¹⁰⁸ General Dostum came to play a decisive role in conflict resolution processes since he was the only figure whose authority was sufficiently respected by all parties involved.

The ethnic-politics issue

Giustozzi’s work also highlights that while genuine tensions between different ethnic groups over certain issues do exist,¹⁰⁹ local strongmen may also play down ethnic tensions in attempts to strengthen their position relative to their rivals. Consequently, there is no radicalisation of ethnic confrontation.¹¹⁰ In the research, political leaders such as Dostum were seen to intervene and reason with their supporters (including provincial mirabs and elders) when they felt there was a risk that water sharing issues might fuel ethnic resentments, or be exploited to that end by political rivals. However, such behaviour may not always be consistent with conduct inside their own political parties.¹¹¹

Security and insurgency

In the year immediately following the fall of the Taliban, northern Afghanistan was left relatively untouched by insurgent activity. However, this situation changed after 2009, with the insurgency there becoming both militarily stronger and politically more influential. While in spring 2010 Afghan intelligence reported 872 insurgents, this figure

105 Giustozzi, “The Resilient Oligopoly.”

106 Giustozzi, “The Resilient Oligopoly.”

107 R. Peszkowski, “Reforming Jombesh. An Afghan Party on its Road to Internal Democracy” (Kabul: Afghanistan Analysts Network, 2012).

108 See for instance the interprovincial conflict and the Khwaja Du Koh/Darya-i-Safed conflict in Section 6.

109 According to Giustozzi (“The Resilient Oligopoly”), ethnic tension between the Pashtun Taliban and Uzbeks is highest in Faryab Province, but it is also strong in Jawzjan. In Sar-i-Pul there has been tension between Arabs and Pashtun Taliban over land issues.

110 Giustozzi, “The Resilient Oligopoly.”

111 Giustozzi, “The Resilient Oligopoly.”

had increased to around 1,400 by spring 2012.¹¹² This included 500 armed men in Faryab and northern Jawzjan,¹¹³ and 450 in Sar-i Pul and southern Jawzjan. In both Jawzjan and Sar-i-Pul, many villages have armed guards. As reported by Giustozzi, there is a lot of overlap between illegal armed groups, *arbakai* (local militias), the Afghan Local Police (ALP), which often creates confusion over who is who.¹¹⁴ Some of case studies show that water users may exploit this confusion to cover up their water stealing actions or justify the lack of monitoring and enforcement of water sharing agreements. This was especially true in the Laghman valley in Sar-i-Pul Province and other areas surrounding the provincial capital, where insurgent presence was already significant in 2011 and still increasing in the summer of 2012. Other cases show how the indirect influence of the insurgency in conflicts over water can trigger the interest of strongmen in intervening to help resolve them.

Sar-i-Pul and Jawzjan: Relatively strong social capital

In 1988, Sar-i-Pul was carved out of Jawzjan to form a separate province, with the aim of making it easier for more remote districts (such as Balkh Ab, Kohistanat or Sang Charak) to access administrative services. However, both provinces still retain a strong sense of common identity characterised by strong social and family ties. As one elder in Sar-i-Pul put it, “In each family of Sar-i-Pul there is somebody who has origins from Jawzjan and vice-versa.” As evidence of the strength of these ties, the research team observed families in Jawzjan selling jewellery and other assets to support relatives in Sar-i-Pul as the latter experienced dramatic flash floods during April and May 2012. Although this social capital does not prevent tensions and conflicts over water sharing from developing, it remains a limiting factor in the escalation of their intensity. Such ties are also considered a source of political stability by leading Junbesh officials and other high-ranking political leaders, and preserving them is thus an important justification for their intervention in conflict resolution processes.

4.7 Summary of key points

- The sub-basin has a relatively short history of around 120 years.
- The design of the system is closely related to the development of new settlements during the colonisation of northwestern Afghanistan in the late 19th and early 20th centuries. Early conflicts over water sharing led to the development of infrastructure design aimed at limiting interdependency among water users.
- Water availability in the sub-basin is well below irrigation water demand, even during the first irrigation season with wheat as the main crop. Water sharing thus occurs in a context of water stress.
- In practice, only a limited fraction of farmers’ plots may be irrigated optimally.
- Agriculture is a vital component of people’s livelihood in both provinces. However, income sources are more diversified in downstream Jawzjan Province. Consequently, irrigation water shortages are likely to have a more critical impact on livelihoods in upstream Sar-i-Pul Province.
- The population and its political leaders are generally favourable of greater decentralisation from Kabul, but they remain pragmatic in their relationship with the central government.
- Maintaining social cohesion among communities—including between provinces—is of critical importance to political leaders. Avoiding disputes over water sharing may thus tie in to wider political concerns.

¹¹² During the fieldwork period from April to October 2012, research was affected in numerous occasions by occurrence of armed clashes in both Sar-i-Pul and Jawzjan.

¹¹³ Figures quoted by Giustozzi in “The Resilient Oligopoly.”

¹¹⁴ Giustozzi, “The Resilient Oligopoly.”

5. Institutions for water sharing: The rules of the game

This section provides a general view of water institutions in the Sar-i-Pul sub-basin with a particular focus on the issue of water sharing. First, it looks at how canal layout and infrastructure influences social and institutional practices regarding water sharing. It then examines water rights and water distribution principles at different levels of the canal/river system, as well as the roles and responsibilities of the different actors involved. Finally, it presents an overview of the most significant types of water related conflict occurring at each level of the system. Together, these different aspects of water sharing institutions form the context within which conflicts are framed.

5.1 Understanding irrigation canal layout and its links with social spaces

Canal networks draw links between social spaces—from individual households to villages or provinces—and shape interactions and interdependency between various social actors. The design of a given canal network will frame both the actors and spaces involved in water distribution, and the potential scope for tampering and mismanagement. Understanding canal infrastructure is thus an important entry point for analysing water institutions and the context in which conflicts—and their resolution—emerge and evolve. The Sar-i-Pul sub-basin features two types of canal layout—one specific to Jawzjan, and one to Sar-i-Pul. These are described in detail below.

Canal layout in Jawzjan Province

Branch system

The canal infrastructure in Jawzjan Province is characterised by a branch layout (see Figure 17, as well as Annex 6). Typically, *darya* (rivers) are split into *nahr* (canals) through proportional

Figure 17: Branch layout indicating the hierarchy between *daryas*, *nahrs* and *juis*, Jawzjan Province

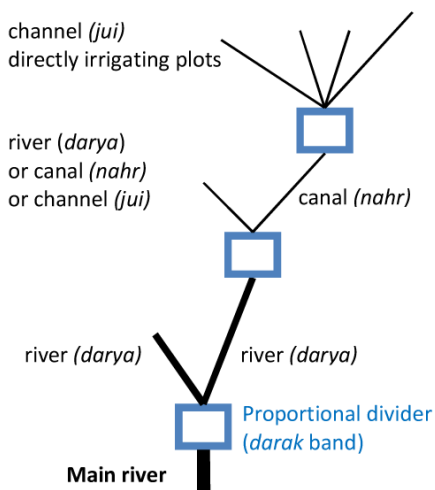


Image 4: A darya splitting into nahrs, Jawzjan Province



Image 5: A jui (left) splitting off from a nahr, Jawzjan Province

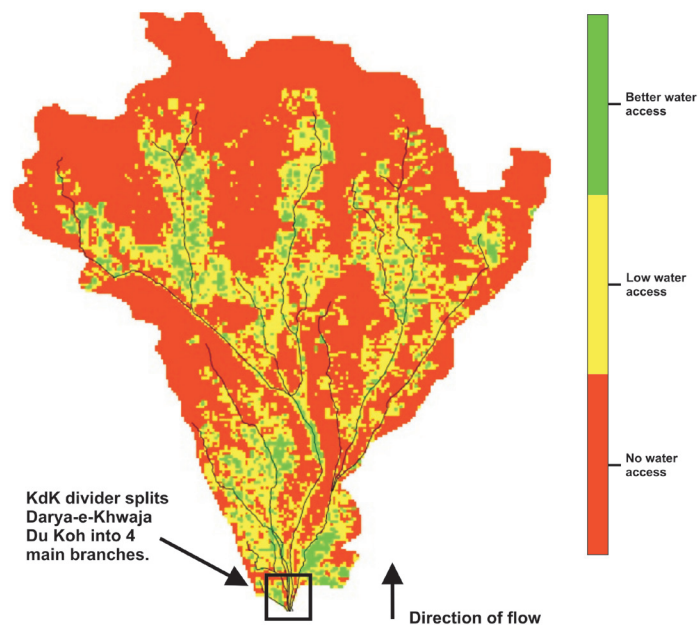
divider structures (see Image 4).¹¹⁵ Nahr then typically split into smaller juis. Darya and nahr are conveyance canals only, while juis supply water directly plots.¹¹⁶ A jui will typically cover an irrigable area of 1,200 to 2,400 jeribs (240 to 280 ha—each jerib is equivalent to approximately one-fifth of a hectare), though in rare cases this may be larger. In practice, there may be some variations to this pattern. A darya divider may split the water flow into a darya and a nahr. Similarly a nahr divider may split the water flow into a nahr and a jui (see Image 5). At the jui level, the system becomes more hierarchical, with individual plots irrigated one after the other.

Branch canal systems such as those found in Jawzjan are typically built to minimise interdependency between farmers and villages in terms of accessing water (see Figure 2 in Section 2). Their fixed dimensions and automatic regulation facilitate greater transparency of operation (through automation), which reduces the risk of mismanagement occurring during the manual operation of hydraulic structures.¹¹⁷ Due to the nature of the branch layout, there is—in theory—no evident upstream/downstream pattern of inequity in water access.

This is illustrated in the remote-sensing NDVI analysis of Khwaja Du Koh area. Figure 18 shows a relatively homogenous distribution of irrigated areas (green and yellow) as well as dry areas (orange). This suggests that the branch system there has ensured that no areas have more favourable water access because of their geographical location in the system (upstream versus downstream). This is also helped by the fact that in Jawzjan, the beds of the daryas and nahrs that function as conveyance structures tend to be below the level of the surrounding irrigable land. This makes it harder to siphon off water, ensuring that supply reaches the farms furthest downstream without interference (although stealing may still sometimes occur).¹¹⁸

The nature of branch systems means they tend to reduce conflicts over water sharing. When conflicts do occur, they tend to be focused on the design of divider structures. This is because these are the main locations where tampering with water distribution may occur (see the Khwaja Du Koh and Darya-i-Safed case study in Section 6).

Figure 18: Distribution of irrigated and dry areas in the Khwaja Du Koh area during cultivation of first crop in the dry year of 2011



¹¹⁵ See definition in Section 2.

¹¹⁶ In some occasions, *juis* are split into *juicha* (sub-branches) before entering the plots.

¹¹⁷ One of the limitations of such branch systems is their extremely limited operational flexibility. There is no way to re-channel water from one branch to another in order to accommodate variations in water demand. However, in the context of Jawzjan, where water availability is largely below the demand, there is very little chance for sub-optimal use or wastage of water in one branch at the expense of another. Furthermore, the area's wheat monoculture (as a first crop) does not generate large variations in space and in time for crop water demand.

¹¹⁸ This is for instance the case of the Khwaja Du Koh irrigated area supplied by the 40 km Darya-i-Khwaja Du Koh. It is also the case for the Darya-i-Sya irrigated area, which is supplied by the 30 km Darya-e-Sya. Stealing from one canal by the other is however not completely absent in Jawzjan, as the Jegdalek case study in Section 6 shows.

Alignment of hydraulic and social spaces

As discussed further below, the type of conflicts, the actors mobilised and the mode of conflict resolution varies depending on the level at which conflicts occur. In this respect, it is important to understand that different hydraulic levels correspond to different social spaces.

At the lower hydraulic level, *juis* irrigate an area that corresponds to the land belonging to a single village. The name of a *ju* is always the same as the name of the village it serves.¹¹⁹ The physical command area of a *ju* is thus closely aligned with the social space of its village. Water disputes along a *ju* take place between individual farmers or water users belonging to the same village.

At an intermediate level, a *darakband* (divider) typically splits canal flow into different *juis*, dividing it between water users from different villages. Conflicts around water sharing at this level therefore tend to correspond to inter-village or inter-community conflicts (see the Salmazan case study in Section 6).

At a higher hydraulic level, division structures split water between groups of villages, and sometimes between different districts (see the Khwaja Du Koh case study in Section 6).

Canal layout in Sar-i-Pul Province

Hierarchical canal system at river level

In contrast with Jawzjan, Sar-i-Pul is characterised by a more hierarchical canal system (see Figure 19). Along the Sar-i-Pul River, canals acquire water through *sarbands* (unregulated intakes; division structures for channelling water from the river into canals—see Image 6). None of the Sar-i-Pul canals in this study except Wulayat has a gated headwork, and

Figure 19: Hierarchical canal layout, Sar-i-Pul Province

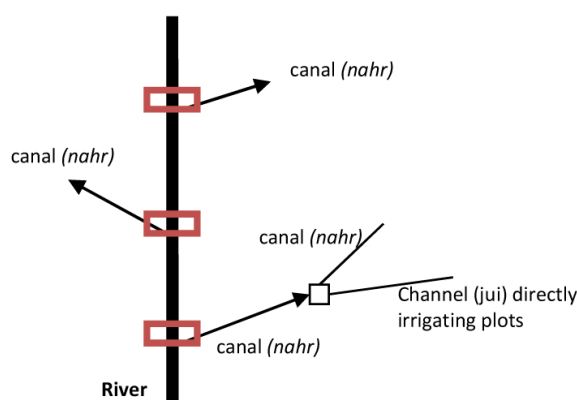


Image 6: Sarband, Sar-i-Pul Province



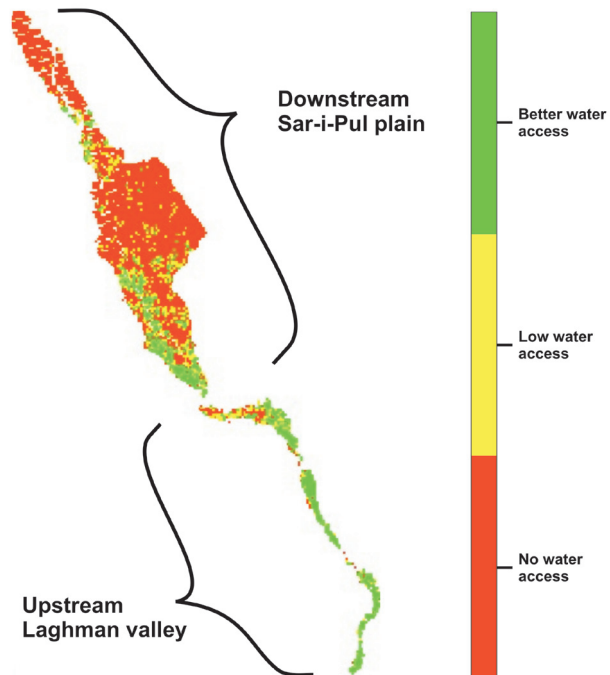
Image 7: Proportional divider, Wulayat canal, Sar-i-Pul Province

¹¹⁹ This arrangement originates from the time of Abdur Rahman and his immediate successors, when the government gave land to new settlers and supported them in developing canal systems for irrigation (see Section 4).

indeed the majority of water users are opposed to the introduction of such structures.¹²⁰ In the 2,100 ha Laghman valley (the main upper valley in the province), each canal typically irrigates an average of 110 ha. By contrast, in the 10,800 ha Sar-i-Pul plain, each canal covers an average 600 ha, while the larger Wulayat Canal has a command area of 2,662 ha. Below the sarband, the nahr-level system becomes a branch layout. Nahrs in turn split into juis, which then are characterised by the same hierarchical system as in Jawzjan.

Hierarchical canal systems creates higher levels of interdependency among groups of farmers and villages (see Figure 2 in Section 2). In Sar-i-Pul, the level of interdependency is heightened by the large number of intakes—43 over a distance of 50 km. Especially given the absence of headworks to regulate canal flow, the system is characterised by uneven distribution between upstream and downstream canals, with upstream canals tending to divert more water than they are entitled to. This is illustrated in the remote-sensing NDVI analysis in Figure 20. This illustrates how the upstream position of the Laghman valley provides it with more favourable water access as compared to the most downstream part of the Sar-i-Pul plain. In Sar-i-Pul, conflict resolution processes thus tend to focus on ensuring that upstream communities respect water sharing agreement.

Figure 20: Distribution of irrigated and dry areas in the Khwaja Du Koh area during cultivation of first crop in the dry year of 2011

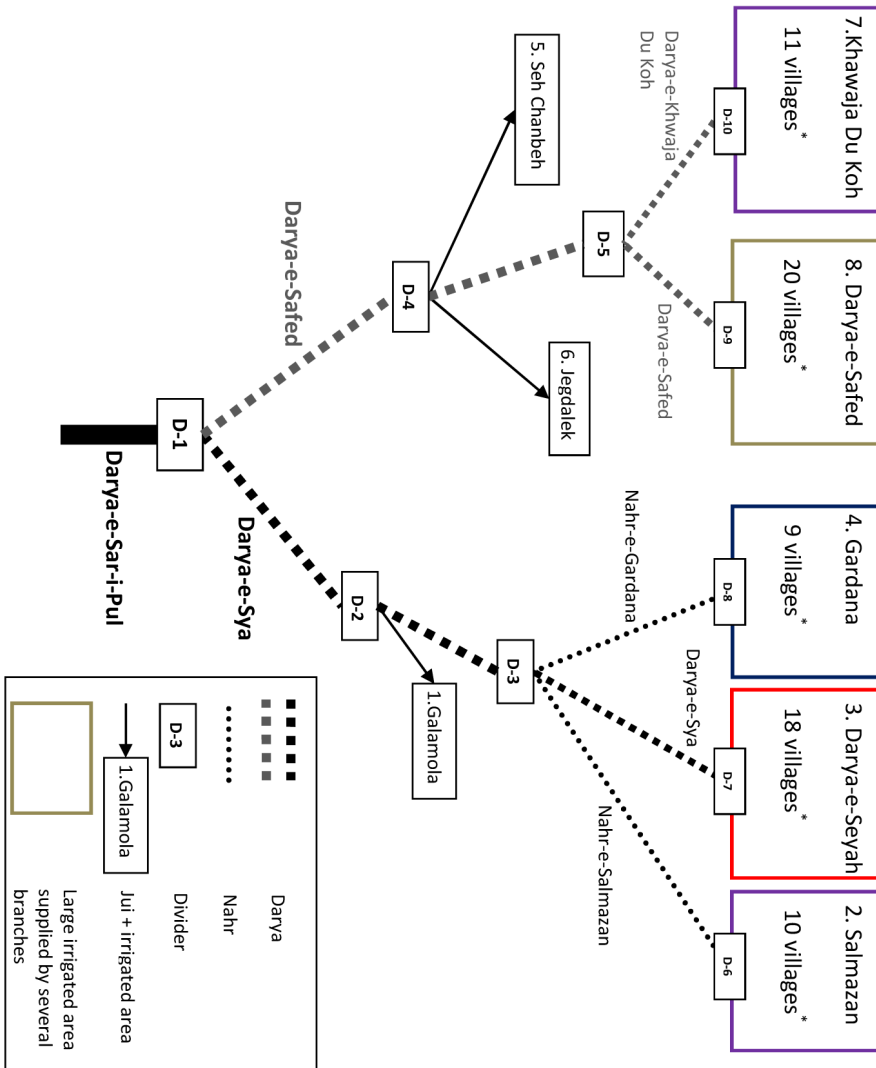


Alignment of hydraulic and social spaces

As in the case of Jawzjan, nahrs split into juis, which supply water directly to plots associated with a specific village. Consequently, the lowest hydraulic unit in the system again aligns with the social space of a village.

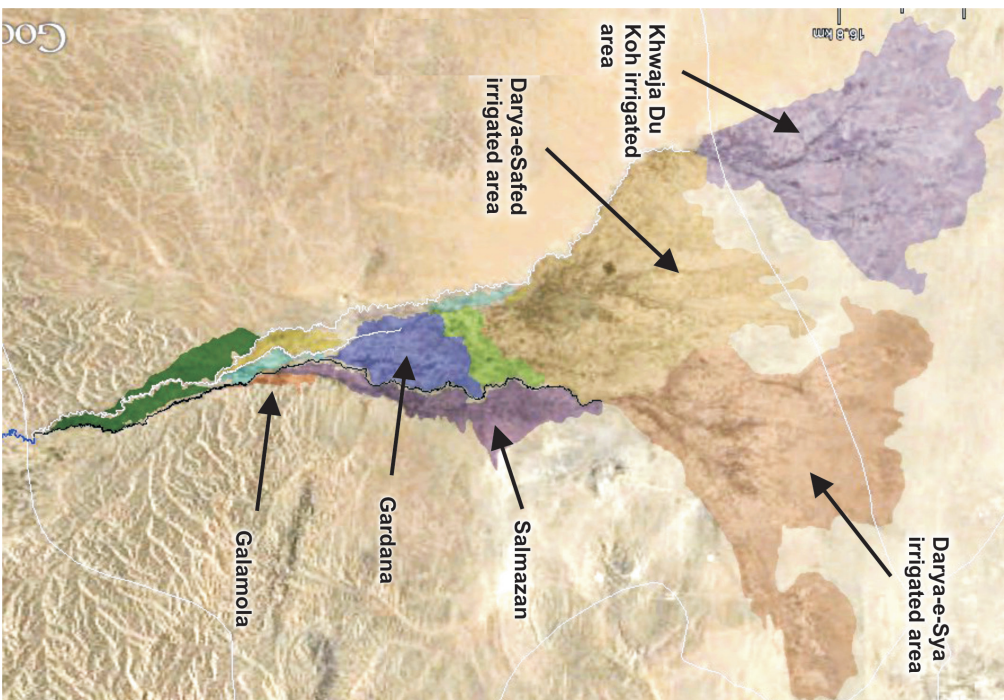
¹²⁰ While this technically makes water control more difficult, farmers fear that allowing greater control over closing their canals would limit their access to water—for instance during Jawzjan’s water turns, or during dry years when there is a need for tighter regulation of Sar-i-Pul canals. Although the lack of headworks can lead to destructive flooding (as took place in May 2012), the benefits of this protection appear to be outweighed by the advantages of lax water control during normal and dry years.

Figure 21: Typical branch layout designed to reduce potential conflicts over water sharing



(*) The villages are supplied via a branch layout including canals and juis separated by proportional dividers

Map 3: Jawzjan Province irrigated area



Map 4: Jawzjan Province irrigated area

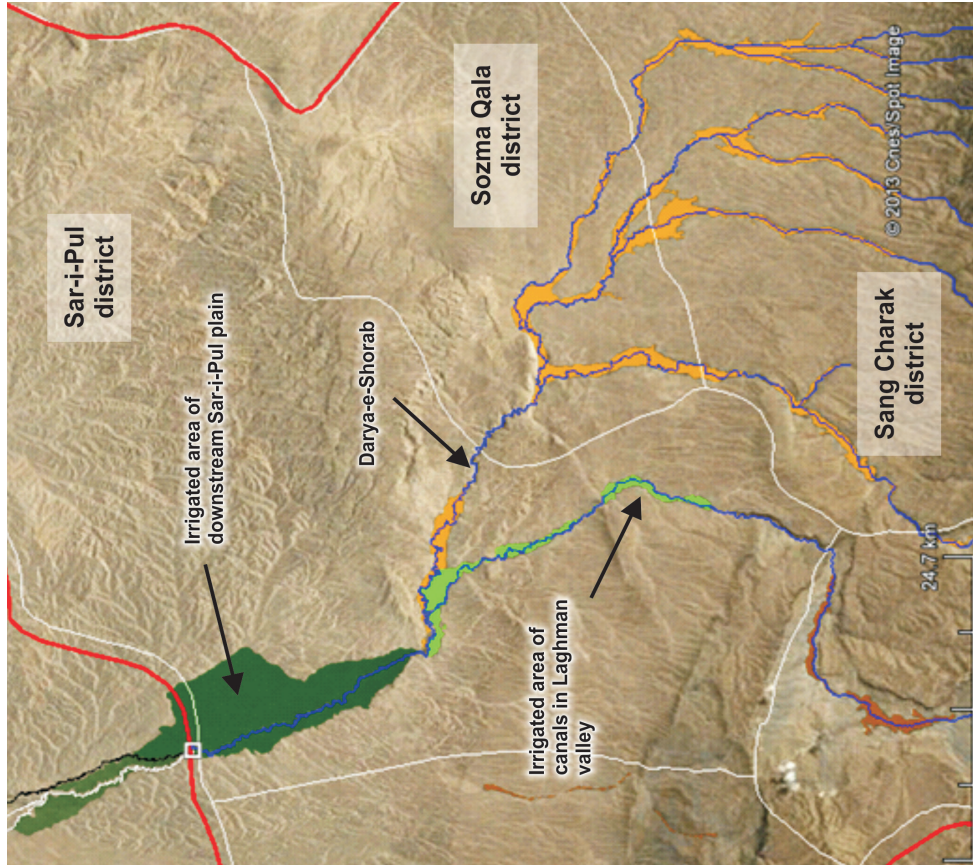
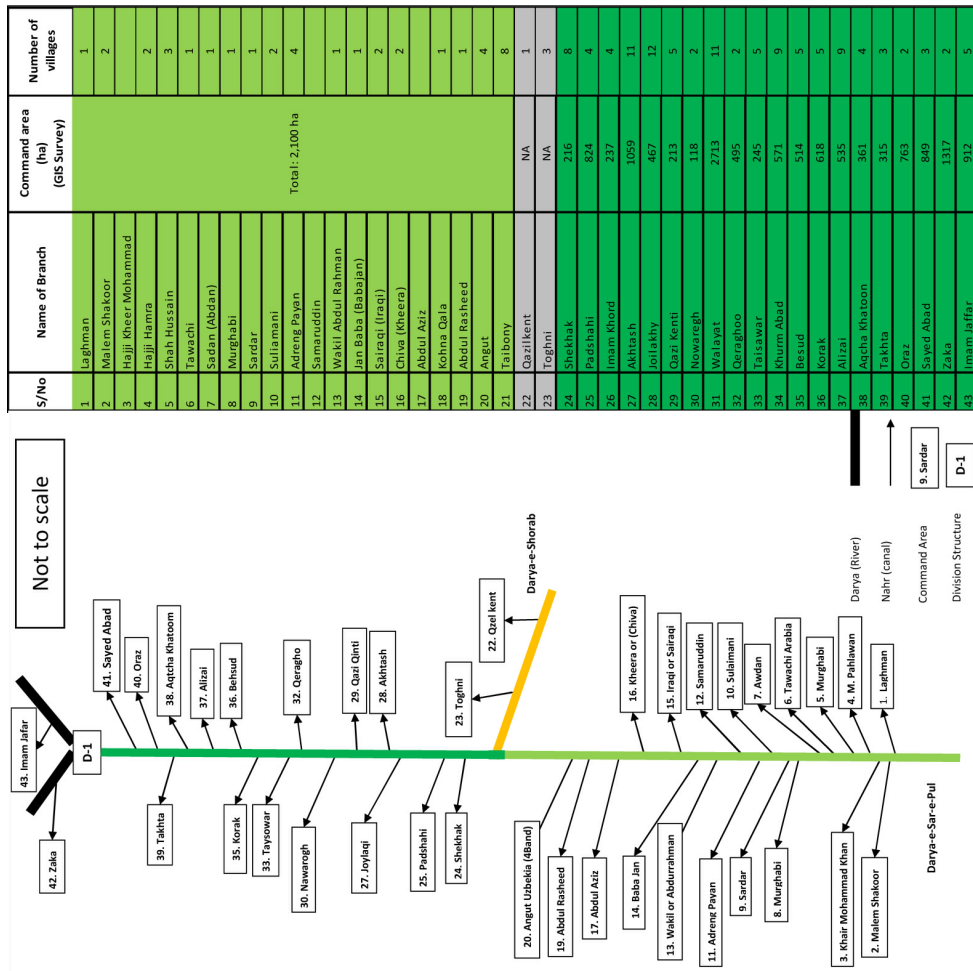


Figure 22: Typical branch layout designed to reduce potential conflicts over water sharing (Jawzjan Province)



5.2 Water rights and water distribution at different levels

Water rights and water distribution at inter-provincial level: A century old agreement

Origins and content of the inter-provincial water rights agreement

The Sar-i-Pul and Jawzjan areas of the Sar-i-Pul sub-basin are bound by a formal water rights agreement signed in 1911 during the reign of Habibullah Khan (1901-1919) by both community and state authorities. Even prior to this, an informal arrangement stipulated that Sar-i-Pul and Jawzjan should share water in alternation through a time-based water turn. Sar-i-Pul should have water for eight days, then Jawzjan for ten days, and so on.¹²¹ At the time, there was less pressure on water resources due to the area's relatively small population. Nevertheless, the preamble of the 1911 agreement reveals that farmers in Jawzjan already had growing concerns about inequitable water access due to the failure of Sar-i-Pul to abide by informal water-sharing arrangements:

*The reason for writing these words is that the farmers of Shiberghan have complained about the upstream people of Sar-i-Pul, who, most of the time, cut the water from the people of Shiberghan. Due to extra usage of water by the people of Sar-i-Pul, the people of Shebirghan suffer from crop losses.*¹²²

The request for a formal agreement came from elders in Jawzjan. They asked the deputy Hakeem of Turkistan¹²³ to help resolve the water distribution issue by bringing together community leaders from Sar-i-Pul and Jawzjan and government representatives, in order to define formal water rights and distribution procedures between the districts.¹²⁴ The idea was to strengthen the legitimacy and authority of the existing informal water turn agreement by having it formally endorsed by government leaders and the court, as well as establishing financial sanctions for any violations.¹²⁵

The agreement that ensued formalised collaboration between the two areas and is still recognised today. In fact, many local actors see it as a vital factor in maintaining the social cohesion of the region. In recent years, however, it has become the subject of increasing contestation by both Sar-i-Pul water user representatives and some national political figures.

Rationales for an equal time-share of the river

The 1911 agreement does not discuss the reasoning behind the way it apportions water turns, which results in an equal share of the river flow between the two provinces (bearing in mind that the ten days' turn for Jawzjan factors in an assumption of a two-

121 According to Hajji Jora (an elder and former provincial mirab of Sar-i-Pul), the original agreement was for both provinces to have eight days each. However, it was soon revised following a dry year to the current eight day/ten day rotation. The extra two days given to Jawzjan were justified due to the time it took for water to flow from Sare-i-Pul to Jawzjan. Although two days may seem excessive (a flow of 1 m/s would take 25 hours to cover 90 km, approximately the distance between Sar-i-Pul City and the farthest point in Khwaja Du Koh District in Jawzjan), farmers in Sar-i-Pul explained that this estimation had been made empirically at a time of very low flow in the river. In fact, depending on the level (and therefore the velocity) of the flow in the river, the transportation time varies. This in turn affects the duration of the effective water turn for Jawzjan, which typically fluctuates between eight days during dry years, and almost ten days during good years.

122 Extract from the unofficial English translation of the 1911 water sharing agreement between Sar-i-Pul and Jawzjan.

123 In the administrative structure defined by the Amir Abdur Rahman (reign: 1890-1901), the Hakeem was the agent and the most powerful and authoritative representative of the Amir outside of Kabul. The Hakeem performed the functions of governor, judge, tax collector and, in some cases, military leader.

124 At the time, Jawzjan and Sar-i-Pul were not distinct Provinces.

125 The leaders who were asked to represent the government included the deputy Hakeem of Turkistan, the sub-governor of Tashqurghan, the Civil Colonel and sub-governor of Turkistan. The meeting took place at the court of Sar-i-Pul. In addition to the signatures of the elders representing both Sar-i-Pul and Shiberghan, the agreement has the official stamps of the Mufti and Hakeem of Shiberghan, the Sar-i-Pul Court, and the Amir of Sar-i-Pul.

day water conveyance period). According to elders in Sar-i-Pul, however, the pre-1911 informal arrangement was underpinned by three main arguments for doing so. First, Sar-i-Pul City is located upstream and, due to its geographical position, is more vulnerable to floods when compared to Jawzjan, which has more space to dissipate flooding through various drains. This was seen as grounds for allocating Sar-i-Pul proportionally more surface water during the irrigation season as a form of compensation.¹²⁶ Second, accessing water through wells to supply domestic needs was more challenging in the more mountainous terrain of Sar-i-Pul than in Jawzjan. It was thus considered legitimate to grant proportionally more surface water access to Sar-i-Pul. Finally, Sar-i-Pul was, at the time, a very remote upstream district with poor access to the major market of Shiberghan. These reasons were again considered justification for allowing upstream water users to retain a larger share of water relative to the size of their landholdings (remembering that Jawzjan has almost six times more irrigable land than Sar-i-Pul). Together, these rationales represent a relatively integrated approach—and one that emerged hundreds of years before IWRM was introduced as a “new” paradigm in Afghanistan.¹²⁷

The borders of water rights applicability

In Sar-i-Pul Province, not all of the irrigable areas falling within the hydrological borders of the Sar-i-Pul sub-basin are affected by the inter-provincial water rights agreement. In fact, close to half of the irrigable land in the province does not have to observe water turns with Jawzjan.¹²⁸ (see Table 3). This land is located in uppermost valleys, mainly in the Sozma Qala and Sang Charak Districts (see Map 5) where four main rivers irrigate land along the narrow valleys¹²⁹ before forming into the Shorab River, which then joins the main Sar-i-Pul River.

Table 3: Land in Sar-i-Pul subject to water rights agreements with Jawzjan

SAR-I-PUL		
	Land (jeribs)	Percentage of total Sar-i-Pul irrigable land
Total irrigable land ¹ subject to water rights agreements with Jawzjan.	16,078	51.5%
Total irrigable land not subject to water rights agreements with Jawzjan.	15,125	48.5%
Total	31,203	100%

¹ This refers to the land falling at the intersection between Sar-i-Pul Province and Sar-i-Pul sub-basin.

According to mirabs, elders and WMD officials, the reasons for not including these areas in the inter-provincial water rights agreement were as follows. First, the rivers emerging in Sang Charak District are believed to have a relatively small flow. Consequently, they are likely to make only a negligible contribution to water availability in the Sar-i-Pul River itself.¹³⁰ Furthermore, even without restrictions, water supply is already tight for

126 Although this was not quantifiable.

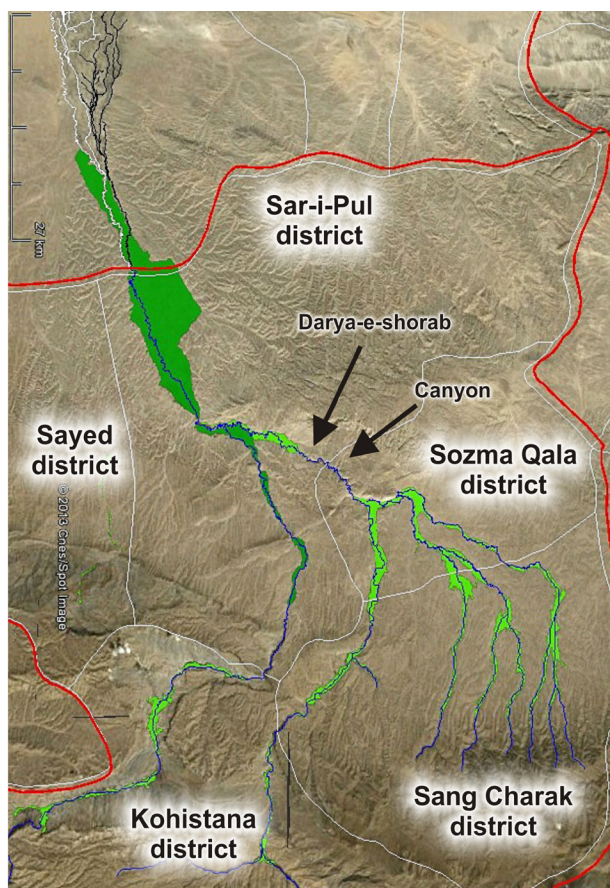
127 Mirabs, elders and WMD staff in Sar-i-Pul and Jawzjan commonly say that each province has a water right for 500 paykal (40,00 ha—each paykal is equivalent to around 80 ha). This strictly speaking incorrect, and seems to simply be a proxy for describing an equal share of water. Indeed, in Sar-i-Pul Province, the irrigable area in the Sar-i-Pul basin covered by the agreement is much less, amounting to only around 201 paykal (16, 080 ha).

128 Thus, the borders of application of water rights do not match the hydrological borders of the sub-basin. This is similar to the observations made regarding water allocation in dry years in other sub-basins of North-Eastern Afghanistan (see Thomas et al., “Mind the Gap?”). Nevertheless, in 2011, a particularly dry year, an exceptional abandâz (temporary water sharing agreement) was organised between Sozma Qala/Sang Charak and Sar-i-Pul Districts.

129 Thus, the borders of application of water rights do not match the hydrological borders of the sub-basin. This is similar to the observations made regarding water allocation in dry years in other sub-basins of North-Eastern Afghanistan (see Thomas et al., “Mind the Gap?”). Nevertheless, in 2011, a particularly dry year, an exceptional abandâz (temporary water sharing agreement) was organised between Sozma Qala/Sang Charak and Sar-i-Pul Districts.

130 At the point located upstream the Sar-i-Pul City.

Map 5: Map of areas in Sar-i-Pul covered by and excluded from inter-provincial water sharing agreements



Legend:

Dark green: Sar-i-Pul irrigable area covered in the inter-provincial water rights agreement.

Light green: Sar-i-Pul irrigable area not covered in the inter-provincial water rights agreement.

Red lines/white lines: Provincial/district borders.



Image 8: Proportional divider with six branches (shash darak; note that the fourth branch (from left) has two openings to make it easier when branches have to be closed for maintenance).

¹³¹ It is also commonly agreed that during Jawzjan's water turns, a few canals in Sar-i-Pul are authorised to acquire a minimum flow for domestic usage. This concerns canals passing through the city of Sar-i-Pul (or dense settlements around the city). Although this point is not explicitly mentioned in the 1911 agreement, it was apparently informally agreed on at a later stage, although informants were not clear about the precise time.

farmers in the district. According to the Hydrological records dating from 1975 to 1978, the Shorab River contribute to approximately 25 to 30 percent of the flow of the Sar-i-Pul river. Finally, monitoring these areas would be costly and difficult due to poor road infrastructure and limited accessibility through the 13 km canyon linking Sar-i-Pul to Sozma Qala.

Flexibility in application of water rights during very dry years

During very dry years such as 2008, both Sar-i-Pul and Jawzjan usually agree informally to suspend water turns. When water levels in the river are extremely low within Sar-i-Pul Province – particularly during the second irrigation season—it is implicitly accepted that users in Sar-i-Pul be allowed to reserve water in order to fulfil domestic consumption and other basic needs. The legitimacy of this practice is reinforced by the argument that Jawzjan has comparatively better access to drinking water. Nevertheless, Jawzjan water user representatives insist that it should not be considered a right, or something that will necessarily be replicated in future.¹³¹

Water rights and water distribution within Jawzjan Province

Water sharing among rivers and canals (inter-village)

Water sharing inside Jawzjan Province is automatically regulated by darakbands (proportional dividers between different canals or juis) down to the level of juis, from which water directly irrigates plots in rotation. In principle, darakbands are designed so that the size of each opening is in proportion to the amount of irrigable land it supplies (see Image 8).

The paykal system

The official basis for water rights in Jawzjan was established during reign of Abdur Rahman, when the government began registering landholdings given to Pashtun settlers and awarding rights in proportion to their area (see Section 4). The reference unit used during the registration process was the paykal, equivalent to 400 jeribs or 80 ha. During this period, the government also ordered the construction of all the area's main large dividers¹³², with the idea that each settlement should be served by its own individual jui.¹³³ Once the principles and infrastructure for water distribution were established, the government began imposing land taxes. In principle, these were designed to reflect the scale of water access and the type of land cultivated, with different tax rates applying to different land categories. Ultimately, between 90 and 95 percent of land in the province ended up occupying the same tax bracket.¹³⁴

As time wore on, however, the system became complicated by the addition of more and more new land, awarded as grants by successive monarchs. These were especially common in the northern part of the basin, including the Khwaja Du Koh irrigated area, the Darya-i-Safed irrigated area, and Darya-i-Sya irrigated area (see Map 3). For instance, during the reign of Zahir Shah more than 70 paykals of government land in in Khwaja Du Koh was given to government employees at the time of their retirement. Although this affected the water sharing within certain Khawaja Du Koh branches,¹³⁵ the change was not passed on to the higher-level dividers. This means that these dividers were supplying the same amount of water to more land.

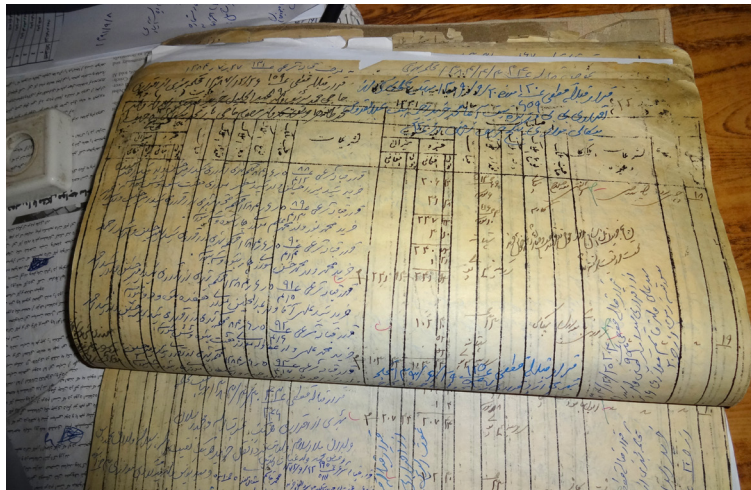


Image 9: Book of land registration from the time of Abdur Rahman

Conducted in 1962,¹³⁶ most recent land registration update shows the development of a significant disparity between the amount of irrigable land in Khwaja Du Koh and Darya-i-Safed. Between 1900 and 1962, the irrigable land in Khwaja Du Koh increased by between 134¹³⁷ to 142¹³⁸ percent. By contrast, irrigable land in Darya-i-Safed experienced only a four¹³⁹ to 15¹⁴⁰ percent increase (see Table 4).

132 The divider was made of wood and called chob darak. Nowadays, the vast majority of structures have been concreted.

133 See the history of development of Khwaja Du Koh canal system in Annex 6.

134 This type of land is referred as paykali land. The data were recorded from a document provided by the Center for Public Land Statistics in Shiberghan.

135 By reducing the duration of water turns inside juis.

136 Note that no major changes to land distribution and irrigable areas took place after the 1960s.

137 Change from Abdur Rahman (late 1880s-early 1900s) to Zahir Shah (1962).

138 Change from Abdur Rahman (late 1880s-early 1900s) to the present day (based on canal mapping survey and Google Earth/GIS calculations).

139 Change from Abdur Rahman (late 1880s-early 1900s) to Zahir Shah (1962).

140 Change from Abdur Rahman (late 1880s-early 1900s) to present time (based on canal mapping survey and Google Earth/GIS calculations).

Table 4: Evolution of irrigable land in Khwaja Du Koh and Darya-i-Safed

	Irrigable land, late 1880s early 1900s (paykals)		Irrigable land, 1962 (paykals)		Current irrigable land based on canal mapping survey and GIS calculations* (paykals)	
Khwaja Du Koh	100	33.3%	242**	53.7%	234	50.5%
Darya-i-Safed	200	66.7%	208	46.3%	230	49.5%
TOTAL	300	100%	450	100%	460	100%

* The GIS calculation was part of this research.

** 96,686 jeribs (19,337 ha) according to official MAIL records.

Water sharing at jui level (intra-village)

In Jawzjan, water rights and distribution practices at the jui level appear to be consistent across the province.¹⁴¹ Here, water is distributed directly from the jui to individual plots, following a fixed sequence of time-based turns. Plots along each jui are listed according to the order of their turns, with entries indicating the duration of water share each farmer is entitled to. This is again determined in proportion to the size of the irrigable land area they own.¹⁴² For example, the total number of hours available to the Jui Afghan-Tepa-i-Turkmania comes to approximately 240, corresponding to the 10 days water turn for Jawzjan Province as a whole. With a total command area of four paykals, this works out at nine minutes per jerib for plots along the canal. However, the amount of water available during these nine minutes is likely to be highly inconsistent as it is directly subject to changes in river flow. This means that even if farmers irrigate for the same duration, they may not necessarily receive the same amount of water.

Water distribution is the responsibility of the saatchi (literally “time-keeper”; the member of the larger mirab organisational structure in charge of water distribution at the jui level). Shortly before water turns start, the saatchi announces—usually in



Image 10: Farmer waiting for his turn while his neighbour (background) irrigates his plot (land preparation).



Image 11: Farmer checking his watch to make sure his saatchi starts his water turn right on time when his neighbour's time is up.

¹⁴¹ Note that no systematic and detailed investigations could be conducted in all jui. One jui in Nahr-i-Gardana was investigated in detail, followed by discussions with other mirabs to assess whether major differences exist. It is likely that future investigation in other juis will reveal minor differences from the general model. In some cases, a jui will be divided into a juicha (through an informal earthen division) from which a number of plots will be supplied directly.

¹⁴² This statement is based on the example of one branch that has been investigated in detail. Although informants mentioned that it is common practice in Jawzjan, that there may be variations to this system.

the village mosque—the exact time when the first turn will begin. He then goes on to announce start times for each of the farmers on his list. Since water supply is very limited throughout the year, farmers normally arrive in their fields before their turns begin so that they can start irrigating as soon as their neighbours' turns are finished (see Images 10 and 11). In the case of Jui Afghan-Tepa-i-Turkmania, turns always start at upstream plots and progress downstream.¹⁴³

For farmers who have different plots at different locations along the jui, it is also possible to transfer water rights from one plot to another. For instance, during the second irrigation season—when water is very limited even in a normal year—a certain number of farmers who have land in the downstream part of the jui will transfer their turn to another plot upstream. In this way, they are able both to save on water losses due to infiltration along the jui, and to use their total water share more efficiently by concentrating it on a single plot. However, this practice needs to be announced in advance to the saatchi so that he can adapt the duration and timing of water turns. Farmers are also permitted to lease away their water rights, either per turn or for a whole irrigation season (although this practice is not very common).¹⁴⁴ This again needs to be announced to the saatchi.

Water rights and water distribution in Sar-i-Pul Province

Water rights and distribution at inter-canal level

As in Jawzjan, water rights and water distribution among canals in Sar-i-Pul are theoretically determined in proportion to each canal's command area. However, this principle is not reflected in either the design of intakes or the dimensions of main canals' openings. This means that—in contrast to proportional dividers—there are no technical limitations to the amount of water that can be diverted into the main canals. Consequently, manual regulation is required to prevent upstream canals from diverting the river's entire flow.

In the absence of any flow measurements and regulation structures at river and sarband level, it is up to the provincial mirab to adjust flow at sarbands in line with what he subjectively perceives to be a fair share (in the sense of proportionality to amount of land).¹⁴⁵ Regulation is achieved by modifying the structure of the sarband.¹⁴⁶ Tampering with a sarband—especially when increasing the flow in the main canal—is relatively easy to undertake and hard to detect (at least as when compared to tampering with a proportional divider).¹⁴⁷ To address this problem, provincial mirabs use a wooden stamping tool to mark the maximum authorised level entering the main canal, but the system is not exactly fail-safe (see Box 2).

¹⁴³ Although it was not clear for the saatchi when and why this rule was put in place, he believed that this was done to reduce transport losses toward downstream offtakes.

¹⁴⁴ It was beyond the objective of this research to investigate in detail the strategies of different farmers regarding leasing their water. The limited information provided here was gathered through informal discussions. Farmers may decide to lease their water when they anticipate that their share of water will only irrigate a small piece of land. They may therefore decide that it is better to lease the water and invest their labour in alternative livelihood strategies. This may be the case for farmers who have only limited amount of land; it may also be the case when farmers' plots are located in the most downstream part of a branch, since the transport losses by infiltration may be high (especially in times of low flow). In Khwaja Du Koh, Darya-i-Sya or Darya-i-Safed, figures varying from 350 to 500 Afghanis (US\$7-10) for five hours of water turns were given. These should however be viewed with caution as no systematic investigation was carried out.

¹⁴⁵ Such regulation may involve a degree of trial and error, which may become very time consuming considering that there are 43 intakes spread along the 50 km of the Sar-i-Pul River.

¹⁴⁶ This consists into removing the different boulders, branches and sandbags that compose the sarband.

¹⁴⁷ Changes in the level of the flow in the main canal due to changes in the structure of the sarband are hard to perceive, especially in large canals.



Image 12: Provincial mirab of Sar-i-Pul and the seal he uses to regulate water flow in each canal.



Image 13: Provincial mirab explaining how the seal may be tampered, by covering.

Box 2: A “stamp” for regulating water flow in canals

The provincial mirab of Sar-i-Pul uses a wooden stamp (or seal) to detect defaulters who do not respect the water flow allocation for each canal. He uses this tool to mark the maximum authorised level to enter the main canal. The mark is imprinted on the inside bank of the canal, just above the required water level. If part or all of the mark is washed away, the mirab knows that a defaulter has attempted to increase the water level in the main canal. The mirab knows the exact shape of his seal, and can thus easily detect falsifications. However, the system is not completely tamper-proof, as the mirab himself pointed out:



I was patrolling close to a canal intake when I saw a farmer at the sarband. I approached under cover of the bushes to observe what he was doing. He had brought a bowl and he was using it to cover the mark of the stamp. He then used a stick to make sure the bowl would hold. This system was meant to protect the seal from being washed away by the rising water level in the canal [see Image 13]. The farmer could then divert more water in his canal. When he was finished, he would lower the level again and then remove the bowl. In the process, the print would remain undamaged. Our farmers can be very ingenious when they want to get water.

Water rights and water distribution at intra-canal level: A mixed system

Most distribution within canals in the Sar-i-Pul plain occurs along the same lines as those described for Jawzjan. The main canal is split into branches—either nahr or jui—via proportional dividers functioning continuously and without turns. The branches then split down to the level of juis. At this level, plots are supplied through a turn system similar to the one described in Jawzjan. In some canals, however, distribution is conducted according to a system that mixes proportional division with continuous flow on the one hand, and time-based turns on the other. In the Qeragho Canal for instance, the first division structure functions as proportional divider. However, water is distributed at the remaining dividers according to time-based turns (see Box 3). This system is also found in the Akhtash and Khumr-Abad Canals.¹⁴⁸

Water rights and water distribution at jui level

As in Jawzjan, mirabs and chakbashis (mirabs' assistants) in Sar-i-Pul¹⁴⁹ have systems designed to deal with unforeseen difficulties in implementing water distribution plans (see discussion in Section 5.3 below). Leasing water in Sar-i-Pul is much rarer than in Jawzjan, and does not happen at all during the first irrigation season. This is likely because Sar-i-Pul receives a higher share of water than Jawzjan in proportion to its amount of irrigable land.

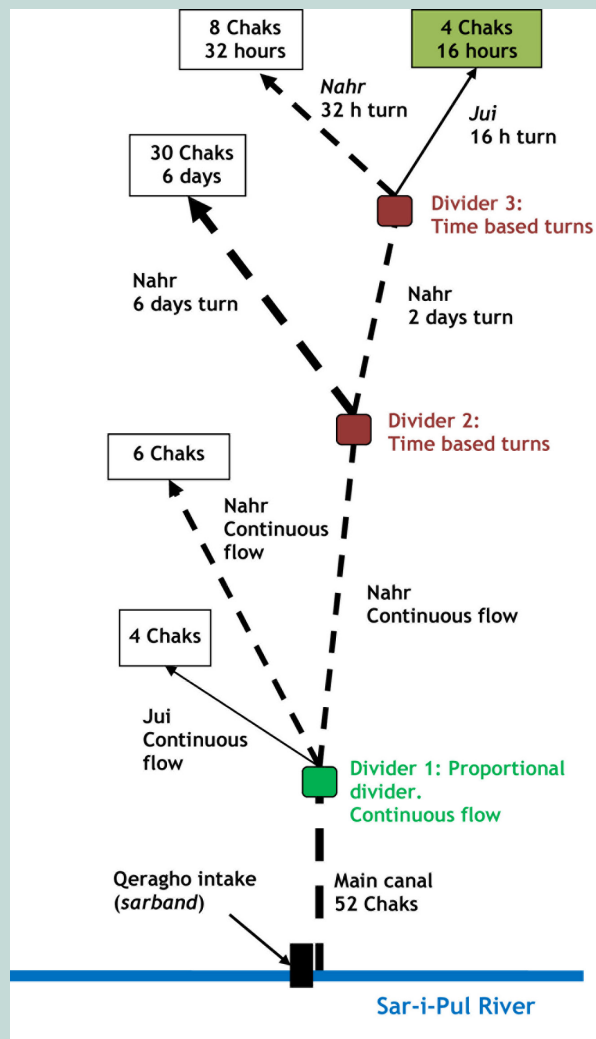
¹⁴⁸ The reasons for the difference between these two modes of water distribution inside different canals in Sar-i-Pul were not investigated as this fell beyond the primary objective of the research. None of the mirabs and elders interviewed about this issue was able to explain it. They only knew that such differences in practices (whether in Qeragho and Alizai or other canals) have persisted as far back as they could remember.

¹⁴⁹ Note that in Jawzjan this term is used for a person supervising a group of farmers working for a landlord, and does not imply a water management function.

Box 3: Schematic map of Qeragho Canal and dividers: Mixed model between proportional (continuous flow) and turn-based water distribution



Image 14: Divider 3 along the Qeragho Canal, Sar-i-Pul



Water distribution in Qeragho Canal employs a mixed system. The first divider functions as a proportional divider, while the second and third use time-based rotation. Each jui irrigates a number of chaks (units of land equivalent to 50 jeribs or ten ha in series). For instance, one jui in the system (highlighted in green) irrigates four chaks (40 ha). For this specific group of chaks, two small juis convey water continuously during their 16 hour turn to supply one plot after another. In this case, each farmer may receive approximately nine to ten minutes per jerib. Although this is approximately the same time as observed for plots in Jawzjan, the flow of water to each plot is usually higher in Sar-i-Pul than in Jawzjan.¹⁵⁰

¹⁵⁰ In absence of regulated flow comparing timing of water turns is thus an inappropriate way to compare water access between farmers belonging to different canals (including across provinces)

5.3 Roles and responsibilities of different actors and organisations regarding water sharing at different levels

This section first highlights the roles of actors who are formally responsible for the day-to-day management of water sharing. This includes various grades of mirab—from jui to provincial level—as well as WMD officials. It then goes on to provide brief descriptions of other actors and organisations that have an indirect bearing on water sharing processes via their wider role in governance at village, district and provincial level. The practical involvement of all these actors and organisations is analysed in more depth in Sections 6 and 7.

Mirabs organisational structure, roles and responsibility

At different hydraulic levels, different responsibilities are assigned to different service providers, all of whom are generically referred to as mirabs. The main roles and responsibilities of each mirab are discussed below, and summarised in Table 5.

Saatchi (jui level)

The saatchi (roughly translated as “time-keeper”) is responsible for ensuring that water turns among plots (or within a jui) are implemented correctly. His main challenge is to anticipate and accommodate for potential impediments to the implementation of turns. In ideal circumstances, each farmer receives water in a consistent and reliable flow for the duration stipulated on the saatchi’s list (with possible adjustments for transfers and leasing). In practice, however, things do not always unfold as planned.

In some cases water turns may not start on time, for example due to a lack of cooperation from Sar-i-Pul. This means that Jawzjan may not receive its full share of ten days’ water, but nine, or eight, or even less. During dry years, flow velocity in the river is reduced, translating to a longer conveyance period between Sar-i-Pul and Jawzjan. This may again reduce the total duration of Jawzjan’s effective turn. In such circumstances, the saatchi has to adjust the number of hours (or minutes) for each farmer accordingly.

Other issues may include water stealing (particularly at night) at the divider level. Water stealing is also common in juis that pass between or through compounds, away from witnesses. It may also happen that farmers dispute the exact timing of their turn or miss it for unexpected reasons (see the Jui Eityreq case study in Section 6 below). It may also happen that during Jawzjan’s turn, the water level in the river drops due to water stealing in Sar-i-Pul. All these possible impediments have the potential to significantly reduce water flow for a period of time, affecting one or several farmers. In these cases, the saatchi does not stop or change the duration or sequencing of turns, as this would be too complicated to carry out and could generate conflicts. Instead, the saatchi normally anticipates these obstacles by cutting the duration of all farmers’ turn to leave some time available as a contingency. For instance, if there are eight days of effective water turns in Jawzjan, he will instead calculate water turns for each farmer on the basis of 7.5 days. At the end of all turns, the saatchi will distribute the remaining water to farmers who may have been disadvantaged in some way during the process—or to all farmers equally in the event that the initial distribution has passed without incident. This system is vital in allowing saatchis to mitigate and prevent potential conflicts.

Canal mirab (canal level and inter-provincial level)

An important task of the canal mirabs is to assist the provincial mirab in closing and monitoring sarbands in Sar-i-Pul during Jawzjan’s water turn. This is the joint responsibility of canal, river and provincial mirabs, who are referred to as the shura-i-ab (water group)

when they patrol canals.¹⁵¹ The canal mirab is also responsible for patrolling along his canal to detect possible tampering with proportional dividers (see Image 15).

River mirab (river level and inter-provincial level)

The river mirab plays the same role as the canal mirabs but at a higher level. He often supports the canal mirabs by patrolling canals belonging to the river he is responsible for. He is also an important member of the shura-i-ab.



Image 15: A canal mirab re-adjusting a jui divider that has been tampered with.

Provincial mirab (provincial and inter-provincial level)

In Jawzjan, the main responsibility of the provincial mirab is to ensure that that Jawzjan Province receives its fair share of water during its water turn, and to supervise water distribution between the Darya-i-Safed and the Darya-i-Sya.

During Jawzjan's ten-day turn, he is officially authorised to close the sarbands of the Sar-i-Pul canals, and is assisted in this task by the Jawzjan shura-i-ab. During this process, he also reports on his activities the Sar-i-Pul WMD.¹⁵² He may also request assistance from both the Sar-i-Pul WMD and its provincial mirab. Although the Jawzjan shura-i-ab is responsible for physically closing the sarbands, the presence of the provincial mirab is sometimes very useful in reinforcing their legitimacy and authority, especially in contexts of high insecurity. In fact, the Jawzjan shura-i-ab may not even venture in certain areas—such as the Laghman valley—where security has seriously deteriorated in recent years. In these instances, the provincial mirab of Sar-i-Pul provides support with the help of his deputy and sometimes from Sar-i-Pul mirabs. Nevertheless, figure 20 suggests that the Laghman valley currently benefits from a better water access that downstream areas, meaning that monitoring in the area may be limited in its effectiveness.¹⁵³

Substantially less work is required to ensure that water is distributed properly along the Darya-i-Safed and the Darya-i-Sya, since water is shared automatically via proportional dividers. However, in some cases the provincial mirab may assist the river and canal mirabs as they patrol the dividers on the lookout for tampering.

In Sar-i-Pul, the main responsibility of the provincial mirab is primarily to regulate the sarbands of all canals along the Sar-i-Pul river during Sar-i-Pul's water turn, as well as in providing support to the Jawzjan shura-i-ab as discussed above. He is assisted in the former task by his deputy. Annex 7 recaps the different types and numbers of mirabs in Sar-i-Pul and Jawzjan.

¹⁵¹ Note that only Jawzjan has a shura-i-ab.

¹⁵² The provincial mirab of Jawzjan is formally recognised by the WMD of Sar-i-Pul via a letter from the Jawzjan WMD sent at the time of his election.

¹⁵³ There is also a tendency to let water users in the Laghman valley take water during Jawzjan's turn in exchange for their cooperative with downstream Sar-i-Pul water users during Sar-i-Pul's water turn.

Table 5: *Mirab organisational structure and water sharing principles at different levels*

SUB-BASIN / INTER-PROVINCIAL LEVEL		
Water sharing levels	Mirab responsible	Water sharing principles
Hydraulic level Water sharing along sub-basin	Social level Water sharing between provinces	One provincial <i>mirab</i> in Jawzjan supported by canal <i>mirabs</i> One provincial <i>mirab</i> and one deputy in Sar-i-Pul
JAWZJAN		
Water sharing levels	Mirab responsible	Water sharing principles
Hydraulic level Inside a <i>jui/juicha</i> (between plots) Below <i>jui</i> divider	Social level Within a single village	Time-based turns among plots (with fixed sequencing). Time share proportional to amount of land Possibility to transfer or lease water rights (time) from one plot to another
At <i>jui</i> divider (between <i>juis</i>)	Between individual villages	Proportional division Continuous flow (no turns)
At <i>nahr</i> divider (between <i>nahrs</i>)	Between groups of villages	Proportional division Continuous flow (no turns)
At <i>darya</i> divider (between <i>daryas</i>)	Between groups of villages or districts	Proportional division Continuous flow (no turns)
SAR-I-PUL		
Water sharing levels	Mirab responsible	Water sharing principles
Hydraulic level Inside a <i>jui/juicha</i> (between plots) Below <i>jui</i> divider	Social level Within a single village	Time-based turns among plots (with fixed sequencing). Time share proportional to amount of land Possibility to transfer rights (i.e. time) from one plot to another Option 1: Proportional division/continuous water flow (no turns) Option 2: Time based rotation (on-off)/time share proportional to amount of irrigable land
At <i>jui</i> divider (between <i>juis</i>)	Between individual villages	Canal <i>mirab</i> or <i>chakbashi</i> Canal <i>mirab</i> (<i>mirab-i-nahr</i>)
Between canals	Between groups of villages	Two provincial <i>mirabs</i> (<i>mirab-i-wulayati</i>)
		Option 1 (normal years): Continuous flow in each canal/regulation of <i>sarband</i> /water share proportional to amount of land Option 2 (dry years): Turn-based rotation between canals (on-off)

Variations in challenges and required skills of mirabs at different levels

By implementing water distribution according to water rights principles, mirabs play a fundamental role of conflict prevention and containment. However, there are different challenges at each level of the canal system, which are reflected in the different skill requirements for each position in the mirab organisational structure (summarised below in Table 6).

Jawzjan Province

In Jawzjan, there is an especially strong contrast between the characteristics desired in a saatchi and those required of a provincial mirab. For the former, technical skills are the most important, all of which require experience to master. A saatchi is expected to be able to perform the calculations necessary to adjust water turn durations in the face of uncertain flows. He is also expected to anticipate changes in river level and how these may in turn affect flow in the jui, and to draw up contingency plans to compensate. Saatchis must also possess social and mediation skills since they may encounter disputes between farmers. Mediation skills, patience, integrity and a personal record free from conflict are thus also factors considered by elders and landowners when they elect a saatchi. However, they are not as important as technical skills; indeed, a high level of expertise may reduce the likelihood of a saatchi having to resort to conflict mediation.

At river basin level, technical skills matter less because the only thing that the provincial mirab has to do is to close the sarbands of Sar-i-Pul canals, where he is in any case supported by other Jawzjan mirabs. By contrast, social and mediation skills as well as personal characteristics such as influence and power become critical. Despite the fact that inter-provincial water rights are clearly defined and deeply rooted, and even though the Jawzjan provincial mirab is formally authorised to operate the sarbands in Sar-i-Pul, actual implementation and respect of these rights is far from guaranteed in practice. In addition, it is practically impossible for the Jawzjan provincial mirab and his assistants to constantly monitor all sarbands. The cost of transport, food and accommodation are prohibitively high, while insecurity and simple cover of darkness present further obstacles. Furthermore, if monitoring is too obvious, it may be interpreted as a sign of defiance toward Sar-i-Pul water users and thus affect social capital. As a consequence, effective and efficient compliance with water rights by Sar-i-Pul water users will largely depend on the ability of the Jawzjan provincial mirab to maintain good relations with mirabs and local strongmen in Sar-i-Pul.

Another contrast between the saatchi and the provincial mirab is their respective levels of impartiality and vested interests in water distribution. It is preferable for a saatchi not have vested interest in the jui, since this could lead to questions over his impartiality in managing water sharing and settling disputes. As a consequence, saatchis tend not to have substantial landholdings in the juis they supervise, and may in fact be drawn from communities served by entirely different juis. By contrast, it is very important for a provincial mirab to have vested interests, such as large amount of land. This because Jawzjan's proportional divider system ensures that the flow is equitably distributed across the province, meaning the provincial mirab has a common interest with all other water users in ensuring that adequate water flow is secured from Sar-i-Pul. Thus, while a saatchi may not belong to the village he supervises, it is unthinkable that a provincial mirab might come from outside Jawzjan.

Sar-i-Pul Province

For Sar-i-Pul Province, variations in the challenges and skill requirements of mirabs at different levels are essentially similar to those in Jawzjan. However, there is one key difference: In Sar-i-Pul, the technical skill requirements for the provincial mirab are significantly higher than for his counterpart in Jawzjan. This is because lack of flow measurement at different sarbands means strong experience is required to understand the various river flow conditions and estimate a fair allocation for each canal accordingly. Nevertheless, social skills remain critical, and have grown in importance in recent years. This is due to the degrading security situation in the Laghman valley, which has disrupted the effective implementation of water sharing principles. This is partly because insecurity has made monitoring more difficult, and partly because coercive enforcement of water turns inevitably fuels tension, which can then be exploited by insurgents. Developing and maintaining social capital with both community leaders and insurgents in the area has consequently become the most important skill for the provincial mirab.

For the past ten years, the provincial mirab in Sar-i-Pul has been a former military commander with close ties to Junbesh and its founder, General Dostum. During his time as a military commander, he had earned a tremendous amount of respect due to his upright behaviour and ability to maintain good relationships with different communities and ethnic groups in the province. This accumulated social capital made him an ideal candidate for provincial mirab when he returned to Sar-i-Pul after the fall of the Taliban in 2001. He remains one of the only mirabs able to travel easily through the Laghman valley and convince water users to respect water turns. However, as the case studies below document, his influence in the area is still limited, especially during dry years.

Table 6: Contrasting characteristics of saatchis and provincial mirabs

Service provider	Preferred characteristics
Saatchi	<ul style="list-style-type: none"> • Literate (can do simple calculations for adjustments of turn duration) • Good understanding of river flow variation and potential repercussions at jui level • Little or no land in the jui • No history of conflicts in the village • Patient
Provincial mirab (Mirab-i-Wulayati)	<ul style="list-style-type: none"> • Strong social linkages with strongmen in Sar-i-Pul • Large amount of land in Jawzjan (personal interest in bringing water to Jawzjan)

Water Management Department (under MEW)

Role in water sharing infrastructure and emergency support

In theory, the WMD is responsible for canal infrastructure development. In practice however, its involvement is variable. It may take a leading role when funding comes from government programmes or INGO projects. However, it may not be involved—or even informed—when communities design, fund and construct their own structures. And when projects are funded by other ministries (such as the Ministry of Rural Rehabilitation and Development (MRRD) for NSP projects), its involvement depends on the quality of relationships and level of coordination between government departments. For example, in the case study of conflict over the divider in Salmazan, the WMD was not involved in the design of a construction project funded by MRRD. The WMD may also provide emergency material support such as sandbags in case of flood or damage to canal banks.

Water distribution

In theory, the WMD is officially responsible for overseeing water management and water distribution, as well as for resolving water-related conflicts. However, WMD staff are not officially responsible for implementing and monitoring water distribution between or inside canals. Instead, the task is left entirely to the various mirabs at different levels in the canal system. While mirabs are selected by community representatives and paid by water users, they are also officially registered with the WMD¹⁵⁴ (and the provincial governor's office—see below). Although the WMD does not pay them, mirabs consider themselves to be part of its staff.

Other key local institutions and actors

Provincial Council

The Provincial Council (PC) is a directly elected body. Created in 2005, it was intended to provide oversight of provincial government, but in practice its powers of enforcement are weak. The council approves the provincial budget before its submission to the central government. They may also evaluate government service delivery and citizen complaints. In this regard, it plays a bridging role between the governor, line ministries and communities. As demonstrated in the case studies below, PC members have also played a leading role in settling water related conflicts.

Provincial governor

Provincial governors are appointed by the president, in consultation with the Independent Directorate for Local Governance. Their role is to secure the support of prominent local power brokers, and maintain good relations with international military forces, Provincial Reconstruction Teams and donors. Although they are meant to play a mainly facilitating role, in practice they may be very influential when it comes to expenditure approval, dispute resolution, and appointment of other officials and civil servants at the subnational level.¹⁵⁵ Critically, the governor often plays a pivotal role in facilitating conflict resolution processes.

Department of Agriculture Irrigation and Livestock (under MAIL)

In practice, DAIL has no practical involvement in irrigation, focusing instead on agriculture services (crops, inputs, etc). When farmers and mirabs want to mobilise local government actors over irrigation issues, they refer instead to the WMD. Communication between DAIL and WMD is usually limited. In some cases, however, DAIL may provide information to WMD regarding land registration. This is especially important when determining water rights during the redesign of water infrastructure.

The local government has historically been influential in the design of canal systems and in the formulation of water rights, even as far down as at jui level (see Section 4). Currently, water management within the jui level is considered the responsibility of DAIL. The new Water Law also stresses the involvement and responsibility of DAIL at the lowest hydraulic levels, including through the formation and development of IAs. In practice, however, DAIL does not currently play any role in conflict resolution over water sharing at jui level, nor does it take much part in wider issues of water management. According to a high-ranking DAIL staff member in Sar-i-Pul:

154 Note that the election of mirabs (canal, river and provincial) takes place at the WMD.

155 C. Cookman and C. Wadhams, "Governance in Afghanistan. Looking Ahead to What We Leave Behind" (Washington, DC: Center for American Progress, 2010).

In the Irrigation Association Regulations, it is mentioned that the canal mirab should be the head of the Association. Now MEW is giving official cards to all mirabs [from saatchi to Provincial mirab] but they say that when the water is going to the juis it is DAIL's responsibility. If the responsibility of DAIL is at jui level, should we buy a shovel and irrigate the farmers land, or leave the office and go to the farmers land to see how they irrigate? If we are responsible for jui level then what is the responsibility of farmers?

With neither WMD nor DAIL eager to play a role, local government institutions are thus—in contrast to previous eras—largely absent from conflict resolution at this level.

Village shuras

Shuras are deliberative community councils¹⁵⁶ generally consisting of community elders and other respected individuals. Among their responsibilities, they handle the vast majority of village-level civil and criminal disputes. Dispute resolution by shuras is usually based on consensus and cooperation, and decisions are mainly inspired by principles of distributive rather than retributive justice.¹⁵⁷ This is rooted in the notion of *islah*, a conflict resolution principle where “peace and social cohesion are pursued through a process of negotiation and reconciliation.”¹⁵⁸

Community Development Councils/District Development Assembly

CDCs are community-level bodies elected as part of the NSP, which is run by MRRD. Officially, their role is “to deliver project-based community based development and to improve community governance.”¹⁵⁹ CDCs are not officially recognised government bodies, but they nevertheless play an important role in identifying community priorities for development grants. They may also play a role in local dispute resolution, although this is not technically part of their responsibilities.¹⁶⁰ There is often substantial overlap between membership of CDCs and traditional village shuras.

5.4 Occurrence and types of conflicts at different levels

This section examines the most significant types of water-related conflicts occurring at different hydraulic and social levels of the river/canal network. It also looks at the factors explaining the presence or absence of different conflicts at different levels. Tables 6 and 7 summarise the key points for Sar-i-Pul and Jawzjan respectively.

Conflicts in Jawzjan Province

Jui level: Water sharing between farmers from the same village

Conflicts at jui level are not uncommon, but do not occur frequently. They are also usually limited in intensity, and are typically contained and promptly settled by the *saatchi*. At this level, the main form of conflict is water stealing through disrupting the duration of water turns among plots. However, such theft is difficult for a number of reasons. First, the time and sequence of turns is written down, known to all, and not

156 See J. Brick, “The Political Economy of Customary Village Organizations in Rural Afghanistan” (Washington, DC: Annual Meeting of the Central Eurasian Studies Society, 2008), 5, for alternative names in different parts of the country.

157 Brick, “Political Economy of Customary Village Organizations”; Dempsey and Coburn, “Traditional Dispute Resolution”; R. Gang, “Community-Based Dispute Resolution Processes in Balkh Province” (Kabul: Afghanistan Research and Evaluation Unit, 2010).

158 Gang, “Community-Based Dispute Resolution Processes in Balkh Province.”

159 Brick, “Political Economy of Customary Village Organizations.”

160 Cookman and Wadhams, “Governance in Afghanistan.”

contested.¹⁶¹ Second, most jui in Sar-i-Pul are relatively small and have a limited number of users. This makes it relatively easy to detect—through patrolling—any individuals attempting to steal water. Third, since all the farmers along a jui tend to belong to the same village, the social capital between them presents a strong disincentive for theft. As one farmer put it: “How could I steal water from a neighbour who I go to the same mosque with?” At higher levels, this social pressure becomes less intense, since water sharing takes place between different communities rather than among members of the same village. Fourth, the system of contingencies (see above) adopted by the saatchis acts as a buffer to contain any possible escalation of disputes, and is one of the main tools for preventing conflict at this level. As discussed above, the likelihood of conflicts (and their successful resolution) depends in large part on the skill of the saatchi.

When conflicts do take place at this level, they are generally invisible. As one elder put it:

We know that some conflicts happen but I don't really have examples I can describe because they are usually addressed by the saatchi. We just get to know about it later but we usually don't know the details.

Overall, conflicts at this level typically remain localised in nature. They do not have significant impacts and rarely extend beyond village level during resolution processes.

Nahr/jui dividers: Water sharing between different villages

Since proportional dividers share water automatically, there is—in theory—little room for mismanagement. Conflicts at this level therefore focus around the operation of the infrastructure. One way to steal water at dividers is to place obstructions such as sandbags in front of other branches (see Image 16). However, this is relatively easy to detect (especially during the day) and is thus normally a short-term issue. These practices become more problematic when dividers are located in insecure areas, since farmers may be more reluctant to conduct patrols in such dangerous settings.



Image 16: A canal mirab removes sandbags from a proportional divider, Jawzjan Province.

The main way for farmers from the same jui to increase their access to water to re-design the size of dividers. Conflicts over this issue emerge relatively rarely. However, due to their long-term impact on people's livelihoods, respondents for this study considered them to be among the most important. The case studies presented below suggest that such conflicts tend to take place during periods of sharp political and social change in the communities involved—for example following the emergence of the Taliban regime. How these conflicts are resolved depends very much on the political interests of local actors involved in the process (see case studies for the Salmazan and Emshek dividers). Annex 5 outlines the dimensions and irrigable land for each of the dividers in Jawzjan, and indicates the main structures where the design is contested.

Stealing along a nahr through breaching and siphoning is usually difficult in Jawzjan because most nahrs in the province convey water below field level. Nevertheless, such practices may still happen and become sources of conflict (see the case study for Jegdalek).

¹⁶¹ Conflicts regarding the redefinition of water rights at jui level were not mentioned during research interviews.

Darya and darya/nahr dividers: Water sharing between different groups of villages

As with nahr/jui dividers, conflicts over water access at this level are relatively rare, and focus on the redesign of dividers. Conflicts are again triggered by changes in local political and social environments, although power shifts and the degradation of social capital between the parties involved are also contributing factors. In the past, these conflicts have typically involved external actors as distinct from village level leadership (for example, see case studies of the dividers of Khwaja Du Koh and Darya-i-Safed). Water theft through breaching and siphoning is essentially impossible at this level.

Conflicts in Sar-i-Pul Province

Jui level: Water sharing between farmers from the same village

For reasons discussed above, water stealing within a jui is relatively difficult. Conflicts at this level may instead arise as a consequence of water stealing at higher levels in the canal network (for instance at a divider). Their emergence and resolution again depends on whether the mirab or chakbashi can anticipate or contain resulting disputes by adapting water turns through the contingency systems described above.

Nahr (below sarband) and jui/nahr divider: Water sharing between different villages

Water stealing within canals (between juis) is not common, but may in some cases become a recurrent practice that is difficult to break (see the case study of Akhtash). In such cases, power differences and weak social capital may be a factor in perpetuating conflict. In addition, social control and pressure is less effective here than at village level. Another important driver of conflict at this level is insecurity in the area of the divider or along branches below the divider. This is especially problematic when dividers are located a long way from the villages and land they irrigate, since monitoring them becomes more labour intensive and time consuming. In contrast with Jawzjan, conflict over the re-design of the infrastructure is not a major issue. This may be due to the fact that it is easier to steal water at higher levels, meaning that redesigns are not a prerequisite for securing better water access.

Darya/sarband (regulation of sarband along the river): Water sharing between different groups of villages

Conflicts over the regulation of sarbands are the most frequent kind observed in Sar-i-Pul Province, becoming most intense during dry years when water levels in the river are low. Here, the main source of conflict is failure to respect the regulation of canal flow during Sar-i-Pul water turns. Due to the hierarchical nature of the river/canal layout and the high number of sarband (43 along 50 km), the interdependency among canal communities is high, and the impacts of defaulting are thus magnified the further downstream communities are. In addition, social control is much weaker at this level than along individual juis. Furthermore, tight control of all sarbands through patrolling also becomes more difficult and more costly.

Insecurity in certain areas plays an important role in the emergence or escalation of such conflicts. To begin with, it limits farmers' ability to properly patrol sarbands. Furthermore, the combination of insecurity and low social capital between certain communities means that the coercive enforcement of water turns is more likely to exacerbate than solve existing tensions. Even when tampering is detected, finding the individuals to sanction is very difficult. In the past, sanctioning the entire canal was an option, but this has become impossible in recent past decades. In such circumstances, actors responsible for preventing defaulting or resolving conflicts must constantly assess whether strict application of water rights is likely to enflame tensions further.

Conflicts at interprovincial level

Despite the clear formal definition of water rights between Sar-i-Pul and Jawzjan, conflicts between the provinces may still emerge over the implementation and monitoring of water turns. In particular, Sar-i-Pul water users may attempt to open their sarbands to irrigate their land during Jawzjan's water turn, taking the advantage of the unstable security situation and other inherent obstacles to monitoring such a large canal system. Compliance with water turns thus depends largely on the willingness of Sar-i-Pul water users and powerholders to respect the rules. This again depends on the quality of the social relations among between users, powerholders and authorities across both Provinces.

Recently, discussion of revoking inter-provincial water rights altogether has sparked further tensions between the provinces.¹⁶² At this level, conflicts tend to become politicised due to the large number of people affected, and the subsequent impact it may have on the interests of major political figures in the area.

5.5 Summary of key points

- Each province has its own specific characteristics in terms of canal layout, water sharing rules, mirab organisational set-up and main types of conflict experienced. Different types of water-sharing agreements along the Sar-i-Pul River also show strong provincial demarcation.¹⁶³
- While Jawzjan regulates water-sharing through strict proportional dividers, Sar-i-Pul uses a mix of hierarchical and branch layouts.
- In the Jawzjan proportional division and branch canal network, most conflicts are concentrated on the redesign of these structures, since this can result in long-term changes to water access. Strong power gaps or social and political upheavals are usually necessary for such change to take place.
- In the Sar-i-Pul hierarchical canal system, most conflicts focus on water theft at sarbands and defaulting on water turn implementation. This results in a clear upstream/downstream water access divide, particularly in dry years. These issues are further exacerbated by the poor security situation in upstream areas.
- Mirabs act primarily as conflict preventers. At jui level, the technical skills of a saatchi¹⁶⁴ are critical in preventing the emergence of tensions and disputes during the implementation of water turns. Above jui level, the social skills of mirabs become more important. This is especially true for provincial mirabs, whose social capital and skills are seen as the best guarantee against defaulting by upstream water users.

¹⁶² This idea was voiced by a number of elders in Sar-i-Pul during 2011.

¹⁶³ With the exception of Zakat and Imam Jafar canals. These two canals are located inside the provincial borders of Jawzjan but they are included in the water turns of Sar-i-Pul. Note that these two canals are not part of the branch/layout system supplying all the remaining irrigated area of Jawzjan.

¹⁶⁴ Or chakbashi in the case of Sar-i-Pul.

Table 7: Main types of conflict occurring at different levels in Jawzjan Province

Hydraulic level	Social level	Type of conflict	Factors contributing to occurrence of conflicts	Factors limiting occurrence of conflicts
<i>Jui</i>	Village	Water theft and disruption of water turns (limited occurrence)	Limited technical skills of <i>saatchi</i>	Small size of <i>jui</i> command area Fixed turns Social capital and social pressure at village level Strong technical skills of <i>saatchi</i>
River/ canal	Between villages	Re-design of proportional dividers	Degradation of socio-political context Poor social capital Increasing pressure on water demand Favourable topography for water stealing	Strong social capital and political unity
River	Between groups of villages	Re-design of proportional dividers (limited occurrence)	Degradation of socio-political context Poor social capital between communities Increasing pressure on water demand	Strong social capital and political unity
Sub-basin	Inter-provincial	Disruption of water turns Contestation of water rights (recent)	Degradation of security context in upstream Sar-i-Pul Costs of patrolling Limited social capital compared to <i>jui</i> level	Social capital and mediation skills of Jawzjan provincial governor with Sar-i-Pul powerholders, WMD and provincial <i>mirab</i>

Table 8: Main types of conflict occurring at different levels in Sar-i-Pul Province

Hydraulic level	Social level	Type of conflict	Factors contributing to occurrence of conflicts	Factors limiting occurrence of conflicts
<i>Jui</i>	Village	Water theft and disruption of water turns (limited occurrence)	Limited technical skills of <i>saatchi</i>	Small size of <i>jui</i> command area Fixed turns Social capital and social pressure at village level Strong technical skills of <i>saatchi</i>
River / canal	Between villages	Water theft, tampering of proportional dividers (limited occurrence)	Degradation of socio-political context Poor social capital between communities Increasing pressure on water demand	Strong social capital and political unity
River	Between groups of villages	Disruption of water turns, tampering of <i>sarbands</i>	Degradation of socio-political context Poor social capital Increasing pressure on water demand	Strong social capital and political unity

6. Understanding Institutions in Practice: Narratives of Conflict Resolution Procedures

This section documents conflict resolution practices occurring at different levels in the Sar-i-Pul sub-basin through the detailed narratives of eight case studies.

6.1 Conflicts over water rights between Sar-i-Pul and Jawzjan Provinces

Table 9: Summary of conflict over water rights between Sar-i-Pul and Jawzjan Provinces

Type of conflict	Water distribution and water rights
Level in canal/river network	Inter-provincial
Main points of interest/lessons learned	<ul style="list-style-type: none"> Water conflicts at higher levels may become threats or opportunities for political leaders and thus prompt them to intervene in their resolution—for better or worse. Water conflicts may be exploited by strongmen to pursue their local political ambitions, worsening tensions between parties to the conflict. At the same time, political interests beyond the sub-basin's borders may play a positive role in maintaining the application of long-established water rights. Conflict resolution procedures for a particular situation do not necessarily follow the same established procedures. Instead, they evolve based on lessons learned from one event (e.g. 2008) to the next (e.g. 2011). Resolving high-level conflicts through community representatives may not be universally desired. Some communities may instead see central government involvement as a better means to secure their water rights.

This case focuses on the conflict event during the dry year of 2011, when Sar-i-Pul water user representatives threatened to revoke the province's century-old water sharing agreement with Jawzjan (see Section 5). Respondents reported that this event was the most acute ever witnessed in the history of tensions on water rights between the two provinces. This section now provides a brief summary of past conflicts between the two provinces, in order to better understand how they shaped the 2011 event.

Main conflict events from the 1980s to 2008

During the Soviet invasion¹⁶⁵

According to respondents, serious tensions or conflicts over interprovincial water sharing first emerged in the 1980s.¹⁶⁶ During the time of Soviet invasion, the Laghman valley was largely under the leadership of mujahidin fighters, who opposed the pro-Communist government. During a dry year occurring in this period, Laghman water users did not close their intakes during Jawzjan's first water turn. Jawzjan mirabs and elders brought

¹⁶⁵ Informants did not recall the events of the Communist and Taliban periods in as much detail as the 2011 event. They should thus be read as background information to the main event of 2011.

¹⁶⁶ The provincial mirab of Sar-i-Pul remembered that he had heard of a very difficult dry year referred to as the Bangladesh year (1971), but he did not recall hearing about significant interprovincial conflicts.

together a group of people to protest, which included some influential leaders from downstream canals in Sar-i-Pul who were willing to support Jawzjan.

Discussions over the issue were organised by the Sar-i-Pul provincial governor and the WMD, and took place in the governor's office. Although the area under the governor's control had not yet defaulted, he provided a letter in anticipation that it might still do so, stipulating that the agreement of 1911 should be respected. In the Laghman valley, the discussion could not involve government representatives as they were in direct armed conflict with mujahiddin. The elders talked with mujahidin commanders Hajji Samaruddin (now deputy head of the Sar-i-Pul PC) and Maowlawi Naqibullah, along with a few other elders. Jawzjan representatives emphasised the need to respect the 1911 agreement and preserve the relationship of Sar-i-Pul and Jawzjan. The discussion was not conflictive and resulted in a verbal understanding that the agreement would be respected. One elder from Jawzjan described the events:

We tried to convince Sar-i-Pul that it was not just irrigation water for the agriculture of Jawzjan, but also for the people of Jawzjan, who were having problems accessing drinking water. At that time, bringing water from Sar-i-Pul was not easy because some parts were under control of mujahiddin and some parts were under government control. We had to meet all of them and ask them to leave water for Jawzjan. But we managed to secure the water with the support of both the government and the mujahiddin. At that time, elders—whether Pashtun or Uzbek—were not against each other and there was less ethnic-based discrimination compared to nowadays.

Despite opposing groups controlling different territories across the sub-basin, it was thus possible to ensure overall respect for the 1911 agreement through appeals to both the government and opposition forces.

During the Taliban regime

The next conflict over the implementation of water turns took place, at the start of a three-year drought during the 1990s. At this time, the provincial mirab and a few canal mirabs from Jawzjan faced resistance from both farmers in Laghman valley and downstream Sar-i-Pul when attempting to implement their province's water turn. During the first days of the turn, water theft¹⁶⁷ also took place.

The mirabs of Jawzjan decided to voice their complaints to their provincial governor, the district governor of Khwaja Du Koh, and the Jawzjan WMD. The district governor, who was a close friend and ally of Mullah Noorullah Noori (leader of the Taliban in the North), decided to take the matter in his own hands. Together with the provincial mirab and other canal mirabs of Jawzjan—as well as several armed bodyguards—he went patrolling along the Sar-i-Pul canals. While patrolling the Khumr-Abad intake, the group caught and physically assaulted two Pashtun water users attempting to divert water to their canal. A similar event occurred with two Uzbek defaulters at the Qeragho intake. Later, the group also met with the Sar-i-Pul provincial governor to highlight the problem of defaulters in his province. The governor called the provincial mirab of Sar-i-Pul to request his full cooperation with the Jawzjan mirabs. According to respondents, the Sar-i-Pul governor had little other choice but to supporting the Jawzjan group, given the latter's connections with the Taliban leadership in the North.

Following these events, two more water turns were organised. However, toward the end of the irrigation season, the water flow available to Jawzjan during its turn was insufficient to avoid crop failure. The following year was also a dry year, and no water turns took place. As one elder from Jawzjan explained:

¹⁶⁷ Stealing occurred when farmers opened the sarbands, which were supposed to remain closed during Jawzjan's water turn.

In the following year, as we could see that there was almost no rain during the winter and spring we knew that not only had we lost our lalmi [rainfed] crops but that there would not be water in the river even for the first irrigation season. Then we knew that water turns would not be possible.

In this case, the lack of water turns was not the result of a lack of enforcement or poor management, but rather the recognition that water availability was simply too low for water turns to be worthwhile. Even in Sar-i-Pul, water was only used for domestic and livestock purposes; many families ended up leaving the area during this period.

The 2008 conflict event

No major issues were reported between the time of the Taliban regime and the dry year of 2008. During the 2008 dry year, approximately four water turns were organised between April and June. While the first three were enough to support irrigation in Jawzjan, the last one was less successful, in part due to a drastic decrease in the river level. Following official procedure, the provincial mirab of Jawzjan, together with other mirabs and water users, approached the Sar-i-Pul WMD and provincial mirab of Sar-i-Pul to request their support in enforcing Jawzjan's water rights. The Sar-i-Pul representatives explained the position of their water users, arguing that water availability in the river was too low to organise turns. They claimed that even if water were released toward Jawzjan, most of it would be lost due to infiltration before it got there.

When the Jawzjan provincial mirab and his team went on patrol in Sar-i-Pul, they realised that it would be difficult to bring much water to Jawzjan when downstream Sar-i-Pul canals were struggling to get enough water for domestic use, even during their own turn. As these downstream water users explained:

We can't give you water because we already have problems with sharing in inside Sar-i-Pul just for domestic uses. In Jawzjan you have wells and proper water supply for the city but we don't have these facilities.

Their argument was that since water supply in Sar-i-Pul was barely adequate for domestic consumption, turns between should be suspended.

The Jawzjan provincial mirab reported the situation to a meeting of elders and strongmen at the provincial WMD office, explaining the extent of water scarcity in Sar-i-Pul. However, a number of elders refused to acknowledge the mirabs' conclusions, arguing that they did not monitor the entire area—especially the Laghman valley. They decided to take the matter in their own hands by organising a demonstration, blocking the main road to Mazar-i-Sharif. They also threatened to cut electricity supply to Sar-i-Pul. However, according to respondents from both provinces, water issues were not the main motivation for many elders involved in the demonstration, who instead used it as an opportunity to voice broader political concerns. In particular, some strongmen in the area attempted to exploit the situation to demonstrate the extent of their political influence. As one elder put it:

The people who organised this demonstration wanted to send a signal that they were able to mobilise a large amount of people under their name and that they could block roads. This puts them in a stronger position to request positions in the local government.¹⁶⁸

¹⁶⁸ The leader of the demonstration had already made several requests to the provincial governor that he be appointed as head of the Department of Tribal Affairs.

By contrast, other elders (including those from Khwaja Du Koh District) refused to take part in it the demonstrations, since they believed it would do nothing to resolve the problem.

Understanding the nature of the demonstration, the provincial mirab and WMD of Sar-i-Pul decided to engage directly with the Jawzjan provincial governor. They explained that they would enforce a water turn between both provinces, including an *abandâz*¹⁶⁹ in Sozma Qala and Sang Charak Districts, as a sign that they were responding to the demonstrators' claims. In exchange, they requested that the Jawzjan provincial governor set up a commission of elders to monitor the actual situation of the river in upstream Sar-i-Pul, and to assess the impact of scarcity on crops in Sar-i-Pul. The suggestion came with a warning: if the government was unable to put a stop to the demonstration, the relationship between both provinces could be affected, leading to unforeseeable repercussions.

In response, the Jawzjan governor and his deputy used their connections to convince a number of Jawzjan elders who had been dragged into the demonstration to become part of this monitoring team. When the team went to Sar-i-Pul, they realised that the situation there was no better than in Jawzjan, with barely enough water for domestic use, let alone irrigation. As one of the participants in the demonstration recalled:

Honestly, when we saw the situation in Sar-i-Pul, we were ashamed of the demonstration in Jawzjan because of how bad the conditions were there. At one public stand-pipe downstream of Qeragho, there were about 100 children waiting to take water.

The commission also realised even with the water turn and *abandâz* organised by Sar-i-Pul, the flow of water reaching Jawzjan would be insufficient for irrigation. The committee reported back to the governor, his deputy and some of the more influential PC members not linked to the demonstration. The governor was now in a stronger position to put pressure on the demonstrators. He reportedly blamed the members of the commission who had been involved in the demonstration for making immature decisions, and asked them to convince the remaining demonstrators to stop.

For the rest of the irrigation season, the governor organised weekly meetings with PC and DDA members to monitor the situation in villages whose leaders were linked to the demonstration. No further incidents were recorded, and no water turns were requested. At the end of the irrigation season, the main leader of the demonstration was awarded the position of head of the Department of Tribal Affairs.¹⁷⁰ Overall, all respondents felt that this event had significantly affected the relationship between Sar-i-Pul and Jawzjan.

The 2011 conflict event

No major issues were recorded in 2009 and 2010, both relatively good years for water availability. However, the dry year of 2011 was reportedly among the most severe in leaving memory, with similar perceptions recorded across other river basins in the North.¹⁷¹ At the beginning of the second irrigation season—the first week of April 2011—a delegation of mirabs from Jawzjan went to the Sar-i-Pul WMD to inform them about the beginning of the water turn in accordance with the official procedure.

169 *Abandâz* is a customary, temporary agreement on the allocation of water between upstream and downstream communities during periods of drought. It is not a water right.

170 For most respondents in Jawzjan, there was clearly a direct link between the demonstration and his subsequent appointment to this position.

171 Thomas et al., "Mind the Gap?" An Emergency Food Security Assessment conducted by USAID/WFP estimated that in September 2011, 41,800 people (or approximately 30 percent of the population) in Sar-i-Pul District (Sar-i-Pul Province) and 37,600 people (or approximately 22% of the population) in Shiberghan and Khwaja Du Koh districts (Jawzjan Province) were considered as "drought impacted food insecured respectively." See United States Agency for International Development/World Food Programme, "Afghanistan Emergency Food Security Assessment EFSA Drought Impact Classification, September 12, 2011." Available at http://reliefweb.int/sites/reliefweb.int/files/resources/map_1346.pdf (accessed 5 June, 2013).

At the meeting, Sar-i-Pul WMD staff explained that water users in their province were reluctant to implement Jawzjan's water turn, since they were already struggling with water sharing during their own turn. Critically, they also mentioned that some elders in the province had even talked informally of revoking the 1911 agreement altogether. Their argument was that water sharing was becoming more of a burden to Sar-i-Pul's farmers with each passing year, with 2008 as a case in point.

Alarmed by these words, Jawzjan mirabs asked the WMD to organise a meeting with the Sar-i-Pul mirabs and elders who had voiced these ideas. Within an hour, around 12 representatives from Sar-i-Pul (although not including any from the province's downstream canals) arrived to confirm that this was their opinion. The Jawzjan mirabs protested, arguing that revoking such an old agreement made between their forefathers was an important decision and should not be taken unilaterally. The Sar-i-Pul representatives replied that in their view the decision had already been taken, and left the meeting.

The mirab delegation returned to Jawzjan to meet with their deputy provincial governor, who tried first to figure out who was behind this decision, and more specifically if the governor, PC and other officials in Sar-i-Pul were supportive or even aware of it. His investigation revealed that the decision to revoke the 1911 agreement was the initiative of a limited number of elders—mainly from upstream Sar-i-Pul—and that no officials had been involved. As a follow-up, he suggested the formation of a formal delegation to represent the interests of Jawzjan in discussions with Sar-i-Pul authorities. This time, organising a demonstration was out of the question; Jawzjan representatives were conscious that the events of 2008 had not only degraded the relationship between the two provinces, but may also have triggered a willingness in Sar-i-Pul to revoke the 1911 agreement. It was thus decided that the delegation would instead meet with Sar-i-Pul's provincial governor once more.

The Jawzjan delegation was composed of 16 mirabs (including provincial mirab, river mirabs, canal mirabs and saatchis), ten elders, two WMD representatives, two PC members and the deputy governor. By design, Sar-i-Pul water users and WMD staff were excluded from the meeting. Jawzjan participants hoped that doing so might allow the governor to convince his water users to give up on their intentions without it looking like an external intervention, as well as avoiding potentially emotional interactions between water users from each province. The Sar-i-Pul governor promised that at least two water turns would be organised during the irrigation season, and sent a formal letter to the WMD director asking him to apply this decision. Well aware of the unfeasibility of this request, the WMD director called to alert the Sar-i-Pul provincial mirabs. While he explained that he could not formally do anything to resist the request, he advised them to complain to the provincial governor and ask him to reconsider his promise to Jawzjan.

After receiving this information from the WMD director, the provincial mirabs relayed it to canal mirabs, elders and landowners in both upstream and downstream areas, DDAs, and senior PC members. During a short informal meeting, these actors selected representatives to convey their message of defiance against the governor's decision. They also asked the WMD director and deputy director to accompany them to the governor's office.

In the meeting that followed, Hajji Jora, respected elder and long-time former mirab described—supported by both provincial mirabs—the severe constraints limited river flow was placing on water users in Sar-i-Pul. The provincial governor mentioned that he had already promised the Jawzjan delegation that a water turn or abandâz would be organised during the irrigation season. The head of the DDA for Sar-i-Pul District warned the governor of the possibility of demonstrations if water turns or even abandâz were imposed on Sar-i-Pul water users. The deputy of the PC explained that “the river does

not belong to any government line department, governor, Provincial Council or provincial mirab,” implying that decisions should not be made without prior discussions with water users. He then suggested that the governor ask the Jawzjan delegation to come back the next day and discuss the matter with their Sar-i-Pul counterparts. This was supported by the provincial mirabs and other Sar-i-Pul elders present. Hajji Jora even proposed that he would take the responsibility of personally explaining why it was not possible to share water with Jawzjan this year, allowing the governor to save face in front of Jawzjan representatives. According to deputy WMD director, the provincial governor was unhappy with the outcome of the meeting, since the fact that he had been made to go back on his promise could be interpreted as a sign of weakness.¹⁷² However, as the deputy director explained, “he had to accept it because the water user representatives, canals mirabs and provincial mirabs were all against him and upset about his decision.”

The next day, the Jawzjan delegation returned to the Sar-i-Pul governor’s office. After an opening speech by the governor, Hajji Jora apologised for the misunderstanding in the previous discussion, and explained the limitations faced by Sar-i-Pul. He added that the province was not in a position to provide either formal water turns or a temporary *abandâz*. In a later interview, he explained why the decision had been taken to revoke the 1911 agreement:

It was really the proper time for revoking the agreement. If we had proposed revoking the agreement at the time when there was more water in the river, it would not be logical and everyone would blame us and say “why don’t you give the water to your neighbours?”

The Jawzjan representatives angrily reminded him that they had rights, and that all they asked was to receive their own share of the water, not Sar-i-Pul’s water. A mirab from Jawzjan stood and said: “We have an agreement and we should receive our water, even if it is only one *asyab* [the flow necessary to supply a water mill. There is no fixed common equivalent in litres/second across regions]. It is our responsibility to ensure that this water reaches Jawzjan.” Although the mirab knew that it was not practically possible to share water between provinces at this stage,¹⁷³ he wanted to remind the meeting that refusing to share water in dry years should not be seen as Sar-i-Pul’s right.

Growing angry, Hajji Jora replied:

Our elders were crazy that they made this agreement of water sharing with Shiberghan and we propose revoking of this agreement. If we don’t have drinking water for our families, how can we conduct water turns with you?

The Jawzjan WMD director tried to shift the discussion from the legal aspect of water rights to considerations of moral obligation:

Whatever Hajji Jora is saying is right, and if they want to revoke the agreement we agree. But not as a member of the WMD, but just as an Afghan or an Uzbek, I ask Sar-i-Pul: will you give water to your Muslim brother in Shiberghan or not?

Hajji Jora—who later admitted that he was embarrassed by this remark—did not want to reply. The provincial mirabs of Sar-i-Pul explained that with such low flow in the river, it would be a waste for both provinces if the water turns were applied, since most of

172 The relationship between water users and the Sar-i-Pul governor in 2011 needs to be understood within the frame of the local political context of the time. At the time of the water crisis, there were existing tensions between the provincial governor and the population of Sar-i-Pul. According to most respondents in Sar-i-Pul, these also contributed to wider tensions between Sar-i-Pul and Jawzjan.

173 For instance, this was the case during the drought during the Taliban time and the 2008 dry year.

the water would infiltrate or evaporate before it reached Jawzjan. One of the provincial mirab argued that it would thus be “logical” to save the water where it could be used.

Hajji Jora then suggested that the head of the Sar-i-Pul PC take the lead and make a decision on the issue. The PC head proposed a compromise, suggesting that revoking the agreement could trigger a major conflict. As he put it: “If we revoke this agreement, we revoke the long family relationship between our provinces. Is that what we want?” This position found unexpected support from the mirabs of the most downstream canals in Sar-i-Pul. They also tried to argue in favour of maintaining the water rights agreement, although allowing that it would be impractical to implement in 2011. After the meeting, Hajji Jora asked the mirabs why they had taken this position instead of supporting attempts to revoke the agreement. They explained that their canals got most of their water during Jawzjan’s turn, since upstream canals usually did not respect intra-provincial distribution agreements during Sar-i-Pul’s turn. However, according to Hajji Jora, there was also an ethnic component to their position:

The Pashtun water users [in majority of these downstream canals] thought that if there is no more water turn between Sar-i-Pul and Jawzjan, the upstream canals [which have a majority Uzbek population] may actually be less inclined to release water to downstream Sar-i-Pul.

Overall, downstream Sar-i-Pul canals representatives were worried that revoking the formal agreement between provinces might be a first step toward revoking the informal agreements on water sharing between canals in Sar-i-Pul itself.

At this point, the Sar-i-Pul provincial governor also argued in favour of maintaining the agreement for the sake of preserving the good relationship between both provinces. According to the WMD director and other respondents from Jawzjan, one of the Sar-i-Pul representatives then received a phone call and left the room. He then returned and passed the phone to Hajji Jora, who also left the room. When Hajji Jora came back, he changed his tone, apologised for his remarks and dismissed the idea of revoking the decree, although he still insisted that water sharing would be impractical for the current year. Elders from Sar-i-Pul then put forward the compromise idea of defining a limit below which it should be considered unfeasible to release water to Jawzjan. Mirabs from Sar-i-Pul suggested this should be an approximate flow of 15 asyabs, to be measured near the bridge at the Qazikenti intake. The flow in 2011 was estimated as well below this threshold, at between five and eight asyabs.

According to interviewees from Sar-i-Pul, Jawzjan representatives accepted this proposition. However, Jawzjan interviewees disputed this assertion, insisting that they had strongly rejected the proposal. In practice, everybody in Jawzjan knew that in the dry conditions of 2011, it would not be feasible or even worthwhile to apply the agreement. However, according to Jawzjan respondents, it would have been very dangerous to formally accept the Sar-i-Pul proposal. As one informant from Jawzjan explained:

If we start accepting this, then Sar-i-Pul will start thinking that we are weak and maybe in the future they’ll try to progressively revoke the original agreement [of 1911]. In practice we accepted that for this year we would not be able to get water for Jawzjan, but we did not want Sar-i-Pul to think that it should happen automatically every time.

For the remainder of the second irrigation season, no water turns took place. However, at least the idea of revoking the decree altogether had been abandoned. According to different informants from both Sar-i-Pul and Jawzjan, this outcome was satisfactory for both parties. Although Jawzjan did not receive their water share, they realised that preventing the 1911 agreement from being dismantled was an achievement in

itself. Meanwhile, the fact that water demands from Jawzjan would not have to be accommodated was relief enough for Sar-i-Pul, which was already struggling to provide a basic flow for domestic use in its downstream villages.

Reflection: Putting the conflict events back in perspective

Phone call and politics

Hajji Jora explained that the phone call he had received during the meeting with Jawzjan water user representatives had been from none other than General Dostum.¹⁷⁴ He added that the General's desire to limit water-related conflict was motivated by political considerations:

General Sahib is always telling us [provincial mirabs and influential leaders] that we should prevent any conflicts between Jawzjan and Sar-i-Pul because he says "I don't want to lose these provinces." What he fears is that internal conflicts could be exploited by rival political parties.

Hajji Jora also went on to explain that these considerations also had an important ethnic component:

General Sahib told us that we need to keep Pashtun people happy because they should know that Uzbek people and the Junbesh party are not a threat to them and even support them as a political organisation. He expects the representatives of Junbesh in Sar-i-Pul to have good contact and relationships with Hazaras, Arabs, Turkmens and Tajiks. He said: "Now we want to form Jabh-e Melli [the new National Front party]¹⁷⁵ and it is a critical time because we should have more people for the coming election in 2014. If we can't keep up good relationships with other ethnic groups, other political parties like Hizb-i-Wahdat [largely Hazara]¹⁷⁶ could exploit our differences and weaken our influence.

One of Sar-i-Pul's provincial mirabs—formerly a high-ranking and respected commander under Dostum during the 1990s—provided a similar account of the general's careful monitoring of water disputes that could threaten his political interests:

There was a meeting of mirabs in Kabul.¹⁷⁷ I was invited there and it was my first year as provincial mirab. One MEW engineer asked all mirabs to raise their questions or suggestions. I raised my hand and asked why the MEW was not implementing construction projects to resolve the issue of water shortages in our province. I mentioned that if they didn't [fix the situation], we would cut water for Shiberghan. [...] After the meeting we [mirabs and WMD staff from Jawzjan] were invited to General Sahib's house. During the night he told me: "Now you have a high position in Sar-i-Pul. Please do not raise such threats in these meetings because it gives ground for other political leaders to use these divisions against us."

174 Note that Hajji Jora was a supporter of Junbesh.

175 The official unveiling of the new political party Jabh-i-Melli (National Front of Afghanistan) had been expected for August. It was officially launched in late 2011 by Abdul Rashid Dostum, Ahmad Zia Massoud, Hajji Mohammad Mohaqiq (the Hazara leader of the Hazara Hizb-i-Wahdat Islami Afghanistan party). They call for "a national dialogue on a revised Constitution to correct the inherent flaws in the present power structure by decentralizing the political system." (extract from the National Front Berlin Declaration, January 2012).

176 The Hizb-i-Wahdat-i-Islami Mardum-i-Afghanistan is a faction of Hizb-i-Wahdat party distinct from the branch run by Mohammad Mohaqiq. It is headed by Karim Khalili, the current vice-president of Afghanistan.

177 The respondent did not remember the exact date but recalled it happened several years ago.

A head of a Sar-i-Pul DDA further explained how conflicts over water sharing could have a wider impact on the local political landscape:

If water users of both provinces fight with each other, someone will use this opportunity to increase conflicts and Junbesh will lose lots of supporters. And if they become more powerful, they will again usurp the land of the Uzbeks and other ethnic groups.¹⁷⁸ We have advised all Uzbeks, Tajiks, Hazaras and Arabs to be careful about their relationship with Pashtun people, otherwise they will lose all their lands and assets.

Recent attempts by Jawzjan to strengthen the 1911 agreement

As discussed above, the 1911 agreement represented an attempt to use state recognition and endorsement as a means to strengthen existing informal water sharing arrangements. This approach of appealing to state authority has since been echoed in recent years by some Jawzjan stakeholders. For instance, in the years before the 2011 dry year, a few elders from Jawzjan had attempted to persuade the MEW in Kabul to provide its own endorsement to the 1911 agreement.¹⁷⁹ As one respondent recalled:

Some water users' representatives who had good relationships with MEW went to Kabul for an informal meeting with high-ranking officials there. They explained that they wanted the MEW to officially approve the 1911 agreement. They hoped that this would remind everyone that Sar-i-Pul and Jawzjan water users should follow and respect this agreement. Some high-ranking authorities in MEW contacted General Dostum in order to get his view on the matter. General Sahib asked them not to approve anything and told them to send the elders straight to his house. He then told them that these efforts should not be repeated in the future, because it could create problems between both provinces.

According to informants in Jawzjan, Dostum feared that official endorsement of the agreement by MEW could upset communities in Sar-i-Pul by imposing outside pressure on them. According to Dostum's rhetoric, the agreement was a "community agreement" in which the government was only a witness.¹⁸⁰ Were it to become an official MEW document, the central government would be formally responsible for monitoring and enforcing it. This would in turn threaten Dostum's current control over the area. For water users in Jawzjan, this presents a dilemma. On the one hand, their water rights would be strengthened by further recognition from Kabul. However, this approach does not fit with the broader political agenda of their leaders, who prefer to maintain a certain distance from the centre.

Conclusion: The future of conflicts at inter-provincial level

Although the conflict of 2011 was eventually resolved, it is uncertain how long the 1911 agreement on water rights will hold. On the one hand, Sar-i-Pul water users may continue their attempts to dismantle it in future. As Hajji Jora points out:

At the time of our elders, nobody was against the idea of water turns although people tried to steal water here and there. Nowadays, everybody in Sar-i-Pul is

¹⁷⁸ He meant to refer to the time of the colonisation of northwestern Afghanistan (see Section 4).

¹⁷⁹ It is relatively common that water rights agreements are not documented at ministry level in Kabul. The last decades of political turmoil have contributed to the disappearance of the few existing official documents, along with the dissipation of institutional memory.

¹⁸⁰ The content of the agreement shows that it in fact has a very formal touch. There was a deliberate attempt by water users and community leaders to make it official and approved by the government of the time and formally endorsed by the judicial system (with financial sanctions managed by the government).

against it because almost every year, we face water shortages during the second irrigation season.

On the other hand, the social capital that ties both provinces remains strong (See Section 3). Furthermore, as long as the broader political interests of powerholders in the area favour maintaining strong cohesion between Sar-i-Pul and Jawzjan, a dramatic break in cooperation agreements is unlikely.

6.2 Conflicts over infrastructure design and water rights between Khwaja Du Koh and Darya-i-Safed

Table 10: Summary of conflicts over infrastructure design and water rights between Khwaja Du Koh and Darya-i-Safed

Type of conflict	Infrastructure design and water rights
Level in canal/river network	Between rivers/between districts/between groups of villages
Main points of interest/ lessons learned	<ul style="list-style-type: none"> • Critical changes in political and social contexts may provide an opportunity to change water sharing systems considered conflictive by one party. • Resolution of conflicts may ultimately depend on the final and uncontested decisions of powerful individuals. • Water rights are not the only factor considered when resolving conflicts over water sharing. • Political interests of powerholders involved in taking decisions may be a key driver in their decisions for containing a water related conflict.

This case deals with conflict over the design of a proportional divider determining the flow of water allocated between two groups of villages falling into two districts in Jawzjan Province (see Table 11). The conflict remains unresolved but is currently contained. The following narrative describes two different attempts to change the dimensions of the divider, and the de facto water rights that have consequently emerged between both parties to the conflict.

Table 11: Parties to the conflict between Khwaja Du Koh and Darya-i-Safed

Divider	Darya-i-Khwaja Du Koh	Darya-i-Safed
District	Khwaja Du Koh	Shiberghan
Number of Villages	12	24
Ethnicity	Mixed: Majority Turkmen and Uzbek Some Pashtun Few Hazara	Mixed: Majority Uzbek Some Pashtun Few Turkmen, Arabs and Tajiks

Elders from both districts had originally agreed on the dimensions of the proportional divider at the time of its construction. The division was calculated according to government records under the paykal system (see Section 5).

Table 12: Land distribution in Khwaja Du Koh and Darya-i-Safed under the paykal system

	Khwaja Du Koh	Darya-i-Safed
Land distribution at the time of Abdur Rahman—late 1880-early 1900s (official basis for water rights)	100 <i>paykals</i>	200 <i>paykals</i>
Dimensions of the divider	300 cm	600 cm

Although the original wooden divider was regularly destroyed by floods, it was consistently rebuilt according to the same design, apparently without generating significant tension. It was not until the time of the Taliban regime that conflict first emerged.

Conflict over infrastructure design under the Taliban regime

During the late 1990s, the divider was damaged by a flash flood, and water users from both districts asked the WMD director for financial assistance. However, during discussions between the WMD director and water user representatives, the former suggested a change in design for the proposed new concrete structure. Instead of formalising the existing dimensions according to a two-thirds (67 percent) proportion for Darya-i-Safed, he proposed changing the design to accord it a three-fifths (60 percent) proportion instead. He justified his decision by referring to a document that—according to him—had been sent by Zahir Shah ordering changes to water rights between the two districts, but which had never been applied.¹⁸¹ This change was designed to take into consideration the large increase in irrigable land in Khwaja Du Koh relative to Darya-i-Safed, and to translate this change into a more equitable distribution of water rights.

According to the WMD engineer in charge at the time, the logic behind this design was not clear, since it did not reflect the principle that water rights should be proportional to the size of landholdings. By this principle, updating the division of water rights according to the most recent 1962 government land survey should in fact have resulted in only a 46 percent portion for Darya-i-Safed rather than the 60 percent proposed. A group of elders in Khwaja Du Koh suggested one explanation for this decision, arguing that too strict an application of the principle of proportionality would have resulted in too large a shift, and potentially given rise to uncontrollable conflict. The 60 percent design thus appears to represent a careful compromise between the area's original distribution of water rights, and the actual situation of land distribution on the ground. These elders added such compromise between strict application of the rules and preservation of the status quo are common practice in many decisions on conflict resolution.

Khwaja Du Koh elders supported the WMD's proposed changes since they obviously stood to gain from them. However, elders in Darya-i-Safed believed that the WMD had been manipulated by their counterparts in Khwaja Du Koh. They therefore decided to take their concerns to the provincial governor, who in turn requested that the court in Shiberghan arbitrate on the matter. The court decided to maintain two-thirds for Darya-i-Safed in light of existing cadastral documents. However, the WMD deputy continued to press his case and brought another argument into the discussion. According to him, the lands upstream of the divider in Sehchambe and Jegdalek formed part of the overall 200 *paykals* of water rights of the Darya-i-Safed area. Thus, at the division structure, Darya-i-Safed should only be awarded 189.5 *paykals*.¹⁸² Darya-i-Safed elders again protested and gathered various documents¹⁸³ to support their right to the full 200 *paykals*. Altogether, it appears that official records are genuinely unclear over whether the area's rights apply at the level of the first divider (as argued by the WMD deputy) or the second (as

181 The WMD deputy director at the time did not know why the request had never been implemented.

182 Seh-Shambe (seven *paykals*) and Jekdaleq (3.5 *paykals*) have a total of 10.5 *paykals*.

183 These documents could not be retrieved, as it is claimed they were lost later during the Taliban period.

argued by Darya-i-Safed elders). However, what is clear is that this issue had never been a problem in the past, with both sides apparently content to settle for the one-third/two-thirds division.

Once again, the Shiberghan court referred to the area's original water rights from the time of Abdur Rahman in disregarding the argument of the WMD deputy, who took offense and left the court. Together with the district governor of Khwaja Du Koh, he then approached the Jawzjan provincial governor for support. In turn, the governor directed the head of Court to work out a compromise incorporating the claims of the WMD and Khwaja Du Koh. To this end, he suggested expanding the Khwaja Du Koh divider opening by 25cm, while shrinking it by the same amount for Darya-i-Safed. This meant 64 percent of the flow would now go to Darya-i-Safed. Before construction started, Darya-i-Safed elders accepted the decision.

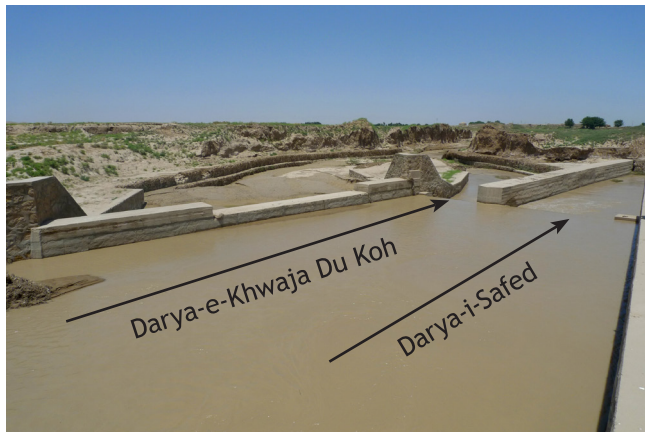


Image 17: Divider of Khwaja Du Koh and Darya-i-Safed (2011)

Key respondents (including some from Darya-i-Safed) argued that in hindsight, scope had existed for Khwaja Du Koh to escalate the conflict further in order to secure a more favourable outcome than the relatively limited concession awarded to it by the court. Critically, the district governor of Khwaja Du Koh was a close friend of Mullah Noori, the Taliban leader in the North (see above). Respondents also explained that the provincial governor was from southern Afghanistan, and thus unfamiliar with the potential repercussions of upsetting Khwaja Du Koh. Furthermore, the most

prominent leaders of Darya-i-Safed area had at the time fled Shiberghan City and settled in nearby provinces to avoid Taliban harassment due to their connections to Junbesh. This left the remaining leaders in a weakened position.

Consequently, Darya-i-Safed elders did not protest the court's decision since they felt that the settlement was an improvement on the WMD deputy's original proposal, and that further argument could eventually prove more costly under the prevailing political conditions. However, they did not feel that the conflict has been satisfactorily settled. As one of them recalled: We were waiting for a more favourable context to re-establish a fairer settlement.

Conflict over infrastructure design post-2001

Shortly before President Karzai's election in 2004, a flash flood changed the channel of the river in the area, damaging the foundations of the divider. In response, an INGO supplied emergency funding for its repair. Anticipating disagreements, the WMD—which was in charge of the engineering design for the project—organised a meeting with elders from both districts.

The elders from Darya-i-Safed insisted on returning the structure to its original size at the time of Abdur Rahman. They argued that the decision taken during the Taliban regime was not legitimate and that their water rights had been violated—a position contested by the Khwaja Du Koh elders. According to WMD staff, several increasingly tense discussions took place, with no progress in sight. At this point, both the DDA and PC heads, the governor and deputy governor felt that the situation risked spiralling out of control. However, none of these actors fell confident enough on their own to take responsibility for settling the situation.

With discussion at an impasse, the head of DDA—who was a close supporter and former commander of General Dostum—suggested asking the Junbesh leader to settle the dispute. Both parties accepted. Dostum agreed to mediate on the issue on the condition that both parties respected his decision, making it clear that there would be no room for further discussion or arguments. In the end, he ruled that the divider should be rebuilt according to the same dimensions established under the Taliban regime. During the inauguration of the re-constructed divider, he reportedly gave a speech about the origins of the Darya-e-Khwaja Du Koh, thanking the Darya-i-Safed communities their support in creating the original divider during the time of Abdur Rahman, and requesting their continued support for its present dimensions.

While nobody challenged or argued with Dostum’s decision, a delegation of Darya-i-Safed leaders did talk to him afterwards to establish what had motivated it. It emerged that Dostum was concerned about the weakening of his alliance with some of the Turkmen leaders in Khwaja Du Koh. He reportedly explained that his original inclination was to restore Darya-i-Safed’s original water rights, as he understood that water demand in Shiberghan City was increasing. However, he soon received alarming warnings from Turkmen religious leaders in Khwaja Du Koh, who threatened to join a competing political faction led by an estranged former commander of his in neighbouring Faryab Province (under the leadership of Haji Rahmatullah Rais Turkistani, currently head of the Faryab PC). Although the latter was a former commander of Dostum, reports suggest that, at the time, he was distancing himself from the Junbesh leader.¹⁸⁴ This tied into a wider political dynamic in which Dostum was both losing influence over Junbesh, and his political monopoly in Faryab.¹⁸⁵ Dostum thus saw siding with Khwaja Du Koh as less politically damaging in the long run. This thus represents a clear example of decision-making guided by broader political considerations rather than specific concerns over water rights.

Conclusion: Contained but unresolved conflict

For Darya-i-Safed, the situation remains unresolved. Elders there feel that they have been swallowing their pride for long enough, and may not be able to do so forever. In particular, they are concerned that if the current set-up persists for too long, it will become de-facto a rule (in other words, people will think that Darya-i-Safed agrees with the current divider structure). They are also worried about how the next generation will perceive them, and whether they will be seen as the fathers who could not protect Darya-i-Safed’s rights from erosion.

¹⁸⁴ Giuztozzi, “The Resilient Oligopoly.” According to Giuztozzi, the commander, Hajji Rahmatullah Rais Turkistani, has recently reconciled with Dostum.

¹⁸⁵ Giuztozzi, “The Resilient Oligopoly.”

6.3 Conflicts over infrastructure design and water rights between Jui Qawchin and Nahr-i-Salmazan

Table 13: Conflicts over infrastructure design and water rights between Jui Qawchin and Narh-i-Salmazan

Type of conflict	Infrastructure design and water rights
Level in canal/river network	Between jui and canal/between villages
Main points of interest/lessons learned	<ul style="list-style-type: none"> • Mobilising powerholders in resolving a conflict may be a gradual process. • The social relationships between powerholders in the conflict area is critical in determining the relevance and legitimacy of their interventions. • Background social and political dynamics (including the presence of insurgency) surrounding the conflict area at the precise time of the conflict may be critical in shaping the decisions of powerbrokers, with possible long term repercussions. • Conflict resolution processes may involve a both government departments, community leaders, representatives of elected bodies, and representatives of the central state. • Final decision-making may be vested in one powerful individual.

This case deals with a conflict over an NGO-sponsored infrastructure design at a divider located along the Nahr-i-Salmazan, off the Darya-i-Sya in Jawzjan Province. The conflict involves water users along the Jui Qawchin, and those from other jui further downstream along the Nahr-i-Salmazan.

Table 14: Parties to the conflict between Jui Qawchin and Nahr-i-Salmazan

Divider	Jui Qawchin	Nahr-i-Salmazan
Number of Villages	1 village (Qawchin)	8 villages
Ethnicity	100% Turkmen	Mixed: Majority Uzbek Some Pashtun, Turkmen Very few Arabs and Tajiks

Until the end 2008, the division structure was an old wooden structure (or chobdarak), with water rights awarded in proportion to amount of land—as registered at the time of Amanullah Khan—along each branch. However, at the time of construction of the chobdarak, technical constraints¹⁸⁶ meant that this structure could not function properly as a proportional divider since as Qawchin was slightly higher, it received a sub-critical flow. There was thus a common agreement between elders from both parties that Qawchin should have a slightly larger opening than they would normally get in a fully-functional proportional divider.

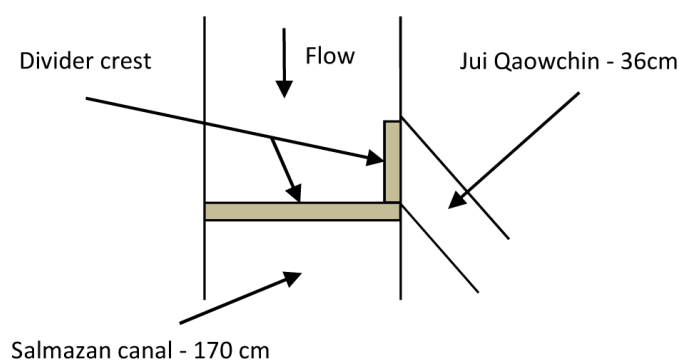
¹⁸⁶ The Qawchin canal was slightly higher than the crest (i.e. the edge of the surface over which the water flows) of the divider. This meant that the flow going to Qawchin was slowed down and was thus reduced compared to what it would be had the level of the canal been lower than the crest.

This agreement was perceived as equitable by all parties and had never been contested. However, the fact that the water rights were not contested did not stop farmers from trying to steal water. Qawchin farmers especially often made holes in the bottom of the wooden structure to increase the flow of water passing under it. This technique made the stealing less visible to farmers passing by. As a consequence, mirabs regularly had to seal up or even rebuild the structure. However, these practices did not lead to serious disputes as they were usually quickly discovered.

The NGO project and its conflictive repercussions

In 2008, an NGO proposed an infrastructure rehabilitation project in Salmazan.¹⁸⁷ This was implemented under MRRD and formed part of a strategy to support CDCs in the area. According to the mirab of Salmazan, the heads of all Salmazan CDCs agreed that the dividers should be concreted. The project was universally welcomed since it offered a way to stop the repeated destruction of the wooden divider by flooding. Salmazan water users and the mirab were also particularly eager to see a concrete structure because it would be relatively tamper-proof compared to the previous wooden structure.

Figure 23: Illustration of the NGO design at the Qawchin divider



Downstream Salmazan representatives were keen on constructing dividers whose openings would be proportional to the amount of land they supplied. However, Qawchin elders immediately opposed any changes to the existing dimensions of the divider. In ensuing discussions, Salmazan elders eventually convinced their Qawchin counterparts that the new structure would not result in any change to current division of water flow. As a gesture of good faith, it was agreed that the Qawchin CDC would be given responsibility for implementing the project, allowing them to benefit from the job creation and other benefits that came with it.

As its engineers explained and demonstrated to both Qawchin and Salmazan CDC members, the NGO proposed constructing a proportional divider with critical flow on both branches. Although Qawchin elders were not convinced by the design on paper, they trusted the NGO engineers, who verbally guaranteed that Qawchin's flow would remain the same. Furthermore, they also promised that adjustments could be made later on if the Qawchin water users were not satisfied with the result. Reflecting on this process, one of the Qawchin elders noted that "One of our mistakes was that we didn't ask the NGO to give us a written agreement that they would re-do the structure if it was not satisfactory." Despite harbouring similar suspicions, Salmazan representatives also accepted the design, since they had likewise been assured by the NGO's engineers that their water share would remain unaffected.

187 The project would cover six dividers for a budget of around US\$18,000 or approximately 900,000 Afghani.

However, at the end of the construction (see Figure 23), Qawchin water users felt that the new structure had reduced their share of the flow. They thus asked the Salmazan canal mirab to organise a meeting with elders from downstream Salmazan communities, with the aim of working out a consensual agreement between all parties.

The Qawchin water user representatives first asked about changing the design of their branch opening. Their first argument was that they had not anticipated that the NGO's design would in practice end up reducing their water flow. They therefore asked for the sympathy and support of other Salmazan representatives, and proposed modifying the structure by making the opening parallel to the main canal rather than sideways.

However, this met with a negative response from other Salmazan elders. One replied:

You have already accepted the design, and the project has been implemented by your own CDC. Now you are against your own project. This doesn't make sense. And we have already spent all the money for this project, it would be a waste to make changes now that it has been completed.

Another elder added that the project had prevented water theft and granted all parties their proper rights. However, according to the mirab of Salmazan, it was clear that downstream Salmazan representatives knew they had benefitted from the new construction. Nevertheless, they tried to appeal to questions of water rights in trying to justify the new status quo.

Both parties asked the canal mirab to give his opinion. He replied as follows:

The design of the divider has been explained by the NGO. But the CDC of Qawchin, which has been implementing this design, is now against its own decision. I think the reason for all this is that the CDC of Qawchin was only interested in making money out of this project instead of thinking about its own people. If I were the water users of Qawchin, I would take my CDC members to court. Why don't you first give back the money you have taken and then we can talk about the next decision?¹⁸⁸ For now, we cannot change a project based on the demand from some individuals after it has already been approved and decided on by all parties involved.

The mirab also accused the Qawchin farmers of having an ulterior motive:

We all know that the reason why you pretend that you had more water in the past compared to now is because you got used to stealing extra water. Now you can't steal water from this construction anymore, and it makes you want to change your design. But I am telling you, it is not acceptable to go back to our traditional structure. Because I know you will continue stealing water, and this will make my monitoring and management look weak.

Elders in Salmazan also felt that if an exception were made for Qawchin, other branches covered by the MRRD project would also attempt to contest the design of their new dividers, and the projects whole budget would end up being wasted. They tried to convince Qawchin representatives that there was no point discussing any further changes and that "it would be better to forget about it." The meeting concluded without any agreement between both parties.

¹⁸⁸ This mirab has been in charge of Salmazan for 11 years. Before him, his father and uncle filled this same position. He is known to be very outspoken regarding mismanagement in what he considers "his canal."

At the following meeting, water user representatives from Qawchin attempted to rally elders from other branches whose dividers had also been built by the NGO. The idea was to unite the three upstream jui along the Salmazan canal in complaining about the NGO's work, and thus strengthen the case for reconstructing the divider at Qawchin. Again, representatives from the ten downstream communities along the canal strongly rejected this approach. As one of them put it: "We have left you [each CDC] in charge of each project so that you could resolve problems, not create conflicts." Representatives from the three upstream juis soon realised that helping Qawchin could end up being counterproductive, since it could damage their relationships with communities further downstream. They consequently withdrew their support. According to some informants from Salmazan, it is also possible that the mirab's accusations of water theft by Qawchin may also have dissuaded upstream elders from supporting them. As the canal mirab put it:

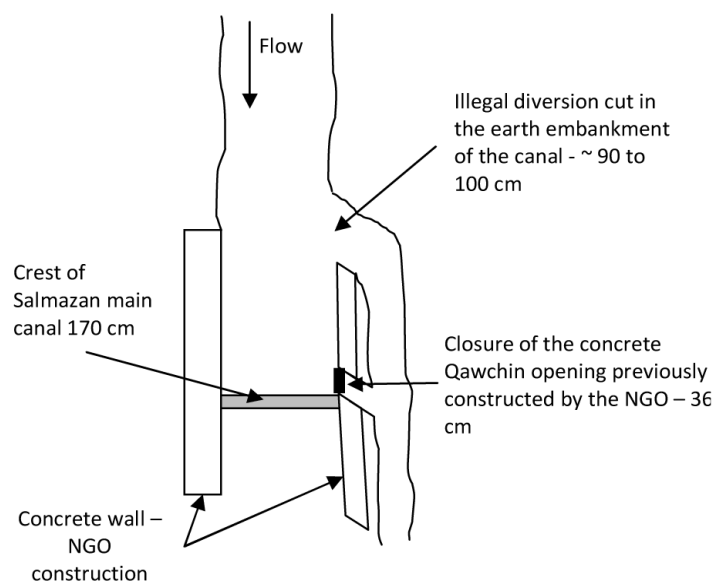
These upstream branches have been stealing water for a long time. Now when they see a structure based on water rights they feel that they are cheated, but that doesn't mean that the structure has not been constructed properly.

Once again, the meeting ended with no resolution. At this point, it became clear that a consensual agreement between elders from both concerned parties was unlikely. Qawchin therefore decided to formally approach the WMD. Following government procedure, they sent a letter to the provincial governor, requesting support from the WMD in resolving the issue.

Qawchin elders justified their choice of the WMD as the most appropriate actor to resolve the conflict by explaining that the dispute was mainly technical in nature, and it was thus best placed to understand their concerns. Although they knew that the WMD had neither the coercive authority nor the legitimacy to end the dispute itself, the elders hoped that it might convince more influential actors like the provincial governor to support their cause. They also saw this approach as legitimate since the WMD is officially responsible for the integrity of canal infrastructure.

The WMD was initially unhappy with Qawchin's request. They complained that nobody had informed them about the construction in the first place, and that the CDC had only turned to the WMD when it ran into trouble. However, according to the canal mirab, this hurdle was quickly resolved: "I later heard from my Saatchi in Qawchin that the Qawchin elders promised \$600 to the WMD deputy director if he was able to support them in changing the infrastructure design." The mirab also reported that the WMD deputy director encouraged Qawchin to close their newly-constructed branch opening and create a temporary branch slightly further downstream by cutting through the bank of the existing canal (See Figure 24).

Figure 24: Illustration of the temporary branch below the Qawchin divider



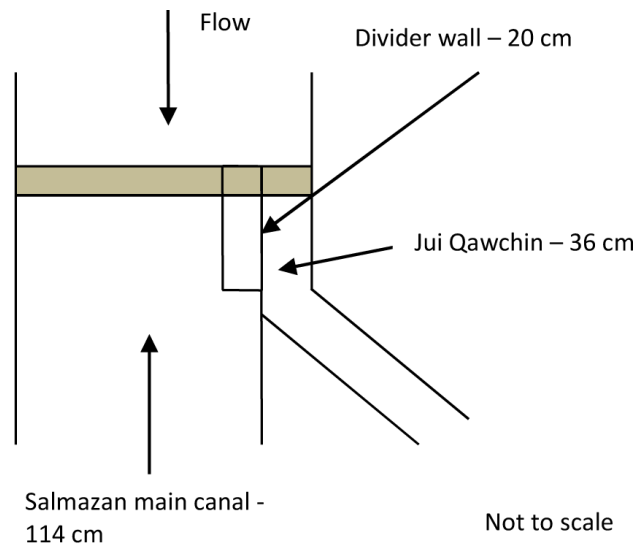
The aim of this action was to demonstrate Qawchin's readiness to let tensions escalate further, forcing higher-level actors such as the governor and the PC to intervene in resolving the issue. As soon as Qawchin made this informal opening—which was twice as wide as the original NGO construction—the Salmazan elders complained to the provincial governor, who in turn asked the WMD to settle the issue. According to Salmazan elders:

When we discussed the case with the WMD deputy, we realised that he had taken Qawchin's side. I told him: "You are not here to create another conflict; you know better than us that this branch which was constructed by the NGO is better than the old wooden divider. We have allocated all the budget to the upstream dividers in order to resolve the issues with water stealing at the old dividers. This new structure gives them water based on their command area."

Following this unfruitful meeting, two of the most powerful community leaders in Salmazan asked their farmers to close the illegal branch. One of them added, "Get a bunch of people together at the structure and if anybody comes to re-open the illegal branch, just kill him. The water users of Qawchin should only use water from their concrete branch."

The WMD deputy then met with Qawchin leaders to discuss the situation. He suggested that Qawchin elders should approach the head of the PC as the most relevant actor at this stage. Meanwhile, the WMD would independently report back to the provincial governor that there was nothing more it could do in the current circumstances, and recommend the head of PC as a better alternative. Justifying this approach, he argued that with elections approaching, the PC would not be in a position to ignore a request to resolve the problem.

Figure 25: Illustration of the final construction of Qawchin divider



In addition, he expected that the profile of the PC head would likely lead both parties to consent to his involvement was likely to be consensual for both parties. First, he had a strong background—a religious scholar, an advisor to Dostum and a track record of resolving previous (non-water related) conflicts. Second, he was on good terms with the deputy provincial governor, which would help ensure that the government approved any eventual decision, thus giving it more weight. Third, he did not have relatives from any of the areas involved in the conflict.¹⁸⁹ Finally, the list of other actors who might be able to resolve the conflict appeared limited.¹⁹⁰

The provincial governor supported the idea of involving the PC in the case, but he asked his deputy to take a lead in resolving the dispute. This was because—in contrast to the impartiality of the PC head—the deputy governor had land and relatives in both Qawchin

¹⁸⁹ In that case it was seen as an advantage. However, it is not always a problem if someone is from the area, as long as they have relatives and relationships in both parties' areas, thus putting them beyond suspicion of favouring one side.

¹⁹⁰ Involving the head of DDA was not acceptable for Qawchin since some DDA members were from downstream Salmazan. By contrast, in the case of Jegdalek, there was no PC member other than the head of PC who could be acceptable to both parties.

and Salmazan. His social capital in the area would thus be useful in finding a compromise solution likely to be respected by both parties. However—and for precisely the same reason—the deputy governor refused to get involved, arguing, “My uncle is from Qawchin and my relatives are from downstream in Salmazan. I can’t make decisions in this kind of situation.” He was thus happy to leave the decision in the hands of the PC head, who was also a close friend of his.¹⁹¹

The PC head began by organising a meeting in the PC office.¹⁹² After the WMD, Salmazan and Qawchin had explained their respective positions, he suggested going to the area to see for himself what the construction looked like. There, he first asked both parties to give him *ekhtyar*, (the authority to take a final decision). He added that he would later send a report to the provincial governor and the PC office.

Both parties agreed to comply with his decision. After discussion with the WMD deputy director, he ordered the closure of the Qawchin opening constructed by the NGO (see Image 18). Instead, he decreed that both openings should run in parallel with a 20 cm separation wall. As the width of the canal (between the two concrete walls built by the NGO) was 170 cm, the opening remaining for downstream Salmazan would be 114 cm. The PC head also authorised Salmazan to remove 10 cm of plaster on the right bank, bringing its opening up to a total of 124 cm (see Figure 25). Table 15 shows the original and final dimensions of the structure.

Table 15: Original and final dimensions of divider separating Jiu Qawchin and Nahr-i-Salmazan

		Salmazan	Qawchin	Total
NGO construction	Size (cm)	170	36	206
	% of flow	82.5%	17.5%	100%
	Paykals	23.5	5	28.5
	% of land	82.5%	17.5%	100%
		Salmazan	Qawchin	Total
Final construction (PC decision)	Size (cm)	124	36	160 ⁽¹⁾
	% of flow	77.5%	22.5%	100%
	Paykals	23.5	5	28.5
	% of land	82.5%	17.5%	100%

⁽¹⁾ The total size of openings is 160 cm. The divider wall is 20 cm and 10 cm of plaster have been removed on right bank. The whole structure width is thus 170 cm (160+20-10), which corresponds to the maximum width that was available for the construction.

The PC head added that all expenses would be covered by Qawchin, and offered no further justifications. In concluding, he addressed all involved:

191 This position came as a surprise to a number of respondents from both parties.

192 In the Jegdalek case study, the PC member involved in solving the issue refused to host the meeting at the PC’s office as he believed it would tarnish the image of the PC. In the Salmazan case, a different PC member found it appropriate to host the meeting at the PC office. The difference is that, in the first case Jegdalek, the PC member knew that he might have ended up having to threaten defaulters, which would have been culturally inappropriate to do in the PC office. By contrast, in the Salmazan case, the PC member expected to play a more conciliator role.

This is my final decision. All of you said that you would accept my decision. If anybody is now against it, this means that he is against the provincial governor [who supervised the whole process], the deputy provincial governor [who was formally asked to be involved], the WMD and myself. If someone wants to create conflicts, I will directly ask the provincial governor and the court to send him to jail.

Nobody said anything and both parties left the area. However, the division structure was clearly was not based on the command area of each canal. As Table 15 shows, Salmazan now receives only 77.5 percent of the water flow while having 82.5 percent of the irrigated land. However, Salmazan elders realised that they would now have to wait for the right opportunity before making an attempt to restore the structure's design. Following the PC head's threats about jail time, Salmazan elders called the deputy governor—who had relatives and land in the area—to express their dissatisfaction with the result. The deputy PG tried to reassure them, saying, “We will find a way to change it sometime. It is my fault as I have left the decision to the PC and the WMD. Wait for some time and we will change this.” The mirab of Salmazan added that people there were now “waiting for the right opportunity.” However, several observers and key informants felt that these reassurances were just a pacifying tactic to buy time, and that the possibility for change at this stage was very slim.

Conclusion: Insurgents and electioneering

In hindsight, it might seem that the deputy governor made a mistake in staying out of the dispute in order to avoid tensions with his relatives in the area, since he ended up being blamed by Salmazan water users anyway. However, key informants felt that had he been directly responsible for making the decision, the situation could have been even worse.



Image 18: Jui Qawchin (left) and Nahr-i-Salmazan (right) following the PC head's decision. Note that the original NGO construction (left) has been filled with cement.

Looking back on the conflict, Salmazan representatives analysed it as follows. During the conflict period, Qawchin area had been infiltrated by a number of insurgents. Since a clearing operation against them was under preparation, the elders of Salmazan believe that the PC head had probably been in contact with the governor and his deputy to discuss the possible repercussions of his decisions. According to Salmazan elders, the PC head had thus done a favour for Qawchin in order to buy their support for the upcoming operation in their area.¹⁹³ They also felt that the PC head was hoping to secure votes from Qawchin in the coming election of 2009. Although more votes were available in the ten communities of downstream Salmazan, it was clear that these communities already had a favoured a local candidate. Taking their side in their dispute would thus have been unlikely to yield any dividends on election day.

¹⁹³ There are some similarities between the case of Jegdalek and the case of Salmazan when it comes to the relationship with the insurgency. However, in each case a different strategy was applied. In Jegdalek, the PC member had a strong relationship with both the people in the area and the insurgent leaders. Thus he had a stronger hand to impose his decision against the people who were hoping to use the presence of the insurgents as leverage against potential government sanctions. However, in the case of Qawchin, there was no influential leader in government or PC who would have had the necessary ties with the insurgency. In that situation the decision-makers had to provide some satisfaction to Qawchin in order to buy their support—at least partly and temporarily—against insurgents.

6.4 Conflicts over water theft between Nahr-i-Gardana and Jui Jegdalek

Table 16: Summary of conflict over water theft between Nahr-i-Gardana and Jui Jegdalek

Type of conflict	Water theft
Level in canal/river network	Between jui and canal/between villages
Main points of interest/lessons learned	<ul style="list-style-type: none"> • Governors and the PC may play a critical facilitating role in setting up conflict resolution platforms. • Powerholders (in this case PC members) may play a critical role as deadlock breakers in conflict resolution processes. • The choice of deadlock breaker was largely shaped by the social and political relations he had with both parties and indirect stakeholders in the conflict. • The intervention of powerholders in a water-related conflict may be shaped by their personal interests. • The possible presence of insurgents in the conflict area may shape decisions in conflict resolution procedures. • Historical and social relationships between parties to the conflict may hamper decisions regarding sanctions against defaulters

The conflict between the Jui Jegdalek and Nahr-i-Gardana involved a relatively rare case of water stealing between two canals, which does not happen at a divider. The Jegdalek and the Gardana command areas both depend on two different rivers—the Darya-i-Safed and the Darya-i-Sya respectively. Both rivers are split at Acha Qala through a proportional divider, meaning that both canal systems have independent water rights. However, between the divider of See-darak-i Darya-i-Sya and the divider at the head of the Gardana command area (see Map 6), the Nahr-i-Gardana is at a higher elevation than some of the land in the Jui Jegdalek command area. This presents an opportunity for farmers in Jegdalek to illegally siphon off water from the canal.

Table 17: Parties to the conflict between Nahr-i-Gardana and Jui Jegdalek

Divider	Jui Jegdalek	Nahr-i-Gardana
Number of Villages	1 village (Jegdalek)	12 villages
Ethnicity	63 % Pashtun 37 % Uzbek	Mixed: Majority Pashtun Some Uzbek and Turkmen Few Arabs

Background situation

The Jui Jegdalek supplies the land belonging to Jegdalek village. During the time of Abdur Rahman, the village was first populated by Pashtun naqelin¹⁹⁴ from the Jegdalek tribe.

¹⁹⁴ The term naqelin refers to the families relocated by the government (starting during the reign of Abdur Rahman) during the so-called colonization of northwestern Afghanistan.

A number of Pashtun naqelin from the Eshaqzai tribe also settled in the Nahr-i-Gardana area. During Zahir Shah's reign, additional Pashtun settlers from the Eshaqzai tribe migrated to Jawzjan from Kandahar and settled in the Jegdalek area with the support of the Hakeem of Jawzjan,¹⁹⁵ who ended up marrying two of them. These new migrants are locally called mohajerin.¹⁹⁶ On their arrival, they were provided with land for houses as well as 50 jeribs of government land for cultivation, which derived its water rights from the Jui Jegdalek. The Hakeem was also the father of Hajji Sher Mohammad, a powerful and respected large landowner currently living in Gardana.

During the 1980s and the civil war, these villagers acquired some additional government land, turning pasture into rainfed land. Although this acquisition was not officially registered and approved by the government, it was tolerated. To secure their position, villagers also made payments to certain key government actors.¹⁹⁷ The new acquisitions remained rainfed land until after the fall of the Taliban, meaning that there were no issues of water stealing for irrigation. As one respondent mentioned, "At the time we had more alternative sources of income, our sons were fighting for Junbesh."

During the 1990s (during the time when Junbesh was dominant), approximately 15 families of Uzbek mohajerin were relocated from Darzab District to Jegdalek after flooding had destroyed their houses. As in the case of the earlier Pashtun settlers, the land they received was only meant for building houses. However, over the years they also acquired additional government land, although this too remained rainfed until the early years of the Karzai administration.

The start of water stealing

In years after 2001, the water users from the mohajerin population began looking for additional water to irrigate their land, most notably the Uzbeks, who had no irrigated land or water rights. As one elder explained, "It was becoming more difficult to get additional jobs or sources of incomes, so the pressure on our agriculture land increased for us." However, they were not able to acquire any additional water rights from Jui Jegdalek, doing so would have threatened the right of the longer-established Pashtun naqelin.

Instead, both Pashtun and Uzbek mohajerin farmers began stealing water from the Nahr-i-Gardana. During the night, they would build a makeshift cross-regulator to raise the water level in Gardana main canal and channel water towards their land. The Gardana mirab would then remove these structures when he encountered them on his patrols or was informed about them by Gardana farmers. However, until recently the mirab and

Map 6: Command areas of Jegdalek and Gardana



¹⁹⁵ The Hakeem of Jawzjan was also from the Eshaqzai tribe.

¹⁹⁶ In this case, people in Jawzjan make a distinction between naqelin (usually older families settled around a century ago) and mohajerin migrants who were often displaced temporarily. In this particular case, the Eshaqzai tribesmen who migrated during the time of Zahir Shah were first expected to stay temporarily. Despite the fact that they ended up settling permanently in the area, the local population still refer to them as mohajerin.

¹⁹⁷ Even nowadays, the mohajerin pay an informal fee as if the land was taken on lease, even though there are no land titles or contracts.

the most influential leaders in Gardana were reluctant to impose any sanctions on the thieves, despite the grievances of their water users. As one respondent mentioned: “these Jegdalek settlers were brought by the father of Hajji Sher Mohamad, that would be problematic for him to be harsh on them.” In addition, both the Hajji’s mother and the mirab’s wife were mohajerin from Jegdalek. In order to avoid upsetting Jegdalek farmers, the mirab therefore turned a blind eye to the issue.

However, Hajji Sher Mohammad did respond by organising regular meetings where he would ask mohajerin elders—in presence of Gardana elders—to stop stealing water. He tried to convince Jegdalek representatives that in the long run, this illegal practice would damage their relationship between Eshaqzai tribemen. Over the years, promises were made to stop such practices. But the stealing continued intermittently, and without significant sanction.

In recent years, complaints from Gardana water users grew stronger, increasing pressure on the mirab and Hajji Sher Mohammad. Eventually, leaders in Gardana decided to involve the provincial governor and WMD in trying to settle this issue. They felt that it would be better to involve the government in imposing sanctions, especially since the theft was so obvious and the perpetrators had been warned several times. That way, it would give the impression that any decisions taken on the issue had not been taken by one party alone. Furthermore, failing to inform the governor about the problem could itself be problematic for them, since they would be blamed if tensions ended up spilling over into physical violence.

However, the provincial governor and WMD were reluctant to involve themselves in the process. According to one respondent in Gardana, the governor felt that the conflict was not serious enough and would be better resolved between relatives from both canals (indicating the Hajji and the mirab). At this point, the Gardana leaders made no further attempts to involve external actors in resolving the issue, sensing that they would be unlikely to find anyone who could do so without sparking further conflict.

Meanwhile, the stealing increased in intensity. In one instance, Hajji Sher Mohammad’s ran into Jegdalek farmers while patrolling along the Nahr-i-Gardana. The encounter resulted in a clash that left some sharecroppers injured. At this point, the canal mirab asked the Hajji to send an official letter (counter-signed by several Gardana elders) to the new provincial governor. The document asked the governor to take responsibility for ending the situation. It also warned that if he failed to do so, the Gardana elders would take the matter into their own hands and would not be held responsible for the consequences.

The new governor took the matter more seriously than his predecessor and reacted promptly. He asked the heads of the PC and the Shiberghan DDA to select the most relevant representatives to help put an end to the water theft. All three actors felt that resolving the case required reading the situation in all its complexity and sensitivity.

At the time, the Jegdalek area was becoming increasingly “insecure” due to the growing presence of insurgents associated with the Taliban. The governor and the PC and DDA heads all felt that Jegdalek farmers might exploit this situation to continue with or escalate their thefts, since monitoring during the night would become unsafe in areas where Taliban were moving. This would limit the ability of Gardana users to remove the obstructions left by the Jegdalek thieves, increasing the overall impact of their activities on Gardana. It was thus important to act without much further delay.

In particular, things could become especially problematic if—as threatened in their letter—Uzbek leaders in Gardana decided to take unilateral action. There was a risk that this could be characterised by discrimination against the Pashtun settlers of Jegdalek, thus escalating tensions between Uzbeks and Pashtuns both in the area and beyond. This could then be exploited by certain Taliban factions, or related insurgent groups. Tensions of this nature could also re-ignite old personal enmities between Hajji Sher Mohammad—

who had Pashtun relatives in Jegdalek and Salam Palawan, one of the most prominent Uzbek leaders in Gardana.¹⁹⁸

It was also well known that Hajji Sher Mohammad had a close relationship with the Taliban, based on both his past involvement with their former regime in Shiberghan, and an apparently renewed affinity with current figures in the movement. The provincial governor and PC head were particularly concerned that the Taliban might resolve the issue peacefully themselves, which would only increase their influence¹⁹⁹ in Gardana and enhance their position as credible and legitimate actors in conflict resolution. This would be unacceptable for the governor and PC head since it would pose a direct threat to their position.²⁰⁰

With these considerations in mind, the governor, head of PC and head of DDA selected another PC member—the Turkmen Qader Malia—as the most suitable actor to resolve this particular conflict.²⁰¹ This was due to his close relationship with one of the Taliban leaders in the Jegdalek area, with whom he had served during the civil war. Malia also had some authority and influence in the area encompassing Imam Jafar, Sayed Abad and Jegdalek. Finally, he had a close relationship with the deputy provincial governor, which was in turn viewed favourably by the governor himself. This rare combination of ties with both the government, the insurgency and the local community gave him an ideal profile as an influential and legitimate deadlock breaker. It also meant that he would be able to effectively apply coercive pressure to the mohajerin of Jegdalek.

In addition, the head of the DDA selected two of its members—both from the Gardana area—to be part of the conflict resolution delegation. He justified this choice as follows:

First, there are no DDA members from Jegdalek area. Secondly, everybody knows that the mohajerin are stealing this water so what is important First, there are no DDA members from Jegdalek area. Secondly, everybody knows that the mohajerin are stealing this water so what is important is to have people who can put pressure on them, not defend them.

This implied that resolving the conflict was not a question of negotiation, but rather of enforcing a decision. A meeting with water user representatives from both areas was then held at the WMD office. The canal mirab began by recapping the situation. The head of the DDA then asked the representatives from Jegdalek:

Why are you doing this? Don't you know that continuing to steal water will end up creating serious conflicts between water users? Do you know that this will initiate a big conflict between Jegdalek and Gardana?" He added: "Don't you know that you are mohajerin and that you don't have any right to cultivate the land you are irrigating now. You have the right to irrigate only your small gardens. And your right is from Darya-i-Safed, not Darya-i-Sya."

198 During the Taliban period, both Hajji Sher Mohammad and Salam Palawan were involved in conflicts with one and other—including in relation to a change in the divider design of Gardana. At present however, tensions between the two leaders had subsided.

199 In April 2011, the Taliban shadow governor for Jawzjan Province claimed that his fighters had freedom of movement in five of Jawzjan's eight districts, minus the district centres. See Matt Dupee, "Operation Badr: tracking the Taliban summer offensive in Jawzjan Province," *The Long War Journal*, August 17, 2011. Available at http://www.longwarjournal.org/archives/2011/08/operation_badr_track.php#ixzz2AwX52Rvb (accessed 5 June 2013).

200 Part of the role of the PC is to ensure "peace and stability" with the support of community structures. Limiting the capability of Taliban to destabilise the area is thus one of the tasks they are expected to perform.

201 Note that in contrast with Salmazan, the community did not ask the PC member to intervene. Although he was respected in Gardana, they did not consider him the most immediately obvious candidate.

The mujaherin representatives from Jegdalek said that they would not continue the theft, as they did not want to spark any conflicts. At this point, the Gardana mirab intervened to say:

You have been promising that you would stop stealing for a long time, but in practice it does not happen. I would like to request that we get a signed agreement from Jegdalek representatives in the presence of official representatives [i.e. the provincial governor and the PC head] so that in case the stealing happens again, the government will sanction you [by confiscating their land or sending them to jail].

At this point, Salam Palawan warned the participants that Jegdalek water users were caught stealing Gardana's water again, Gardana leaders would take action themselves without further warning, and without requesting mediation from the government. Qader Malia added:

This is the last warning for Jegdalek about stealing Gardana's water. Don't think that you can make use of the Taliban presence in your area and take cover. If I you think that you can get the support of Taliban in continuing your stealing, remember that I can also go and talk to [their commander].

The head of the Jegdalek CDC, who was from part of the command area where stealing was not possible, summed up the meeting's conclusion: "Nobody talked much. So far there has not been any stealing that I've heard of, but I'm not sure for how long the situation will remain like this."

Conclusion: Government actors intervening only when their interests are threatened

Analysing these events, key informants and Gardana leaders felt that the government and strongmen in the PC did not pay much attention to the case until they saw that it could threaten their interests by benefitting the Taliban. The wider political situation was thus a motivating factor for the government not just to intervene, but also to take strong stand against the defaulters. However, during 2012 the area around Jegdalek remained insecure, with several incidents involving insurgents along its main road through October and November.²⁰²

6.5 Conflict between farmers within a jui in the Khwaja Du Koh irrigated area

Table 18: Summary of conflict between farmers within a jui in Khwaja Du Koh irrigated area

Type of conflict	Water distribution (turns) between plots along a jui
Level in canal/river network	Between farmers/within a village
Main points of interest/lessons learned	<ul style="list-style-type: none"> Although most conflicts at jui level are contained by the saatchi or resolved by village leaders, conflict resolution may also involve actors external to the village.

202 One of which was witnessed by the research team when studying the case of Jegdalek.

Table 19: Parties to the conflict within a jui in Khwaja Du Koh

Farmers	Farmer 1	Farmer 2
Village	Eityreq (100% Uzbek)	
Households	~381 Families	
Ethnicity	Uzbek	Uzbek
Land (jeribs)	200	35

This case deals with a conflict between individual farmers during water turn implementation at jui level, which took place along the Jui Eityreq in Jawzjan's Khwaja Du Koh irrigated area in 2009. Such conflicts are usually managed on the spot by the saatchi (see Section 5). Sometimes, village elders or CDC members may also assist in the mitigation if approached by the saatchi or the parties to the conflict. In relatively rare cases, the conflict may be resolved with assistance from outside the village area.

Water theft

At the beginning of his water turn, Farmer-2 was planning to irrigate his land together with his son. This meant that one could always remain in the field while the other could patrol along the jui from time to time.²⁰³ Just before starting his water turn, Farmer-2 was called to attend urgent business in the city, and ordered his young son to start irrigating. Farmer-2 came back to his field 45 minutes into his water turn,²⁰⁴ only to realise that the flow of water in his plot was very low. His son explained that it had been like that for the last half hour.²⁰⁵

Farmer-2 went patrolling upstream along jui, and discovered that his neighbour, Farmer-1, was diverting part of the jui flow into his field.²⁰⁶ Both farmers started arguing. Farmer-1 explained that according to instructions of saatchi and after checking his watch, he realised that his turn had been stopped too early. He had therefore re-opened his field offtake to irrigate his land for another 30 minutes. He also stressed that he had not diverted all of the jui's flow to his land—although it would have been his right—but had left a small part of the flow to Farmer-2 since he knew he had already started irrigation. This explanation did not make any sense to Farmer-2, who believed that Farmer-1 knew that his turn was finished, saw that nobody was patrolling, stole water, and fabricated a story to cover it up.

Since farmer-1 did not acknowledge his misbehaviour, Farmer-2 tried to contact the Saatchi. However, he was unavailable, having gone to the Khwaja Du Koh divider following a request for assistance with the darakband.²⁰⁷ At this point, the farmer decided to go straight to the head of the village CDC. He felt that he needed a figure of authority in the village to witness this wrongdoing, since this would help him convince the saatchi that his water had been stolen and thus secure compensation. The head of CDC agreed to go to the area with two other CDC members. There, they talked with both farmers to try and understand the situation. However, the CDC head did not feel that any stealing had taken place. According to Farmer-2, the head of CDC acknowledged that there might have been a small confusion over timing, but did not conclude that stealing had taken place. He neither offered support to Farmer-2 nor recognised any need to compensate him.

203 Although this is usually the role of the saatchi, most farmers try to contribute as well if they can find a relative to help. This is particularly true for juis that are particularly long, like Jui Eityreq.

204 The farmer did not remember the exact duration of his absence.

205 The son did not patrol along the jui because he was too busy irrigating the land. In addition, he could not leave all his belongings unattended.

206 The offtake of this neighbouring farmer was located relatively far from the plot of Farmer-2.

207 This information was established later on. The saatchi had to go to the Khwaja Du Koh divider because the river mirab had to go to Sar-i-Pul to assist the provincial mirab in patrolling canals of Sar-i-Pul, where water turns were not well respected. The saatchi thus had to leave his jui for several hours.

With the saatchi still nowhere to be found, Farmer-2 became upset and decided to go to the head of the DDA in Khwaja Du Koh to get assistance, hoping that he might be able to persuade the CDC head to change his decision.²⁰⁸ The DDA head summoned both farmers and the head of CDC to his office to investigate further. Farmer-1 again argued that he did not steal water but only took water according to his rights for the duration and timing defined by the saatchi. He added that perhaps Farmer-2's watch was not working, and that he had been confused with the timing of turns. The head of DDA asked everyone in the office to compare the time on their watches. At this point, everybody realised Farmer-1's watch was more than 30 minutes behind.

The DDA head made no further comments, but asked the head of CDC to find the saatchi urgently and ask him (on behalf of the DDA head) to find a way to provide Farmer-2 with 30 minutes water as compensation.²⁰⁹ He also asked that Farmer-1 receive 30 minutes less water during the next turn as a sanction. After the farmers left, he personally scolded the head of CDC: "Your duty is also to help resolving conflicts, not to make villagers unhappy. I know [Farmer-2], he is an honest man, he would not come to my office for no reason."

Later on, Farmer-1 went to Farmer-2 to apologise for taking his water. He explained that he had thought there would be more water this year in Khwaja Du Koh so he prepared a large plot. Realising his miscalculation, he was afraid that he would lose some of his crop if he did not extend his water turn illegally. Farmer-2 accepted his apologies.²¹⁰

When the saatchi came back to the area on the same day, he received news of the dispute from Farmer-2 and the head of CDC. At first he criticised Farmer-2 for taking the issue to the DDA rather than waiting to him to return. Farmer-2 protested, arguing that, "if the saatchi is not present to help during water turns, then farmers need to resolve their problems through other ways." The saatchi finally compensated Farmer-2 at the end of the turn. However, on the next turn, Farmer-2 refused to let Farmer-1 be sanctioned as he had already accepted his apologies and forgiven him.

Conclusion: A rare combination of circumstances

After the event, Farmer-1 admitted that while Farmer-2 was looking for the CDC head, he had called him up himself and promised him a good lunch and a bribe if he agreed to ignore the theft.²¹¹ He later mentioned this to the DDA head, who had asked him informally why the head of CDC had supported him. Both farmers mentioned that in normal circumstances, such disputes are unlikely since the saatchi would be out on patrol and both farmers would have somebody helping them keep an eye on the jui. In this case however, the combined absence of both the saatchi and Farmer-2 led to opportunistic water theft. The farmers also mentioned that in recent years, the provincial, river and canal mirabs have tended to be busy in Sar-i-Pul during Jawzjan's water turns. As a consequence, saatchis are sometimes asked fill in for mirabs, meaning that they sometimes have to leave the jui for several hours.

208 DDA are composed of members of different CDCs. They have a say on the distribution of resources for project development to each village CDC in the district. If villagers complain to the DDA about their CDC leaders, the DDA may decide to limit resources for this CDC. This may in turn act as an accountability incentive for villagers to change their CDC members.

209 This may be done through the time contingency system that saatchis usually put in place at every turn.

210 Two years later, both farmers were on very good terms. They even became in-laws during 2011.

211 Farmer-1 had no problem sharing this information because the issue had been resolved.

6.6 Conflicts over infrastructure design and water rights between Jui Altkhoja and Nahr-i-Emshek

Table 20: Summary of conflicts over infrastructure design and water rights between Jui Altkhoja and Nahr-i-Emshek

Type of conflict	Infrastructure design and water rights
Level in canal/river network	Between jui and canal/between villages
Main points of interest/lessons learned	<ul style="list-style-type: none"> • Drastic social and political changes may provide the opportunistic conditions for a de-facto and conflictive change in water rights • Local political dynamics and individual interests of powerholders may play a critical role in depriving certain parties of their long-established water rights.

This case deals with conflicts over changes in the design of two proportional dividers, which are located one after another along the Nahr-i-Emshek, in the Darya-i-Sya irrigated area. The cases illustrate how drastic social and political changes may provide the opportunistic conditions for a de-facto change in water rights. It also shows how local political dynamics and individual interests may play a critical role in depriving certain parties of their long-established water rights.

Table 21: Parties to the conflict between Jui Altkhoja and Nahr-i-Emshek

Divider	Jui Altkhoja	Nahr-i-Emshek	
	Altkhoja	Chelmard	Emshek
Villages	Altkhoja	Chelmard	Emshek
Households	~800 Families	~160 Families	~5190 Families
Ethnicity	~40% Uzbek ~60% Pashtun	~97% Turkmen ~3% Pashtun	~10% Uzbek ~50% Arab ~20% Turkmen ~20% Pashtun

Case 1: Jui Altkhoja and Nahr-i-Emshek

According to respondents from the three communities involved in this case, water sharing at the Altkhoja/Emshek divider was never a significant issue until the time of Taliban. Table 22 shows the original dimensions of the original wooden divider, which was first built during Abdur Rahman's reign. As with most structures in the area, the design followed the principle of division of flow in proportion to amount of irrigable land. This design remained in place until the late 1980s under the Communist regime of Dr Najib, and conflicts around it were non-existent beyond occasional issues of water theft.

Table 22: Original dimensions of the Altkhoja/Emshek divider

	Nahr-i-Emshek	Jui Altkhoja
Size (cm)	165	35
% of flow	83	17
Irrigable Land (paykals)	29	6
% of land	83	17

At this time, however, the communities of Emshek, Chelmard and Altkhoja decided to rebuild the structure in concrete, according to the same dimensions. They collected money from each community in proportion to the command area of their branch, and asked the WMD to provide technical support and supervision. The same process was repeated for the divider between Jui Chelmard and Jui Emshek.

Conflictive change in design during the Taliban regime

The social and political situation changed drastically during the time of Taliban. A few years before the Taliban took control of Jawzjan, General Dostum had fallen into open conflict with one of his former commanders, General Malik. Both Emshek and Chelmard (including the current deputy governor of Jawzjan, who is from Emshek village) supported Dostum, while Altkhoja sided with Malik. Although he later rebelled against them, Malik initially supported the Taliban in taking control of Jawzjan and was associated with them in during first years of their time in power.²¹² While Malik's initial base of support was mostly among the Uzbek population of Altkhoja, his alliance with the Taliban also secured the backing of its Pashtun community. During this period, the hydraulic division between Jui Altkhoja and Nahr-i-Emshek aligned with a strong political divide between its corresponding communities.



Image 19: Old structure (foreground) and new structure (background) of Emshek / Altkhoja

The population of Emshek and Chelmard still bitterly recalls the events of that period. The Taliban and Malik were suspicious that they were hiding weapons for Junbesh rebels, and blocked all roads out of the area with checkpoints. As one elder recalled, “General Malik would not let people from Emshek and Chelmard leave their villages, except women and elders going to the bazaar.” On several occasions, villagers from Altkhoja helped the Taliban search houses in the area. Another elder from Emshek remembered:

The Altkhoja villagers supported Taliban in searching our houses. They brought foreigners [Taliban from southern Afghanistan] into our homes and asked us “where are the guns and what is your relationship with Dostum and his commanders?” Then they beat us in front of our families. The Taliban have seen our families. This is very bad. Of course this has affected our relationship with Altkhoja.

During that period, many families escaped Jawzjan, and in many cases lived abroad. One of the main leaders of Emshek—currently deputy Governor of Jawzjan—was sent to jail in Kandahar, while his two brothers (one now the village qaryadar—community representative to the government—and the other a member of parliament) managed to take refuge in Pakistan. According to respondents, irrigated agriculture in Emshek and

²¹² General Malik is the leader of Liberty Party in Afghanistan. In November 2006 he was quoted as saying: “Before the Taliban time, Dostum was the commander of killers and robbers in North of Afghanistan and the situation was very bad. For this reason, I thought that if I brought the Taliban to the North the situation would get better. But when I brought them here, I saw that they were the same as Dostum. So I fought with the Taliban as well and got them out of the North.” Adapted from Shoib Najafizada, “Dostom still a power in the North,” *Kabulpress.org*, 2 November, 2006. Available at http://kabulpress.org/English_letters37.htm (accessed 5 June 2013).

Chelmard was very limited during that period, and most villagers who remained in the area cultivated only a first crop on essentially rainfed land. In addition, many people sold their livestock as coping mechanism.

During that period, Altkhoja secured funding from the WMD to rebuild the Altkhoja/Emshek divider, which had been destroyed by a flash flood. However, additional funds were still needed, and Altkhoja leaders began collecting money themselves, including from Emshek and Chelmard. Despite being on the opposite side of the conflict, the two villages agreed to contribute. This was partly justified by the fact that Altkhoja leaders claimed they would rebuild the structure according to its original dimensions. Furthermore, the two communities believed that if they did not contribute, Altkhoja leaders would go ahead with the construction anyway and use the lack of contribution from Emshek and Chelmard as an excuse to change the design to their advantage. Nevertheless, due to the movement restrictions discussed above, it was very difficult for people from these villages to access the division structure itself, since it was located very close to Altkhoja village.

Contrary to their earlier promises, Altkhoja leaders made drastic changes to the design of the divider. They relocated the structure slightly upstream of the original one and adjusted the dimensions to their advantage (see Table 22). Although the Emshek division retained the same dimensions, Altkhoja more than doubled the size of its opening. Given the security and political context of the time, nobody in Emshek or Chelmard raised the issue; respondents from the two communities reported that while the Taliban were in power, they never even got to see the structure.

Table 23: Dimensions of the divider during Taliban period

Divider	Emshek	Altkhoja
Size (cm)	165	75
% of flow	69	31
Irrigable Land (paykals)	29	6
% of land	83	17
cm per paykal	6	13

Politics of conflict resolution

Following the fall of the Taliban, General Dostum came back from exile and resumed his position as the area's foremost political figure. He called for meetings between the leaders Altkhoja and neighbouring villages, including Emshek and Chelmard. He insisted that both parties declare an amnesty in order to rebuild and maintain unity in Jawzjan. He also asked his supporters—including the qaryadar of Emshek and the current deputy governor—to avoid taking revenge on Altkhoja. This was due to his concern that Altkhoja could respond to such actions by requesting support from General Malik or other strongmen ready to exploit the area's social and political divisions.

In this context, it became unfeasible for mirabs and water users to ask for a change in the design of the divider. The deputy governor and his brothers repeatedly blocked all attempts to raise the issue, even though water users were only asking for the restoration of their original rights. As one mirab recalled:

Once, the people of Emshek took a letter to the WMD asking to change the design of the structure back to its original dimensions. But they did not inform the deputy governor. When the letter ended up on provincial governor's desk for approval, the deputy became angry and asked his people: "Why did you do this without informing of me? Do the people of Altkhoja know that you have written

this letter?” People said no. So he kept the letter and warned his people not to make this mistake again. He argued that such action could jeopardise his efforts to keep Altkhoja within his group of supporters.

In both the 2005 and 2010 parliamentary elections, Altkhoja actively supported the deputy’s brother, who was successfully elected both times. For Emshek and Chelmard elders, this was no coincidence.

In spite of these unfavourable political dynamics, the elders still hope that there will be other opportunities to normalise the situation and restore original water rights—with the consent of Altkhoja. Nevertheless, there is a growing concern that, as time passes, the current situation is increasingly recognised as normal. In 2008 and 2012, the mirab of Emshek canal discussed the issue informally with the qaryadar, elders and DDA members from Altkhoja. He recalled telling the qaryadar: “In the past you have made a mistake and you have not corrected it till now. But in the future we will have to change this structure according to our right.” Although some of the Altkhoja leaders promised that changes would eventually be made, others tried to convince the mirab that it would be better to “forget about the past.”

In the end, respondents in Emshek and Chelmard villages felt that change was unlikely as long as the deputy governor still wanted to appease Altkhoja. Although the deputy now risks losing the support of his own people in the process, this seems to be a chance he is ready to take.

Case 2: Jui Emshek and Jui Chelmard

A comparable conflict happened at the divider between the Jui Emshek and the Jui Chelmard. Until the Taliban period, the division structure had been designed according to the principle of proportionality (see Table 23) and there were no major political rivalries between the two communities. However, during the Taliban regime, a number of Pashtun landlords returned from Pakistan to Chelmard, where they owned some 20 percent of the land and leased it to Turkmen farmers.²¹³ According to Emshek respondents, these four or five wealthy families took a lead in re-designing the divider.

Table 24: Original dimensions of the divider

	Jui Emshek	Jui Chelmard
Size (cm)	215	35
% of flow	86.0	14.0
Irrigable Land (paykals)	25	4
% of land	86.2	13.8

Table 25: Dimensions of the divider during the time of Taliban

	Jui Emshek	Jui Chelmard
Size (cm)	215	50 ⁽¹⁾
% of flow	81.1	18.9
Irrigable Land (paykals)	25	4
% of land	86.2	13.8

(1) One respondent stated 75 cm.

²¹³ Currently, there is a very small minority of Pashtun families in Chelmard (around three percent of the population). However, their landholdings amount to approximately 20 percent of the total Chelmard command area. These families are very wealthy in comparison to other families in the village. They have businesses in Shibergan and lease their land rather than farming it themselves.

The new structure substantially increased the flow apportioned to Jui Chelmard. However, due to the close relationship between these wealthy families and the Taliban leadership—coupled with Emshek’s prior support for their opponent General Dostum—nobody from Emshek tried to challenge this initiative.



Image 20: Division structure between Emshek (left) and Chelmard (right).

However, in contrast with the situation at Altkhoja, the divider was returned to its original dimensions during the post-Taliban period. The wealthy Pashtun families left the area and went back to Pakistan, and the Emshek leadership entered into discussions with the Turkmen families of Chelmard. Emshek leaders then took the initiative to reduce the size of the Chelmard branch from 50cm back to its original 35cm. The Chelmard villagers accepted this without dispute, explaining that the changes had been the sole initiative of the Pashtun naqelin, and that they were never involved.

6.7 Conflicts over water distribution between canals along the Sar-i-Pul River, Sar-i-Pul Province

Table 26: Summary of conflicts over water distribution between canals along the Sar-i-Pul River, Sar-i-Pul Province

Type of conflict	Water distribution—implementation of inter-canal water turns
Level in canal/river network	Inter-canal/between groups of villages
Main points of interest/lessons learned	<ul style="list-style-type: none"> Resolution of conflicts on a large scale requires the mobilisation of different actors (powerholders, elected bodies, local government officials, provincial mirabs) as each has a limited geographical area of influence and none may have sufficient authority on a large enough scale. Coordination among these different actors is key to resolving conflicts. The legitimacy and power of deadlock breakers or facilitators in conflict resolution may not necessarily come from the mandate associated with their formal function (e.g. PC member, provincial mirab). Rather, it may derive from their past activities in areas outside the water sector (for instance as commanders). When water-related conflicts collide with lower-level and civil or criminal disputes, tensions may arise between community-based dispute resolution principles and local government conflict resolution processes.

This case deals with conflicts over water distribution between canals located along the Sar-i-Pul River. These involved two main areas: upstream canals in the Laghman valley, and downstream canals in the Sar-i-Pul plain (see Figure 20 in Section 5). The conflict is divided into three events that occurred simultaneously during the very dry year of

2011. Although presented separately here for ease of analysis, they formed part of the same overall situation. The first event involved different attempts establish water turns between Sar-i-Pul canals. Although water turns among canals do not apply in principle within Sar-i-Pul Province (see Section 5),²¹⁴ the exceptional conditions of the 2011 dry year triggered the application of a different water distribution procedure. The second event concerned the illegal extraction of river water by pump users in the Laghman valley. The third event focused on the resolution of a violent row between a mirab and a farmer over the monitoring of canal intakes during water turns.

Event 1: Water turns and abandâz

Table 27: Parties to the conflict between canals along the Sar-i-Pul River, Sar-i-Pul Province

Area	Laghman valley (upstream canals)	Sar-i-Pul plain (downstream canals)
Number of canals	21	20
Number of villages	~38	~111
Irrigable area (ha)	~2,100	~13,340

During the first weeks of July 2011, water availability in the Sar-i-Pul River was so low that it could no longer meet minimal irrigation needs. The priority for mirabs now became ensuring that each canal was supplied with a minimum flow for domestic and livestock use. Water distribution at inter-canals level is normally regulated at sarbands, allowing each canal to enjoy a continuous flow. However, the extremely dry conditions led users to switch to a system of water turns.²¹⁵

However, conflicts emerged after only a few days of turns. Downstream water users were unsatisfied with the work of the provincial mirab and his deputy since little if any water was reaching their canals during their turn. The elders of the downstream canals believed the provincial mirab had been too lenient with water users in the Laghman valley; some claimed that his close relationship with the area's elders (See Section 5) had prevented him from enforcing the strict application of turns there. This situation was made worse by the fact that patrolling in Laghman was at the time a very dangerous exercise for other mirabs. As a group of elders from downstream Sar-i-Pul explained:

In each village of Laghman valley there are at least ten or 15 armed people who are arbakai during the day and thieves during the night. Last year, someone was shot in Balghali or Angut when he was irrigating his land at night, just because he had 10,000 Afghanis [US\$200] and a phone in his pocket. He was in hospital for more than six months. Even Laghman people irrigate their lands during the night in groups of three or four. One person will irrigate and three people will check around him. You risk your life if you monitor the sarband. People in Sar-i-Pul will tell you, "let my crops die but I will not sit there."

Unhappy with the situation, a group of downstream elders and mirabs went to the WMD to request support in enforcing effective water turns, making it clear that they did not want the provincial mirab to be involved. The WMD told them to draft a written request

214 Water distribution among canals in Sar-i-Pul is usually done through the regulation of each intake so that all canals are supplied continuously and simultaneously.

215 This preference was justified by a number of considerations. First, in cases of very low river flow, supplying all canals simultaneously would result in unsustainable losses to infiltration. Second, the fact that water would not be used for irrigation—except possibly for saving perennial trees—meant that disturbing according to irrigation scheduling was no longer an issue. Third, water turns in place between upstream and downstream canals would make patrolling easier as it would be focused on a smaller area.

to the provincial governor in order to make the issue official, since the governor would then formally ask the WMD to take charge of the matter. This letter allowed the WMD to ask the police to escort the group to the Laghman valley. The WMD deputy director also decided to request support from Hajji Samaruddin, a PC member from the valley who was highly respected and influential in most of the villages there. However, he declined the request, claiming that he was not in Sar-i-Pul at the time.

Although the water users and the WMD managed to direct some water toward the downstream canals, the process was not much more effective than the turn organised by the provincial mirab. The police decided to leave at 3 p.m., and water users did not feel confident enough to keep patrolling the sarbands in their absence. Soon after they left, the sarbands were opened again and the water turn was disrupted. The police refused to return for the next day, arguing that they had more urgent issues to deal with due the presence of other insurgent groups around Sar-i-Pul. They also pointed out that their sustained presence in Laghman valley would only create more tensions with insurgents, and that staying during the night was out of the question. The downstream representatives also realised that involving the police, while potentially effective in the short term, was not a sustainable solution for enforcing water turns. One elder recalled what Laghman valley water users had later told him:

People in the upstream area said that if they left their intakes closed, this would mean that the police and the government can apply their rules easily in Laghman. They feared that if they let this happen, in the future the government would come and check their houses and take their guns by force. This is why they opened all the intakes at night. Because of that, even birds did not have water in Qazikinti intake [i.e. at the downstream Sar-i-Pul intake].

Furthermore, the police also had to be paid for their food and fuel expenses, which would again be unsustainable in the long run.

The provincial mirab explained that soon after these events, he had received a call from the Laghman elders asking why downstream water users had brought the police with them and why he had not been present. The next day, the WMD and water users organised a meeting at the WMD office to discuss how to resolve the issue of water turns. This time, however, they invited the provincial mirab, recognising with hindsight that it would be easier to find solutions if he was involved. Even though his close relationship with powerholders in Laghman limited the extent of his power there, he nevertheless remained one of the few figures with enough legitimacy to ensure a minimum level of compliance from Laghman water users, especially in the context of continuing insecurity. As the provincial mirab himself put it:

You can bring the police with you to get water from Laghman, but the police will not always be here to help. Now, I could use my authority to make one perfect water turn in that area. But there is a long-term risk. People will become angry and over the long run, downstream water users will be affected. So sometimes I let water users steal a bit here and there, and in this way we won't completely lose their support for the future. In Afghanistan, everyone who has a gun thinks he is Karzai. So if we don't have a powerful government to apply the rules, we have to maintain good relations with water users in Laghman.

The provincial mirab clearly felt that downstream water users were reacting emotionally to his strategy, and that involving the WMD and the police in enforcing Laghman's water turns was a risky effort. He therefore decided not to interfere and let the process play out.

The different actors decided to organise, simultaneously, a water turn in the Laghman valley and an *abandâz* in the upper districts of Sang Charak and Sozma Qala. To make the process more effective and efficient, it was agreed that the provincial mirab would conduct the water turn in Laghman, while the WMD would deal with the *abandâz*.

The provincial mirab was chosen to deal with the issue of water turns because he had a better chance than any government actor of convincing the elders in Laghman to respect them for a longer period (four days). However, he also suggested involving Hajji Samaruddin (see Box 4), who was significantly more influential in the area and also had links to insurgents. This was seen as a strong advantage, since it would limit the possibility of upstream water users mobilising insurgents to help disrupt the implementation of water turns.²¹⁶

Although the mirab could have used his personal connections to make this request, he suggested that water users draft a letter to the provincial governor requesting support of the WMD and the PC. This time, Hajji Samaruddin agreed to accompany the provincial mirab to Laghman and talk to elders there. The police again provided a security escort, but this time their presence did not upset Laghman water users due to Samaruddin's presence. When he arrived, he gathered elders and other powerholders in different mosques and asked them to support the provincial mirab and downstream mirabs in ensuring that water reached downstream canals.

In dealing with the *abandâz* in Sang Charak and Sozma Qala Districts, the WMD requested the support of the provincial governor. He in turn sent a letter to both district governors, requesting his help in setting up a few days' *abandâz* in light of the humanitarian crisis in downstream Sar-i-Pul. The district governor then formally introduced the WMD deputy director to elders and mirabs in the district in order to help organise and legitimise the *abandâz*. According to respondents, turning to the deputy governor was more appropriate in this instance than asking the PC for help, since they wielded less influence in the area. Furthermore, the deputy WMD director had a close relationship with the district governor and a number of local elders in those areas, further facilitating the process. Similarly, respondents felt that involving the provincial mirab would not have led to any practical results since he performed no role and had little legitimacy²¹⁷ in either district when compared to formal government actors. As the WMD explained, the water users in the area did not even know who he was.

Ultimately, this division of labour between the provincial mirab and the WMD proved effective. Together, the water turns and *abandâz* they had respectively organised brought enough water to downstream Sar-i-Pul, to fill pools for domestic uses and sustain livestock.

216 The Laghman valley now hosts a number of local *arbakai*, set up partly at the initiative of Hajji Samaruddin. Although these *arbakai* are supposedly armed by the government to fight the insurgency, most elders and officials in Sar-i-Pul claim that the community leaders in the valley (including Hajji Samaruddin) actively maintain relationship with some insurgent leaders. These forms of double-dealing are rather widespread in Afghanistan. As one elder explained: "It may not be entirely in his interest to remove the insurgency from the area or alienate them. He can use them to bargain for support [in the form of arms or finance] from the government while he is pretending to contain them."

217 Although the provincial mirab and his deputy are called provincial mirabs (*mirab-i-wulayati*), their area of responsibility is limited to the area where water rights between (part of) Sar-i-Pul and (part of) Jawzjan apply.

Box 4: Hajji Samaruddin: A powerful PC member from Adreng village in the Laghman valley

Hajji Samaruddin is from Adreng village. His father and grandfather were influential maliks (village leaders) in the same village. He was a commander in the Laghman area for more than two decades before he became a PC member in 2005, and was re-elected in 2010. During the Soviet invasion, he acquired a lot of respect for defending villages in the valley. As one elder explained: “He didn’t let anyone to enter our houses or take our land.” He also acquired a strong reputation for resolving conflicts over civil affairs, matrimonial matters and other issues both in his village and beyond. He also supported Aka Rahmat (a former commander in Sar-i-Pul and its current provincial mirab) during the conflicts of the 1990s.

Event 2: Motor-pumps and gardens

During the successful water turn described above, the provincial mirab encountered a problem with a number of villagers along the Laghman valley, who were using motor pumps²¹⁸ to lift water from the river in order to irrigate gardens above it.²¹⁹ In some parts of the river, they had even made small pools to accumulate water and make pumping easier. The mirab realised that this practice would significantly limit the flow of water reaching downstream Sar-i-Pul canals during their water turn. At first, he tried to reason with pump users, saying:

The water users who have land in upstream canals and official water rights from this river are now closing their sarband to support our downstream brothers. Why don’t you stop irrigating your gardens so that people downstream have something to drink and keep their livestock alive? [...] If you don’t remove the pumps, I will have to ask Hajji Samaruddin and the WMD to collect them from you.

The pump users dismissed these threats, arguing that they could not afford to lose their gardens at this critical moment in the season. The mirab then spoke to various qaryadars along the valley to explain his intentions and gauge their reactions. Most elders supported stopping the pump users, since otherwise it would take more time to satisfy the water needs of downstream canals, which would in turn result in further demands for upstream areas to release more water. However, they were reluctant to take any action themselves, arguing that in a context where insurgents were capitalising on any possible grievances, it would not be wise to be too confrontational.

The provincial mirab therefore called the WMD to explain the situation and asked its deputy director to prepare an official letter endorsed by the provincial governor, asking Hajji for support. He explained:

I came to the WMD office and took the letter, which had been signed by the provincial governor, and I delivered a copy to the PC. The letter suggested that Hajji Samaruddin could be of great support to the provincial mirab and WMD and that the police should be supportive if asked for help. We discussed the issue with the Hajji as he wanted to know where the pumps were located. We all then decided to ask the police to provide three cars and a few policemen to ensure the security, and also brought some of the Hajji’s bodyguards with us.

²¹⁸ According to the provincial mirab, more than 40 small motor-pumps could be counted.

²¹⁹ This land was not part of any canal command area and had therefore no rights to surface water.

The delegation drove along the valley and confiscated more than 30 pumps. As an elder from Laghman valley recalled:

Hajji Samaruddin was giving orders to his bodyguards and the policemen to load the pumps in the police cars, even arguing with those who protested. He asked the pump users, “Did you ask the provincial mirab before putting these pumps in the river? Did he give you the right to use this water? Don’t you know what is going on downstream?” The WMD director stayed in his car and didn’t talk to the defaulters. [...] Overall there was not much opposition because most of the water users and elders were not supportive of these pumping practices.

According to Hajji Samaruddin himself, the owners came to him and asked for their pumps back, and he ordered the police to hand them over. However, he made clear that if he received any more complaints from the provincial mirab or the WMD, he would confiscate them indefinitely. After this, pumping practices ceased almost entirely, at least during the day. Explaining the resolution of the issue, Samaruddin explained:

The provincial mirab himself could not prevent arguments and the misuse of pumps. It was impossible for the mirab, the WMD, the police or any water users from downstream to collect these pumps due to the insecure situation in Laghman at the time. But nobody here can go against my decision.

Respondents involved in the case explained that the procedure followed was typical when dealing with conflicts that the provincial mirab could not himself resolve. He would inform the WMD (usually the deputy director), and the two of them would then work out the most relevant people to bring in. In Sar-i-Pul, strongmen who also hold formal positions—such as PC members—usually demand formal letters endorsed by the provincial governor from the WMD, water users and the provincial mirab before they will intervene to help resolve a case in their area of influence. Water users and the provincial mirab both explained that simply asking such individuals directly to intervene in serious case posing no direct threat to their interests is generally a waste of time.

Discussing the relatively strict intervention to remove the water pumps, the provincial mirab made the following comment:

With water users who have water rights over the river, we have to be careful how strict we are because ultimately we will always need their support if we want to help downstream water users. We can’t always rely on strongmen. But with water users who have pumps and don’t have any rights, not only we had to be strict so that these people don’t develop a habit that will become more difficult to stop, but also we had to take advantage of the opportunity that they didn’t have the support from most elders in the villages.

As this quotation suggests, while the involvement of strongmen like Hajji Samaruddin can certainly break deadlocks and prevent conflicts from escalating or rolling on indefinitely, such interventions also have a cost. As the provincial mirab explained:

I can ask for the help of strongmen like Hajji Samaruddin but I prefer to resolve issues without their intervention, because if his people get frustrated, they will not necessarily tell him but they will come to me or say, “Look, this situation is because Aka Rahmat has informed the PC or PG and WMD.” [This implies that frustrated upstream water users might hold grudge against the mirab for enforcing water turns with the help of strongmen].

In addition, strongmen may also use interventions to further their own political interests. In the words of the WMD deputy director:

In this case, Hajji Samaruddin gained support and respect in downstream areas. I have heard people in downstream Sar-i-Pul saying, “Hajji Samaruddin has been of great support during this drought.” Such events can be an opportunity for him to extend his influence. There is no risk of him losing his influence in Laghman after all he and his family have done for their people, like bringing development projects, road, schools, financial support and so on.

Event 3: Violent clash during monitoring of sarband in Angut

During the water turn described in Event 1 between the Laghman valley and the downstream Sar-i-Pul canals, a violent clash occurred between the mirab of Qezel Qent Canal and a mill owner on the Angut Canal. Qezel Qent canal is located just upstream Sar-i-Pul City (see Figure 22 in Section 5) at the junction between Laghman valey and downstream Sar-i-Pul.

During previous water turns, downstream mirabs had been reluctant to patrol canals in the area canals due to the active and increasing presence of insurgents there. But during this turn, the mirabs were able to patrol more freely due to the active involvement of Hajji Samarrudin. However his influence was not as strong in the area of the Angut sarband. While downstream mirabs were busy patrolling the Laghman valley, the provincial mirab asked the mirab of Qezel Qent to control the intake of his own canal. This was to ensure that the water released from the upper part of the Laghman valley would not be used in the downstream part of the valley before it reached the Sar-i-Pul plain.

The mirab of Qezel Qent was known in Sar-i-Pul as an honest and stubborn man who kept a tight control over his sarband. However, during this water turn a mill owner—who was also a relative of the mirab—came to the intake and asked him to open the sarband to supply his water mill. As the mirab recalled: “I asked him if he knew what was going on in the downstream canals, and asked how he could be asking of water for his mill while the downstream water users didn’t even have enough water for domestic uses.” According to the mirab, the mill owner replied that there were a lot of villagers waiting to use the mill to make flour form their wheat. He added that using the mill would not consume any water as the flow would return to the river further downstream. However, the mirab was sceptical, suspecting that any flow of water supplying the mill might be diverted for other purposes instead of being channelled back to the river.

After an exchange of insults the argument turned violent, and the mirab was injured in the fight. As he recovered, he called the provincial mirab, who was also from his home village of Asyabad. On that day, the provincial mirab had been called to an urgent meeting outside the Province. When he realised that the issue could potentially turn violent, he decided to call the WMD director, asking him to at least contain the conflict until he came back.²²⁰

He also asked the mirab of Qezel Qent to call the WMD to explain the case. The latter also felt obliged to report the issue to the WMD because he felt he was “a member of the WMD staff.”

The WMD director immediately asked the police to arrest the mill owner and keep him at a check-post until discussions with elders from Asyabad and Angut could be held in the WMD office. The mirab of Qezel Qent recalled:

²²⁰ The provincial mirab had a better relationship with the deputy director, but he was also absent from the area on that day.

On the next day, the WMD director asked me to come to his office. He also called the elders from Angut and Asyabad. When I told the story again, the WMD director became very angry and said [addressing the elders of Angut], “Today, you beat my canal mirab, tomorrow you will beat my provincial mirab, and then you will start beating WMD employees. Bring this person [the mill owner] to the WMD office so he can be beaten the same way he beat the mirab.”

At this point, the Angut elders asked the mirab of Qezel Qent and WMD director for clemency. However, the WMD director—who was reportedly still emotional—demanded that the aggressor at least pay a fine to his victim. Although the elders of Angut were not happy with either the resolution process or the decision, they did not oppose it. Rather, they were concerned that due to the mirab’s injury, the case could be taken to court, resulting in a potentially more serious outcome. Nevertheless, they were upset that the Asyabad elders had accepted the WMD’s decision so readily. Ideally, they would have preferred both groups of elders to handle the matter among themselves without involving the government. Furthermore, they felt that a financial sanction imposed by the WMD was not in accordance with *islah*.²²¹ Due to the tension between the two groups of elders, no further discussions took place.

At this point, the provincial mirab came back to the area. Hearing about the WMD director’s decision, he decided to intervene as a mediator between both parties. Although he was originally from Asyabad, he was also highly respected in Angut due to his previous role as a commander protecting communities in the area. After separate discussions with both parties (including the mirab of Qezel Qent and the mill owner), the provincial mirab organised a meeting between the elders of Angut, the mill owner and the mirab at the latter’s house. There, the elders of Angut first asked the mirab for forgiveness. He recalled:

They told me, “We are one blood, we live in one village, we have to maintain our relationship with each other. Whatever he has done, he is regretful of his action. Please forgive him. He will also request forgiveness from you.”

The mill owner also apologised and asked for forgiveness, and the mirab agreed to give up his claim to financial compensation. Later on, the provincial mirab organised a lunch with a large group of mirabs and elders from both Angut and Asyabad. He reflected on the whole process as follows:

The mirab of Qezel Qent and the defaulter from Angut are relatives, and Angut and Asyabad are two neighbouring villages. There is a long history of support and cooperation between these two villages, including when I was commander in this area. There are a lot of family relationships between these two villages. During the lunch I asked them: “If we start resolving these conflicts in this manner [through financial compensation or through court] this will damage the relationship between both villages. Then who is going to attend at your funerals and weddings?”

After resolving the conflict between both parties, the provincial mirab went to the WMD to explain the situation. There, he was able to convince the deputy director that it would be better to close the case without sending it to court or fining the culprit.

²²¹ See D. J. Smith and L. Kim, “Community-Based Disputes Resolution Processes in Nangarhar Province” (Kabul: Afghanistan Research and Evaluation Unit, 2009). Although financial compensation is not excluded by *islah*, the elders of Angut did not want the fine to be imposed by the WMD.

Reflections

The fact that the provincial mirab's first act in the case was to involve the WMD director may appear confusing given his later attempt to reverse the director's decision. However, as he explained:

First I was pressed for time because the issue could have turned violent quickly. But at the time I did not think that the WMD director would become angry and emotional and take such a decision. To prevent such a situation, we generally try to avoid involving the WMD. But at the same time, we try to keep them informed because they are also responsible for water management in Sar-i-Pul [...] Once a case is brought to the WMD, they have a right to make decisions if they want because they are formally responsible.

The case also shows that in some cases, a mirab may act in the role of respected community leader rather than in his technical capacity as a water manager. Here, it is clear that provincial mirab's mediation was possible not because of the legitimacy of his current position, but because of the respect he enjoyed due to his past actions as a commander.

6.8 Conflict over water theft at a divider between Nahr-i-Afredi and Nahr-i-Akhtash

Map 7: Command areas of Afredi and Akhtash



Image 21: Afredi Divider. Left branch supplies the land around Afredi village; right branch supplies the main canal going toward Akhtash and other villages.

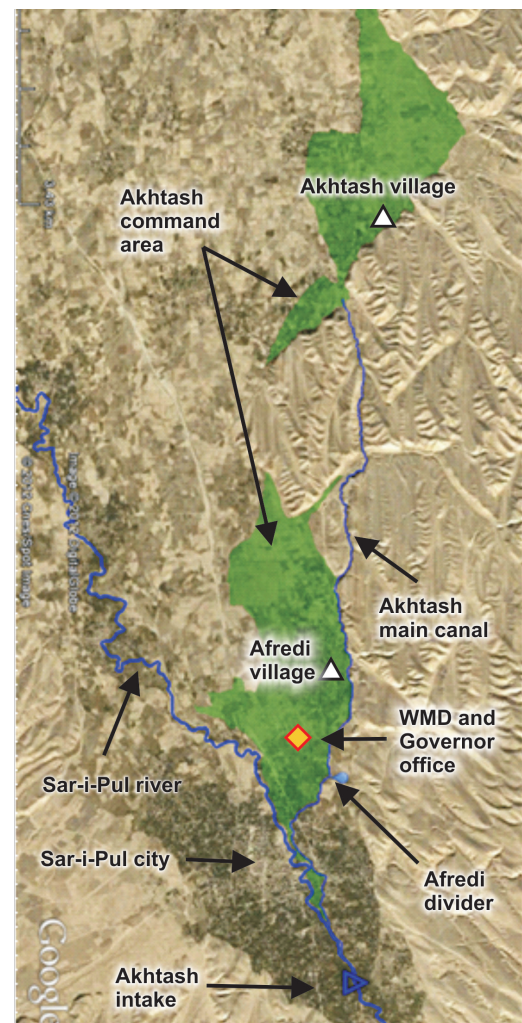


Table 28: Summary of conflict over water theft at a divider between Nahr-i-Afredi and Nahr-i-Akhtash

Type of conflict	Water stealing at a divider
Level in canal/river network	Intra canals - among villages
Main points of interest/lessons learned	<ul style="list-style-type: none"> • Power differences and political divides between different communities may sometimes be too strong to allow the initiation of conflict resolution procedures. • Local court may not have the sufficient coercive power to overcome the influence of local powerholders.

Table 29: Parties to the conflict between Nahr-i-Afredi and Nahr-i-Akhtash

Divider	Nahr-i-Akhtash	Nahr-i-Afredi
Number of Villages	8 villages	1 village: Afredi
Households	~2200	~1300
Ethnicity	Uzbek: ~30% Hazara: ~27% Pashtun: ~21% Arabs: ~20% Tajiks: ~2%	Uzbek: ~95% Pashtoon: ~5%

This case deals with a recurrent conflict involving water theft at the Afredi divider structure on the Akhtash Canal in Sar-i-Pul Province. The Akhtash sarband is located close to Sar-i-Pul City, and covers a total command area of approximately 1,060 hectares. A first divider splits the canal flow in three parts, the first two irrigating an area of approximately 330 hectares. The Afredi divider (see Image 21) then splits this branch into two further parts. The left branch (Nahr-i-Afredi) irrigates the land around Afredi village, while the right branch (Nahr-i-Akhtash) irrigates the land around Akhtash village.

Table 30: Dimensions of the Afredi/Akhtash divider

	Nahr-i-Akhtash	Nahr-i-Afredi	Total
Size of opening (cm)	235	93	328
Percentage of flow (%)	71.6	28.4	100
Land irrigable (Jeribs)	2,500	1,150	3,650
Percentage of land (%)	68.5	31.5	100

At the level of the divider, the water flow is shared between branches according to the principle of proportionality to amount of irrigable land, although there is in fact a small difference between the percentage of flow and the percentage of irrigable land in each canal (see Table 27). This is because at the time of design, elders took into consideration the transport losses occurring along the seven km section between the Afredi divider and the Akhtash outflow. Consequently, Akhtash has an opening approximately 8 cm larger than it should have according to strict proportionality.

The beginning of water stealing practices

Elders in Akhtash did not recall any significant water theft taking place before the late 1980s. During that period, a number of strongmen associated with the Communist government were living in Afredi, which was closer to government-controlled Sar-i-Pul

City. By contrast, Akhtash was closer to areas controlled by the mujahiddin. Toward the end of the administration of Dr. Najibullah in the early 1990s, some water users from Afredi started stealing water at the level of the divider, and the practice has continued to escalate up to the present day.

The main technique for water theft involves laying sand bags or stones across the opening of the branch leading to Akhtash, diverting more water into the Afredi branch. An alternative technique is to make a breach in the Aktash channel in order to divert water to the Afredi canal. This illegal breach is made along the roughly 1 km section where both canals run in parallel, after the Afredi divider. These techniques only became possible only after powerholders in Afredi had built water mills along the Akhtash canal a few hundred meters after the divider.²²² Their design was such that the water level in the Akhtash canal had to be raised through a crest to a level higher than it was the Afredi canal. This change in topography made it possible to siphon water from Aktash to Afredi.

During that period, water users in Akhtash tried to bring up the issue both with community elders and the local government, but without success. Most of the powerholders in Afredi were closely associated with the Communist government of Dr Najibullah, maintaining relations with governors and local government representatives such as the WMD. Akhtash leaders were by contrast seen as associated with the opposition. Akhtash elders felt this political divide was a key factor in preventing their formal complaints from being taken seriously at the time. Although thefts were partly limited by mirabs as they patrolled along the canals, stopping the practice altogether and sanctioning defaulters was not possible due to their strong government connections.

The political changes following the fall of Dr Najibullah and the rise of the Taliban did not change the political balance of power between the two areas. By this time, the leaders of Afredi had forged ties with the dominant Junbesh party, while leaders in Akhtash were mainly affiliated to Hizb-i-Wahdat. There were also reportedly a number of internal leadership disputes among the heads of villages in the Akhtash irrigated area, which limited Akhtash water users' ability to voice their concerns.

During the Taliban period, the political landscape changed and Afredi strongmen lost their grip on power. After repeated requests from Akhtash—especially during the long drought of the late 1990s—the new WMD and provincial governor agreed to take some action. The Taliban's support for Akhtash was facilitated by their relationship with a number of Pashtun leaders there, who had returned to the area from exile during the 1990s. Authorities agreed to relocate the Afredi mills, hoping that this would limit the opportunity for theft. However, the fall of the Taliban in 2001 interrupted the process and the plan was never implemented.

After 2001, the situation largely returned to the status quo of the pre-Taliban period, with a number of strongmen from Afredi now associated with the government in power. An Akhtash elder summed up the situation: "The provincial governor, the PC and the WMD don't want to support Akhtash because Afredi has influential people. If we complain about Afredi to the officials, they will just find ways to justify not intervening."

Bringing the case to court in 2011

During the very dry year of 2011, successive instances of water theft led to a significant increase in frustration from Akhtash water users. In June and July 2011, water availability was particularly limited in the Sar-i-Pul River, with water mainly shared to satisfy basic

²²² These mills were built without authorisation. For a detailed case study on the issue of water mills and the conflicts they may generate with irrigation water users, see V. Thomas, A. Osmani and K. Wegerich, "Local Challenges for IWRM in Afghanistan," *International Journal of Environmental Studies* 68, no. 3 (2011): 313-31

needs rather than irrigation. By contrast, Afredi farmers were still using the water they stole to irrigate vegetable gardens close to their houses. Elders from Akhtash and Afredi came together to discuss the issue, but the meeting yielded few results. Afredi elders initially said they were sympathetic and willing to help. However, they also pointed out that they could not identify who was stealing water, and that it would be unfair to sanction all the water users in Afredi if they could not locate the defaulters.

The continued presence of the mills made the issue especially difficult to resolve. Akhtash representatives knew that it would be unrealistic to confront the mill owners directly due to the latter's power and connections. In this respect, securing the support of government actors also seemed unlikely. Complicating matters, the mill owners were not directly stealing water themselves, but rather facilitating the conditions for others to do so—and finding the real culprits was hard without actually catching them on the spot.

Akhtash water user representatives attempted to involve the provincial mirab and his deputy. However, the provincial mirab did not have much influence in the area as he did further upstream.²²³ Meanwhile, his deputy was reluctant to involve himself in a dispute that could potentially lead to confrontations with Afredi powerholders. He consequently argued that since water theft had already been going on for 20 years, there was little hope that things could now be changed.

Both mirabs therefore recommended that the Akhtash water users file their complaint with formal government actors. Consequently, they took their complaint to the PC, only to have it rejected with a recommendation that this “local issue” would be better dealt with between community leaders.²²⁴ As one elder from Akhtash pointed out: “We do not have PC members who are actually from Akhtash and who would be ready to support us. They are close to the strongmen of Afredi and would not risk compromising their relations with them just for us.” Others added that divisions among the Akhtash leaders were also to blame for this failure to secure external support.²²⁵

The last alternative available to Akhtash was to get support from the WMD, which agreed to intervene. A WMD official first tried to reason with Afredi elders, reminding them just how acute water scarcity was at the time:

I went to the Afredi elders and told them, “This year you know that there is very little flow in the river and that we should use it only for domestic purposes, not for irrigation. Why are you doing this? You want to irrigate your gardens while those people [in Akhtash] don’t have any water to drink.”

The elders assured the WMD that they would put a stop to the thieves. But that same afternoon, water was stolen through another breach in Akhtash canal close the mills. The following day, evidence also emerged of thefts at the divider during the night. At this point, the official decided that he should send the case to court. As he explained:

I really became angry when I saw that on the same day that they told me they would resolve the problem, another breach was made in the canal. This issue has been going on for a very long time. During the past years, Akhtash users have been complaining about the WMD taking no action against Afredi. This summer [2011],

223 In fact, the main problem for most canals in downstream Sar-i-Pul is related to water distribution from canals in the Laghman valley.

224 This is an illustration that in some instances PC members will not always intervene, even when an issue is endorsed by the WMD. PC members thus clearly consider their interests first before getting involved in conflict resolution processes. Formal requests from the provincial governor and the WMD may therefore not always be sufficient.

225 In other cases, the provincial governor or WMD may formally ask for support from the PC to help resolve a case. This sometimes facilitates the involvement of PC. In this case however, elders in Akhtash did not ask the provincial governor to help mobilise the PC since they anticipated that he would be reluctant to do so. The elders argued that the PC might also ask for the provincial governor's involvement in return—something the governor did not want.

I could not sit by and do nothing because the stealing was depriving them [Aktash water users] of water for domestic water use.

To impose sanctions, the WMD needed to provide the names of at least some of the defaulters. This was made easier to achieve because in 2011, most land was left uncultivated, exposing those still able to grow vegetables in their gardens as obvious defaulters. Although many denied that they had tampered with the divider or made breaches along the Akhtash canal, the WMD official used some of his personal contacts in Afredi to frame a limited number of defaulters.²²⁶ The court then ordered the police to summon them.²²⁷

State courts normally deal with very few cases related to water conflicts, since in most case they simply defer responsibility to the WMD as the department officially responsible for such matters.²²⁸ In fact, the courts have no references for rules and regulations regarding water conflicts. However, in the case of Akhtash, court staff explained that the defaulters had already been identified by the WMD. Fines were set at 2,000 Afghanis (\$20)²²⁹ per defaulter, each of whom were also sentenced to four days in jail. However, elders and strongmen from Afredi came to court the following day to bail the defaulters out. According to the WMD and the court official in charge, the strongmen provided a letter guaranteeing that the defaulters would not repeat their actions.²³⁰ Akhtash elders and the WMD were not surprised that the defaulters had been released after only a day, mentioning that this was common practice in most court cases.

Toward the end of the irrigation season, the thefts started again. However, this time, neither the WMD, the court, nor Akhtash elders themselves decided to follow-up. According to respondents from Akhtash, Afredi strongmen had warned the WMD and the court against any future interventions (although this was not confirmed by the WMD or the court). By contrast, the WMD official argued that there was no use in following up the case since Afredi strongmen would just step in once more and bail out the defaulters. Overall, people in Akhtash considered that the involvement of the court had not helped. Although no water thefts were recorded in 2012, respondents pointed out that this was more likely due to exceptionally high levels of water available in the river than to the previous year's intervention.

Conclusion

Why the WMD brought the case to court

At first, the WMD deputy director was not keen on the idea of sending the issue to court due to the presence of influential strongmen living in Afredi. However, the fact that defaulters were so easy to identify made matters more straightforward. This meant that the case would not be against all water users of Afredi canal, and would therefore not directly affect the strongmen. As respondents in Akhtash pointed out, the WMD thus ran little risk by sending the defaulters to court since they were only small sharecroppers with no connections.

²²⁶ The exact number was not provided, but interviews with informants in the court indicated that it was probably around three.

²²⁷ The case was first brought to an officer of the civil law department, the Mudir-i-Huqooq. He is the first port of call for dealing with problems passed to the court. If he is unable to resolve the matter, he passes the case up the court hierarchy (first to the manager of the Civil Law Department, and then to the director of the Justice Department).

²²⁸ According to the Mudir-i-Huqooq, only three water-related cases had been filed. One conflict was cancelled soon after filing and instead handed over to the WMD. Another one could not be resolved due to a "lack of technical evidence."

²²⁹ The court staff involved in the case could not explain how this figure came to be determined.

²³⁰ Nobody in Afredi could confirm whether the fine was actually paid by or for the defaulters. Nor could they confirm that the letter guaranteeing the defaulters would not repeat their actions had actually been signed.

Why the police were willing to engage

For similar reasons, the police were happy to summon the defaulters to court. Furthermore, since Afredi was easily accessible and had a strong government presence—located within walking distance of the provincial governor’s office—made it simpler for the government to mobilise the police and the court. In this sense, this case study provides a stark contrast to conflict resolution in the Laghman valley, in which involving the police and the court would be unthinkable for both the WMD and other actors.

Limitations in bringing a case to court

As mentioned above, water conflicts in Sar-i-Pul are rarely brought to court and are instead referred to the WMD. In cases where the WMD is reluctant to confront powerful individuals, water users may therefore be discouraged from turning to the court. Added to this, there is often a feeling that court sanctions are not enough to prevent defaulters from repeating their actions. In particular, Akhtash informants felt that sanctioning defaulters instead of compensating farmers for their loss did nothing to help the issue. As one of them put it: “Even if the court were to sanction defaulters every time, there will always be new people stealing water. This won’t help resolve our problems.” However, compensation in the form of replacement water is not practically feasible because the time it takes for the court to solve a case far exceeds the window for crop irrigation. Farmers may therefore be unwilling to engage in a case that does not provide them with any meaningful compensation when they need it most.

Courts also lack the technical capacity to estimate compensation for water losses, especially when water stealing takes place between villages or groups of villages (as is the case for most conflicts). In such scenarios, it is considered difficult if not impossible to say what the sanctions or compensation should be. Furthermore, in many cases of water stealing it is also difficult to clearly determine individual responsibility—yet the court is also ill-equipped to determine collective responsibilities. For farmers, it is thus almost always more effective and efficient to resolve cases through other means; even when these avenues are exhausted, there is often still a sense that the court is unlikely to be any more helpful.

7. Toward a Better Understanding of Water-Related Conflict Resolution: From Empirical Evidence to Policy Implications

This section cross-analyses the eight case studies discussed above in attempting to answer the study's second research question and sub-questions:

What are the processes of social interaction deployed during conflict resolution at different levels of the river/canal system?

- Who are the actors and organisations that are mobilised during conflict resolution processes? What role do they play and how do they interact?
- What are the different processes, modes and choices regarding decision-making during resolution of conflicts over water sharing at different levels of the sub-basin? What factors explain these differences?

The discussion first summarises key findings regarding the actors and organisations involved in decision-making in resolving water-related conflicts, before highlighting some of the limitations of current approaches and methodologies regarding the study of conflict resolution processes. It then moves on to discuss the study's policy implications within the framework of the Afghan Water Law, and concludes by providing some recommendations.

7.1 Understanding actors, organisations and decision-making during the resolution of water-related conflicts

Different actors are needed to resolve different conflicts at different levels of the river/canal system

Although there are no fixed procedures for each level when it comes to mobilising actors in resolving water-related conflicts, some key trends do nevertheless emerge. The vast majority of conflicts occurring at lower levels of the canal system are contained and managed by the saatchi and do not require the involvement of other actors. If the Saatchi cannot settle disputes himself, responsibility normally passes to existing village institutions such as elders' shuras or CDCs. This reflects a cultural preference for containing conflicts within the village, where involving outside actors is seen to reflect poorly on local village leadership.²³¹ At this level, the footprint of local government institutions such as the WMD is almost non-existent, despite their historical influence on water management in the area.

By contrast, a much broader diversity of actors and institutions are involved in resolving conflicts occurring at higher hydraulic levels. Here, cultural norms limiting the involvement of outside actors apply less strictly in conflicts between two villages, and even less so in conflicts between large groups of villages. In such cases, mobilising external actors is seen not as a problem, but rather as the legitimate next step in the resolution process once informal meetings between elders from both parties have failed. At higher levels, external actors may ultimately perform a critical role as deadlock-breakers, who are able to impose at least a temporary resolution on all parties involved.

²³¹ The conflict case of two farmers at jui level in Khwaja Do Kuh (see Section 5) appears to be rather the exception than the rule. The case suggests that it requires fairly unusual circumstances before village-level conflicts are taken outside of village institutions.

The case study of interprovincial conflict over water rights involved the mobilisation of six different categories²³² of actor from both provinces over the course of the process. This included mirabs, local government (the WMD), community elders, state representatives (the provincial governor), the PC, and national political figures. Similarly, the case of disputes over the implementation of inter-canal water turns and *abandâz* during the 2011 dry year in Sar-i-Pul Province required the coordination of provincial mirabs, the WMD, the PC, provincial and district governors, and the police.

However, the conflict over infrastructure design between Emshek and Altkhoja in Jawzjan Province also demonstrated that mobilisation of external actors may be blocked by one powerful individual. There, the deputy provincial governor—who was also a community leader in one of the villages involved the conflict—was reluctant to support conflict resolution process since he felt doing so would jeopardise his political interests. The dispute between Akhtash and Afredi also illustrates a situation where the PC, provincial mirabs and the provincial governor were all reluctant to resolve even an obvious case of water stealing because of the high political cost of doing so.

Understanding different cases therefore requires an appreciation of their surrounding social and political dynamics. The inclusion of different actors in conflict resolution procedures is shaped both by locally specific contexts, and by how conflicts evolve over time. Context will also determine the conditions in which it becomes legitimate for parties to (unilaterally or bilaterally) decide to mobilise new actors. How these actors respond will in turn depend on their assessment on the costs and benefits involved in doing so.

Different conflicts at different levels involve different modes of decision-making

Modes of decision-making in the resolution of water-related conflicts vary from jui to inter-provincial levels. At jui level, where resolution processes are embedded within village institutions, there is normally a preference for consensual decisions. At higher levels, where most significant conflicts are located, modes of decision-making vary between consensual decisions on the one hand, and the mobilisation of power vested in single individuals on the other. Preferences for each mode are likely to vary as the decision-making process progresses. When conflicts with a water component overlap with criminal cases, tension may develop between community and local government norms for resolution.

Variations in modes of decision-making

At levels above the jui, the preferred first step in resolving a conflict usually involves an attempt at consensual decision-making among leaders of the communities involved in the conflict. For example, in the conflict between Salmazan and Qawchin, elders from both parties began attempting to reconcile their views about whether the recently-completed divider construction should be modified or not. Similarly, in the conflict between Gardana and Jegdalek, informal shuras composed of elders from both parties made multiple attempts over the years to settle the issue of water theft. In many circumstances, this mode of decision-making may end up reaching a settlement that is acceptable to all parties.

However, if these efforts fail to produce a consensus solution, new actors may be mobilised. At this point, the mode of decision-making often shifts toward vesting power for settling the case in the decision of a single individual's decision, according to the principle of *ekhtyar*.²³³ In the conflict over the Salmazan divider, discussions between CDCs failed, and the interaction between community leaders turned confrontational when the Qawchin community unilaterally diverted water to their jui through a new canal opening. With the Salmazan community threatening to resort to violence, the head

232 These categories are employed for ease of description. However, see below for discussion of the limitation of applying rigid labels to different actors.

233 Gang defines *ekhtyar* as: "agreement of the disputants granting resolution authority to specific resolution actors." See Gang, "Community-Based Disputes Resolution Processes in Balkh Province."

of the Jawzjan PC stepped in to resolve the case. As it is typical in such instances, he asked both parties to grant him the authority to make a final and undisputable decision about the case. By invoking *ekhtyar*, he implied that anyone opposing the decision would be seen as opposing not just him, but other actors involved in facilitating the conflict resolution process (which in this case included the provincial governor).

Ekhtyar was also invoked in the higher-level conflict at the divider between Khwaja Do Kuh and Darya-i-Safed, which took place between different rivers and different districts. In that case, both parties quickly realised that a consensual compromise would be impossible, and that the case required the arbitration of the highest legitimate authority in the area—General Dostum. Although his eventual decision led to dissatisfaction on the part of Darya-i-Safed, there made no public complaint, and no further effort to tamper with the divider infrastructure.

By contrast, the conflict over water stealing between Jegdalek and Gardana involved a more nuanced outcome. Although the intervention of an influential individual put at least a temporary end to the dispute, the principle of *ekhtyar* was not explicitly invoked. Here the provincial governor and the heads of the PC and the DDA decided to involve an influential PC member on the understanding that he would use his authority to put an end to the water thefts. But although he applied coercive pressure to thieves in Jegdalek, he did not ask that *ekhtyar* be applied. In that particular case, it was not felt necessary for him to ask for consent before sanctioning repeated defaulters. Here, the specific nature of the conflict thus resulted in a different resolution procedure.

Similarly, there was no invocation of *ekhtyar* when General Dostum stepped in to resolve the inter-provincial conflict during the 2011 dry year. Although he was able to pressure Sar-i-Pul elders into abandoning their intention to revoke Jawzjan's water rights, it was never formally suggested that he be given final authority in resolving the case. In addition, his intervention did not completely resolve the issue, and was followed by further discussions between water user representatives from both provinces.²³⁴ Overall, explicit or *de facto* use of *ekhtyar* takes place when more consensual and collective modes of decision-making have failed. However, its success depends on finding an actor acceptable to all parties and can act as a deadlock breaker.

Tensions between community and local government norms

The dispute that took place in Angut provides an interesting insight into the potential tensions between community and local government norms regarding conflict resolution. Although this conflict started as a dispute over water sharing, it became a criminal case when the confrontation between a canal mirab from Asyabad and an Angut mill owner turned violent. With the mirab badly injured, the WMD viewed this case as an offense against its authority. This is because mirabs are registered under the WMD and officially recognised by the provincial governor and other line ministry departments.

In this case, the WMD favoured imposing sanctions according to the principles of retributive justice.²³⁵ By contrast, both the elders of Angut and the provincial mirab—who was highly respected by all parties to the conflict—argued that the case would be better handled according to the customary principle of *islah* in order to facilitate peace and reconciliation. Interestingly, the canal mirab and the elders of Asyabad were not opposed to the WMD's retributive approach before the provincial mirab stepped in to mediate. Ultimately, the latter was able to steer the process away from the government and ensure a more consensual outcome. Nevertheless, he recognised that the WMD did in this case have a right to be involved due to its formal responsibility in handling water management issues. This example thus reveals that tensions may

²³⁴ Discussions focused on whether a minimum water flow should be considered as a threshold for deciding the applicability of the 1911 water sharing agreement.

²³⁵ Retributive justice is the legal principle of “let the punishment fit the crime.”

arise when different types of actors each have a legitimate involvement in a case, but operate according to different norms and principles when trying to resolve it.

Sequencing, contributions and complementarities of different actors

As discussed above, higher-level disputes regularly require the involvement of external actors as deadlock breakers. Within this process, different actors tend to be called in at different stages and act in different capacities. For example, provincial governors are not normally directly involved in enforcing final decisions, but are an important focal point for facilitating and legitimising both the processes and outcomes of conflict resolution. Similarly, the local WMD usually does not play a role of deadlock breaker, but is still considered a legitimate actor in contributing to the process, for example by providing technical or logistical support. Even when *ekhtyar* is invoked, the successful (or otherwise) resolution of higher-level conflicts will ultimately depend on how different actors' contributions to the process complement each other.

Sequencing in the mobilisation of actors

The generic process of mobilising of actors and organisations involved in higher-level conflict resolution process runs as follows. If *mirabs* fail to prevent or contain a conflict, community organisations will meet and attempt to resolve the issue in a consensual fashion. Such meetings are usually informal and are not necessarily reported to other organisations such as the WMD. Although *mirabs* often take part in this stage of the process, their role is generally limited to providing advice and information. Instead, community elders are the eventual decision makers. If this process fails, parties to the conflict may then ask external actors to intervene.

As demonstrated in the cases of *Jegdalk/Gardana* and *Salmazan/Qawchin* in *Jawzjan* Province, parties to the conflict may initially turn to the provincial governor for help in facilitating the resolution process. The governor may then ask the WMD to find a way to resolve the conflict, or at least provide an assessment of the issues. As the government department officially responsible for handling such issues, the WMD also has some legitimacy when conflicts centre around technical issues such as infrastructure design. If the WMD cannot offer a solution, the governor may then call on the leaders of other local government organisations, most notably the heads of the PC and the DDAs. These individuals will then try to identify the most appropriate actor to resolve the specific case at hand, taking care to ensure that they are acceptable to all parties involved. At this point, parties to the conflict may also suggest suitable figures.

In *Jawzjan* province, the provincial governor is a vital conduit through which resolution processes must be channelled, even if he is not directly involved in the decision-making that follows. This is in part because he is responsible for the overall security situation in the province. Keeping him involved in the process thus helps ensure that attempts to resolve conflicts do not end up upsetting the wider security context. In addition, formal requests from the governor may be vital in motivating other powerholders to intervene in conflicts where their interests are not directly threatened. In *Sar-i-Pul*, parties to conflicts usually tend to mobilise the provincial *mirab* and the WMD first before trying to involve the governor, although he still remains an important figure in the process.

Complementarities among actors: A key to conflict resolution

In understanding how water-related conflicts are resolved, it is important to be aware of the specific contributions different key actors bring to the process. This section summarises the respective roles of provincial council members, provincial governors, WMD officials, *mirabs* and national political figures (see Table 27 for a summary), before analysing an example of how these were aligned in a complementary manner to resolve a high-level conflict.

Provincial Council members

Several of the case studies highlight the important role played by PC members, who may use their significant social capital to impose deadlock-breaking decisions during resolution processes. However, PC members may not always be aware of the water rights involved in a particular case, and tend to lack a technical understanding of hydraulic infrastructure design and construction. Consequently, mirabs and WMD engineers are often involved in providing support to their decisions. Another limitation of PC members is that their influence may not extend across the whole area involved in a dispute. In such cases, they may have to coordinate with other influential actors such as the WMD in working out a solution (see for example the conflict over water turns between upstream and downstream canals in Sar-i-Pul province).

Provincial governors

The critical contribution of the provincial governor (along with other actors such as PC or DDA heads) is in suggesting the most suitable individuals for resolving a given conflict—an act that requires intimate knowledge of local social and political dynamics. On top of this, his involvement may give broader legitimacy to the process as a whole. However, even though his role is generally limited to that of facilitator, it is critical that he acts quickly. The longer the delay, the more tensions tend to escalate, and the more time and resources it therefore takes to eventually resolve the conflict.

The WMD

The WMD no longer enjoys the level of legitimacy and coercive authority it possessed prior to the 1980s.²³⁶ Nevertheless it still plays an important (though not decisive) role in almost all conflict resolution processes involving water. Its legitimacy as an actor in these process is explained by the following factors:

- The provincial governor and other local government departments see the WMD as officially responsible for managing water-related conflicts. When water users ask governors to help resolve a conflict, they are likely to pass the request on to the WMD as a first step, and may ask it to provide further information on the case. The close relationship between governors and the WMD thus means that communities are reluctant to bypass (and hence alienate) WMD officials for fear that this might ultimately lead to a deterioration in their relations with the governor.
- The WMD holds and centralises information. This is often relevant in cases of conflict over infrastructure design, where information on paykal registration is of vital importance.
- The WMD has some technical expertise in the construction of infrastructure. Securing the support of the WMD may thus be a vital legitimising factor in disputes of a more technical nature. Deadlock-breakers such as PC members may also enlist the technical advice of the WMD when considering their decisions, providing a further incentive for communities to maintain good relations with it.²³⁷
- The WMD may provide venues for discussion and a source logistical support during conflict resolution processes. This may be useful when other actors such as the PC are reluctant to hold meetings in their offices due to wider political considerations.
- The WMD may have the capacity to channel funding to infrastructure projects and emergency flood relief, again providing a strong reason to stay on its good side.
- The WMD may have authority in areas where other actors do not. For example, it played a key role in organising the *abandâz* in the upstream Sozma Qala and Sang Charak Districts during attempts to secure water for downstream Sar-i-Pul, allowing the mirab and the PC to focus their efforts upstream in the Laghman valley.

²³⁶ At the time, it was under the Ministry of Agriculture.

²³⁷ In the case of Salmazan, it is not certain that the WMD was the only factor influencing the PC member's decision to favour Qawchin, and other motivations may have been in play.

Mirabs

The main role of mirabs is in preventing conflicts from occurring in the first place. Saatchis contain conflicts at jui level through building contingencies into systems of water turns. At the higher level, provincial mirabs tend to prevent conflicts by patrolling along canals to ensure water turns are properly respected. During conflict resolution itself, mirabs usually limit their contribution to reporting issues and providing advice, and are not normally granted the authority to take a final decision. For example, in the case of water turns between the Laghman valley and downstream Sar-i-Pul canals, the provincial mirab was responsible for facilitating water turns as a means to prevent conflict from occurring. However, it was the PC who ultimately stepped in to resolve the conflict when water users in Laghman did not respect the water turns of the downstream canals. The only case where a mirab was clearly at the forefront of resolution was in the violent clash at Angut. However, here the provincial mirab was acting in his position of respected leader rather than in his role as water manager.

National political figures

Like PC members, national political figures may play a key role as deadlock-breakers.²³⁸ However, their involvement is likely to be more ad hoc in nature and may not be mediated through the intervention of the provincial governor. For example, in the case of the conflict over water rights between Sar-i-Pul and Jawzjan Provinces, General Dostum intervened of his own initiative when he felt that his political interests were threatened.

Overall, the case of water turns between canals in Sar-i-Pul during the dry year of 2011 provides an excellent example of how different actors may be involved in complementary ways in resolving a given conflict. Here, the provincial mirab organised the first water turn by himself, but was unable to satisfy downstream water users. The WMD then took matters into its own hands and organised a second turn, but the results were no better. During this turn, the PC chose not to provide support to the WMD, partly because the provincial mirab had been sidelined. A successful water turn was only achieved when all the actors agreed to cooperate and coordinate their actions and capacities. The WMD took responsibility for implementing an *abandâz* in its area of influence, where neither the provincial mirab nor the PC would be of much help. At the same time, an influential PC member supported both the provincial mirab and WMD in implementing water turns in the Laghman valley, an area where the WMD in particular commanded little legitimacy. During this same water turn, the provincial mirab played a critical role in resolving a conflict in Asyabad where neither the PC member nor the WMD could contribute to conflict resolution in any meaningful way.

This case demonstrates that conflict resolution processes may yield successes only when all actors articulate and coordinate their efforts. At the same time, it also suggests that involving different actors may often be an iterative process, although for a number of different reasons. In this instance, the progressive involvement of different key actors may also have been necessary in order to avoid appearing too confrontational toward water users in the Laghman valley. In addition, different deadlock-breakers may only be persuaded to intervene once other avenues have been exhausted. Indeed, as the provincial mirab explained in relation to the influential PC member from the Laghman valley, excessive reliance on certain powerholders may come with its own risks. Finally, the provincial mirab may be reluctant to ask for outside support too frequently, since doing so might expose his inability to prevent conflicts.

²³⁸ For instance, PC members in the cases of Jegdalek, Salmazan or Sar-i-Pul inter-canal water turns.

Table 31: Key contributions of the main actors involved in resolving water-related conflicts

Actor/Organisation	Key contribution
Mirabs	<ul style="list-style-type: none"> • Mainly conflict prevention • Saatchis settle minor disputes at jui level • Provide information and advice during conflict resolution meetings • No role as deadlock-breaker
Shura/CDCs	<ul style="list-style-type: none"> • Usually settle disputes through consensual agreements at village level or between groups of villages
Provincial governor	<ul style="list-style-type: none"> • Facilitator • Channels complaints and sets up conflict resolution platforms if required • Legitimises conflict resolution processes and involves other powerholders such as PC members
Provincial Council members/local powerholders	<ul style="list-style-type: none"> • Deadlock-breakers • Involvement usually facilitated by the provincial governor • Bridge between government and communities
Water Management Department	<ul style="list-style-type: none"> • Formally supported by the provincial governor • Bridge between government and communities • Channels complaints, organises logistics, etc. • Provides technical information and support • May attempt to resolve cases, but no authority to take final decisions
National political figures	<ul style="list-style-type: none"> • Deadlock breakers • Ad hoc involvement not necessarily regulated by other actors or procedures

Setting up platforms and mobilising conflict resolution actors: understanding drivers and choices

External actors mobilised to break deadlocks in a conflict resolution process are selected more for their personal attributes and capacities than for their organisational or institutional affiliations. They are also picked on the basis of their understanding of the broad social and political dimensions of the conflict rather than of the specific, water-related “rules of the game.” Their experience in previous conflict resolution processes and the extent and variety of their support networks are critical to their legitimacy among parties to the conflict. Also critical is the extent of their social capital within the communities involved.

Personal attributes and capacity matter more than labels

The case studies indicate that the organisational or institutional mandate of deadlock-breakers in a conflict may not necessarily be a good indicator of the legitimacy and power they wield. For example, when a PC member manages to contain a dispute, it does not automatically follow that the PC as such is seen as a legitimate actor in resolving conflicts. In the eyes of parties to a conflict, personal attributes such as influence or reputation matter much more than organisational affiliations.

The Jegdalek/Gardana water theft case study provides an example of this distinction. Following a request from Gardana, the provincial governor and the heads of PC and the DDA came together to discuss which actor would be best placed to resolve the problem,

eventually choosing PC member Qader Malia. There were three reasons for this selection: Malia enjoyed the respect of both parties, had sufficient authority over defaulters, and had links with insurgents who might otherwise exploit the conflict to advance their interests. As far as parties to the conflict were concerned, his position as a PC member was essentially irrelevant. However, from the point of view of the provincial governor, his affiliation may have been more important, since allowed him to demonstrate that official guidelines regarding the role of the PC had been followed.²³⁹

In the case of conflict over water turns between upstream and downstream Sar-i-Pul, the selection of PC member Hajji Samaruddin followed a similar logic. Here, the provincial mirab and the WMD selected him since his past record as a commander in the area gave him enough authority to enforce Laghman valley water users' compliance with water turns. In addition, his long-standing relationship with the provincial mirab coupled with his wider political interests ensured that he would lend his support to the water sharing process as a whole. Again, his status as a PC member was largely incidental to the role he eventually played. These cases both demonstrate that focusing on the mandates of organisations and institutions may be misleading when it comes to understanding the involvement of different actors in conflict resolution.

Actors' understanding of political and social contexts matters more than their grasp of specific water-related institutions

In Afghanistan's complex political landscape, the most effective actors in conflict resolution are often people who have held various positions and played different political roles in their past, establishing or maintaining personal ties with key actors across multiple political divides. When selecting actors to resolve water conflicts in particular, the most important criterion is thus not their technical understanding of water management procedures, but their ability to mobilise well-established, cross-cutting networks of different social and political connections.

The Jegdalek/Gardana conflict case is again illustrative. When discussing who might best resolve the conflict, the provincial governor and the PC head focused first on the social and political issues surrounding the conflict. One issue was the risk of further social instability should community leaders in Gardana resort to unilateral action. Another was the possible political fallout of any of the parties to the conflict reaching out to insurgent leaders for support.²⁴⁰ In selecting Qader Malia, they focused on his previous experience as a military commander during the 1990s, during which time he had fought alongside one of the insurgent leaders currently operating in the area. Although the two individuals now technically belonged to opposite ends of the political spectrum, their personal relationship was seen as a critical point of leverage in allowing Qader Malia to enforce a resolution to the conflict.

Understanding rationales of decision making over water related conflict resolution: looking beyond water and acknowledging the influence of local politics and social context.

Understanding the factors that prompt key actors to take specific actions and decisions in resolving water-related conflicts requires going beyond technical questions of water management to examine their wider social and political repercussions. In most cases, the main concern is to limit possible further escalation or broadening of conflict rather than the strict application of water rights. Furthermore, the political interests of local powerholders or national political figures may also drive decisions that lead to obvious violations of water rights.

²³⁹ PC members have an official role in supporting the local government by serving as a bridge with communities.

²⁴⁰ Gardana may have requested their support in sanctioning defaulters. Jegdalek may have requested their support in maintaining continued insecurity in the area—which would have allowed them to continue stealing water.

Looking beyond water rights

The case studies indicate that conflict resolution actors do not consider a water-related conflict solely from the perspective of water rights. This is because water institutions and parties to water-related conflicts are themselves embedded in both other local institutions and wider socio-political dynamics.

For example, the Jegdalek/Gardana conflict appears on the surface to be a straightforward case of identifying and punishing water thieves. From the beginning, it was clear that the muhajerin of Jegdalek had been stealing water they had no rights over from Gardana's canal. There was thus little room for interpretation and argument over who had the most legitimate claim over water. Nevertheless, the Gardana elders and mirab tolerated the problem for a long time before taking the case to the provincial governor. This was driven by the need to preserve social relations between key representatives of Gardana and the Jegdalek mujaherin, as well as by government actors' need to appease local strongmen. Similarly, later mediation on the issue focused not just on containing the water theft, but on navigating the political difficulties posed by the presence of insurgents in the area. Ultimately, the primary drivers shaping the processes and decisions of conflict resolution were therefore the social and political relations between both the parties themselves and other actors indirectly involved. By contrast, the need to apply strictly water rights was a secondary concern.

In another example, the various actors involved in organising water sharing between the Laghman valley and the downstream canals in Sar-i-Pul found themselves constantly having to weigh a strict application of water rights against its potential political consequences in a context of extreme water scarcity. So, even though Laghman water users were clearly violating water turns, the main question was what impact a strict enforcement of the rules by the provincial mirabs would have on mid- to long-term relations with downstream communities. The situation thus involved a balancing act between enforcing the rules of the game to ensure immediate water access for downstream communities, and maintaining the social capital necessary to continue effective water-sharing in the future. Ultimately, tolerating a certain level of defaulting by Laghman was seen as necessary to ensuring their longer-term cooperation.

In the case of the Emshek/Altkhoja conflict, changes to the dimensions of the divider during the Taliban period clearly violated water rights principles to the benefit of Altkhoja. However, despite significant improvements in the social and political context since then, efforts to restore Emshek's rights have so far failed. The reasons for this are again political. First, they ran counter to the political interests of the deputy provincial governor, whose brother relied on political support from Altkhoja in his election to parliament. Second, they did not align with the wider agenda of the Junbesh party in Jawzjan, which had made it a priority to minimise tensions between communities divided by the civil war and the Taliban regime. In order to maintain good relations with Altkhoja, the leaders of Emshek—including the deputy governor—decided to ignore the issue of water rights for the time being.²⁴¹

The personal involvement of General Dostum in resolving several of the case study conflicts further points to the way political considerations can outweigh questions of water rights. In the case of Khwaja Do Kuh and Darya-i-Safed, the main factor shaping Dostum's decision was a desire to minimise the emergence of a rival faction between Junbesh. As a consequence, his assessment of the political costs and benefits of the case led him to impose a decision that ran counter to the strict application of water rights. Similarly, Dostum's intervention in the inter-provincial conflict between Sar-i-Pul and Jawzjan was motivated first and foremost by concern over its potential to damage social relations between the two provinces—a development that would benefit his political rivals.

²⁴¹ The deputy provincial governor would have accepted a change only if it had emerged spontaneously from defaulters in Altkhoja.

When it comes to resolving water-related conflicts, the importance of water rights and other water-related “rules of the game” may ultimately carry much less weight than the political interests of powerful actors. Consequently, approaches to understanding and dealing with water conflict that focus exclusively on issues of water rights are likely to prove limited at best.

7.2 Approaches and methodological issues in the study of water related conflicts

The findings of this research highlight some critical limitations in recent approaches to understanding conflicts in natural resources management (including water). In addition, they also point to significant methodological issues with existing quantitative surveys focusing on issues of conflict resolution.

Limitations and opportunities of labeling actors and organisations mobilised in conflict resolution processes

The limitations of either/or distinctions

Policy documents, reports and national surveys focusing on conflict resolution have a tendency to view the actors and organisations involved in terms of either/or distinctions: “community versus government,” “local versus external,” or “customary versus non-customary.” In its River Basin Management and Multi-Stakeholder Platform model, the Water Law also makes a clear distinction between water users’ representative bodies (in the form of RBCs) and line-ministry representative bodies (in the form of RBAs). It also outlines distinct sets of powers and responsibilities for both bodies, which encompass issues of conflict resolution.

This categorisation may be useful as a first attempt to clarify about different actors’ and organisations’ contribution to conflict resolution. Nevertheless, as the above analysis shows, the personal attributes and capacities of deadlock-breakers are often more significant than their organisational affiliations and mandates. Tagging actors involved in conflict resolution with a single “organisation label” may thus end up obscuring the complexity of their involvement in a conflict resolution process. Similarly, using these labels to determine who is eligible to participate in new water management institutions like RBAs and RBCs may also be inadequate.

Opportunistic behaviour: The rhetoric of “community” versus “government” in water management

In practice, the boundaries between different categories of actor involved in water management and conflict resolution are rather blurred in practice. However, certain actors may use the rhetoric of “community” versus “government” in an opportunistic manner, allowing them to shape discourses that justify their actions and serve their interests.

The case of the 1911 agreement on water rights between Sar-i-Pul and Jawzjan Provinces gives some insights into how different actors use different rhetorics. In Sar-i-Pul, respondents have always insisted on defining the agreement as “community-based,” thus down-playing the government’s role. Sar-i-Pul water users deployed this rhetoric to protest the intervention of their provincial governor—a representative of the state—in trying to resolve tensions over water turns with Jawzjan in 2011. By contrast, water users in Jawzjan emphasised the government’s role in formalising and legitimising the agreement (as demonstrated by their recent attempt to have it ratified by the MEW in Kabul). For them, this meant that the agreement could not be unilaterally revoked, and they framed Sar-i-Pul’s attempts to do so as a challenge not just to Jawzjan communities, but to the government itself. Selective use of rhetoric such as “community” versus “government” thus represents a way to legitimise the involvement or exclusion of preferred actors in conflict resolution processes.

Another example of this kind of rhetoric is General Dostum’s reaction against “external interference” in the case of inter-provincial water conflict. In line with the attitudes of other actors such as village shuras, Dostum felt that involvement of outside actors would suggest his leadership was weak. This also ties in with wider identity politics in northern Afghanistan, which frame the central government in Kabul as a source of manipulation and interference (see Section 2). For Dostum, using the rhetoric of “community-based” water management was thus a way to project an image of strong leadership and political autonomy.

Limitations of survey approaches as a way to understand water-related conflict resolution

Surveys on conflict resolution in Afghanistan generally ask respondents to rank the actors or organisations they would mobilise according to preference. Some national surveys²⁴² may also draw a separation between customary organisations (such as shuras or mullahs) and non-customary organisations (such as CDCs or warlords) when discussing these issues,²⁴³ and frame their questions as a single choice formula—“who did you approach/ask to solve the problem.”²⁴⁴ However, the results of this study suggest that such approaches may be misleading or irrelevant. This is because they reflect an implicitly static view of conflict resolution processes, where people’s “first choice” of actor is mistakenly translated as a “single preference,” or an opinion on who is “more effective” and “more acceptable.” In reality, such preferences are not static and pre-determined, and instead vary both according to the level at which conflicts take place, and the way they evolve over time.

For example, government actors such as the provincial governor or the WMD only tend to become involved in resolving conflicts once community actors or organisations have failed to do so. However, it does not necessarily follow that these actors are inherently less preferred, or that they are less effective in resolving a case. It may be true that parties to a conflict prefer to try and settle their disputes through community actors or organisations as a first step, and in some cases—such as at jui level—there may be strong resistance to any form of involvement. However, this does not mean that government intervention is always disliked or considered illegitimate, and at certain stages in certain resolution processes it may in fact become the preferred choice of actor.

Similarly, while deadlock-breakers are rarely involved in the early stages of a conflict and may be entirely absent in the resolution of smaller conflicts, they are in some cases the only ones eventually capable of putting more serious tensions to rest. Furthermore, they may only become legitimate and effective actors once other procedures have been tried first. And as discussed above, in the case of deadlock-breakers especially, the line distinguishing between “community”/“customary” versus “government”/“formal” actors is often blurred and misleading.

In light of these factors, it is clear that surveys offer an inadequate means to understand the complexities of water-related conflict resolution for the following reasons:

- Focus on respondent’s first preferences misses the idea of sequencing, in which different actors may be preferred at different points in the resolution process.
- Focusing on first preferences also underestimates the importance of deadlock-breakers who may be critical to the resolution of a conflict, but only intervene at a later stage.

²⁴² Including MRRD/CSO, “National Risk and Vulnerability Assessment 2007/08,” and The Asia Foundation, “Afghanistan in 2011.”

²⁴³ Brick, “Political Economy of Customary Village Organizations.”

²⁴⁴ The Asia Foundation, “Afghanistan in 2011.”

- Defining actors according to fixed categories fails to reflect the fact that actors are often mobilised more for their personal attributes than their organisational mandates.
- By conflating different hydraulic levels into a single category of “water conflicts,” existing surveys tend to provide an average view that fails to the complexities and nuances in conflict resolution processes. This misses the fact that the hydraulic and social levels at which conflicts occur will have considerable influence on both the actors and organisations participating in the resolution process, the motivations behind their involvement, and the modes of decision-making adopted.

“Water as source of conflict”? Challenging the conventional wisdom

In current (albeit limited) discussions on water and conflict in Afghanistan, the conventional wisdom is to see water as a “source of conflicts.” This rhetoric is also found in recent reports and surveys that have touched on the topic.²⁴⁵ However, the evidence presented in this study suggests that it is a simplistic and inaccurate view, and that a much more dynamic approach is required. There is no deterministic relationship between issues of water or water scarcity and the incidence of conflicts. Rather, what leads to conflicts is the failure of institutions to regulate different claims over the resource. In this context, changes in the alignment of various environmental, social and political conditions can destabilise or disrupt in local institutions, which can in turn (re) shape conflicts and their resolution.

For example, flood damage to proportional dividers in Jawzjan often provided the basic opportunity to review and change their design, and thus redefine the water rights of the communities they serve. However, such changes only took place when they coincided with periods of sharp changes in sociopolitical context. These tended to occur at the junctures between different periods, such as the civil war, the Taliban regime and Karzai’s presidency. For instance, in the Khwaja Do Kuh/Darya-i-Safed conflict, controversial changes to the divider during the Taliban regime were facilitated by the relationship between Khwaja Do Kuh leaders and WMD with high-level Taliban authorities in the region. In Emshek, the degradation of social and political relations between two communities supporting rival political factions led to a de-facto change of water rights during the time of Taliban. Yet despite the Taliban’s decline, further political realignments over the past decade prevented the restoration of the original status quo. Thus while tensions may persist following controversial decisions, actors tend to wait for the right alignment of political and social circumstances before launching challenges against them.

Another important lesson from the case studies in this respect is that so-called “water conflicts” are often fuelled by wider conflicts in which water plays no part.²⁴⁶ For instance, the presence of insurgents in the Laghman valley and the consequent deterioration in the area’s security had a clear impact on the application and enforcement of water turns between both upstream and downstream canals in Sar-i-Pul, and between Sar-i-Pul and Jawzjan. Here, water conflicts and non-water conflicts may also reinforce and multiply each other. For example, downstream Sar-i-Pul canals failed to receive adequate water during the intra-provincial water turn due to the insecurity upstream Laghman. As a consequence, they then exploited the relatively insecure situation in their own area to default during Jawzjan’s water turn, allowing them to recoup some of their losses.

²⁴⁵ For discussion of “water as a source of conflicts” see for instance Waldman, “Community Peacebuilding in Afghanistan,” and Asia Foundation, “Afghanistan in 2011.” Sexton uses a similar rhetoric when he sees water as “fuelling conflicts” (see Sexton, “Natural Resources and Conflict in Afghanistan”).

²⁴⁶ See Section 2 for discussion of the inaccuracy of this definition.

7.3 Policy implications of the research findings

Implications of dispute-resolution procedures outlined in the Water Law for the context of the Sar-i-Pul sub-basin

Effectiveness and legitimacy of the policy model for sub-basin water governance

Article 34 of the Water Law suggests a step-by-step involvement of different actors/organisations in conflict resolution. For instance the Law states that a WUA should first attempt to resolve disputes that arise among farmers before it is passed to a sub-basin council (Article 14, point 1). Broadly speaking, this approach fits with the observed practices of engaging with external actors when resolution efforts within communities have failed. However, there are a number of problems inherent to using bodies with fixed membership—especially SBCs—to deal with the resolution of conflictive water management issues.

In draft regulations and during workshops in pilot areas such as the Panj-Amu River Basin, a number of criteria have been suggested for determining the composition of SBCs. For instance, members should represent different categories of water use (such as irrigation, public health, environment, industries or fisheries) and different areas of the sub-basin (including upper catchment, irrigated plains and urban areas). The number of members is expected to be fixed somewhere between 15 and 25. However, this rigid composition is inconsistent with current practices, where the involvement of different actors and organisations in supporting conflict resolution is flexible and adaptive, depending on the type, level and socio-political context of the conflict.²⁴⁷

The risk with a fixed structure is that it may not include actors who have the legitimacy and authority to make conflict resolution decisions that will be accepted by all parties.²⁴⁸ In the case studies above, three different PC members intervened in three different conflicts in different parts of the sub-basin. In each case, no other PC member could have replaced them due to the locally specific social and political nature of the conflict at hand, and the personal connections each had with different parties to the conflict. One can extrapolate that for some other conflicts these 3 PC members may not have been the most adequate actors to be mobilised. In a context where personal attributes matter more than organisations or institutions, and when actors' legitimacy is conflict specific, fixed compositions are therefore clearly inadequate.

The SBC/SBA model also makes a simplistic distinction between water users as decision-makers within the SBC, and local government actors as technical advisors within the SBA. In doing so, it outlines no role for provincial governors, PC members, MPs, political leaders or other stakeholders. However, the research demonstrates that while these actors do not fit the profile of SBA/SBC members as defined in the Law, their involvement in conflict resolution is in practice critical. The proposed SBA/SBC structure is also likely to clash with the widely observed decision-making principle of *ekhtyar*. At a basic level, actors with the legitimacy to invoke *ekhtyar* may not be eligible to sit on the SBC. More broadly, the principle itself runs counter to participatory paradigm of the Law, which aims to empower water users in decision-making, and confine other actors to the role of advisors. This is unlikely to sit well with current key deadlock-breakers, who often stand to gain significant social and political capital through their involvement in resolution processes. Overall, these factors suggest that the relevance and legitimacy of the SBC may in practice be highly questionable.

²⁴⁷ Thomas et al. talk about platforms adapted to the “problem-shed” (as opposed to the “watershed”). See “Mind the Gap?”

²⁴⁸ This point was already stressed in Thomas et al., “Mind the Gap?”

Another important issue with the Law in the context of dispute resolution is that it allocates final responsibility for resolving conflicts to the MEW. In practice, the case studies show that local powerholders and political tend to avoid reliance on Kabul in order to prevent external political leader “stepping on their turf.” In this context, the choice of MEW as the ultimate conflict resolution actor may not be perceived as politically neutral. In a sub-basin like Sar-i-Pul, the application of this regulation is therefore likely to be resisted or ignored. In addition, the local level MEW (i.e. the WMD) has never enjoyed a strong legitimacy in the post-2001 period.²⁴⁹ In particular, it lacks the kind of long-established social capital with parties to conflicts that would allow it to serve as a legitimate and effective deadlock-breaker. If it wants to achieve this status, the MEW will have to devote significant effort to developing its long-term image as a reliable service provider. In the mean time, water users are likely to continue mobilising actors who have the power and legitimacy to break deadlocks in a conflict.²⁵⁰

Box 5: Article 34 of the 2009 Afghan Water Law—Dispute Resolution

1. Disputes regarding use of water resources among water users are resolved by Water User Associations with the help of a Head Water Master (Mirab Bashi) and a Water Master (Mirab) within a maximum of two days. In case of lack of agreement of both parties, the case will be referred to the River Sub-Basin Council.
2. If a dispute is not resolved by the River Sub-Basin Council within three days, the case will be referred to the River Basin Council.
3. If the dispute is not resolved by the River Basin Council within four days, the case will be referred to the Ministry of Energy and Water.
4. The Ministry of Energy and Water must resolve the dispute within a period of six days.
5. If disputes arise among farmers within the Irrigation Network, the dispute is resolved by the Irrigation Association with the help of the Head Water Master (Mirab Bashi) and Water Master (Mirab) within two days. In case of lack of agreement of a party or parties, the case will be submitted to the River Sub-Basin Council and item numbers (2) and (3) of this Article will be followed. If the dispute is not resolved by the River Basin Council within four days, the case will be referred to Ministry of Agriculture, Irrigation and Livestock. Ministry of Agriculture, Irrigation and Livestock has to resolve the dispute within a period of six days.
6. If the parties do not accept resolution from Ministry of Energy and Water or Ministry of Agriculture, Irrigation and Livestock, they may present their objections to the court of law within one month after the decision is announced.
7. In areas where River Basin Councils and River Sub-Basin Councils are not established, dispute resolution will be handled by the River Basin Authority or water management departments.

Are water permits likely to help in conflict resolution procedures for water sharing?

In article 20-1, the Water Law of 2009 explains that “existing water rights will be gradually converted to permits in accordance with the policies of the relevant River Basin Agency.” In the context of this study, the question is whether the definition and regulation of permits—as translated from existing water rights—is likely to be feasible in the first place, and whether this will then help in conflict resolution procedures.

To begin with, the translation of water rights to permits is likely to face a number of technical challenges in the context of the Sar-i-Pul sub-basin. In Sar-i-Pul Province, the lack

²⁴⁹ As discussed earlier, this does not mean that they play no role in conflict resolution.

²⁵⁰ ‘As discussed earlier, this does not mean that they play no role in conflict resolution.’

of flow measurement structures at intake level means that it will be impossible to quantify new permits until new infrastructure is introduced. However, Sar-i-Pul water users are likely to resist any such step, since they perceive any regulation structures—including gated headworks—as technical devices that could place limits on their water access. In Jawzjan, water rights are already embedded in the design of the proportional dividers. The principle of these structures is to function automatically without external operations, rendering the idea of permits regulated by SBCs effectively irrelevant.

On top of these issues, any attempt to formalise water rights into permits will also face a number of major political hurdles. One important question is whether water rights should be maintained as they were in time of Abdur Rahman, or whether they should be adapted to reflect sometimes significant changes in demand. This is likely to be a highly contested issue. Furthermore, existing de facto water rights—as represented for example by the definition of divider structures—are often already the focus of either explicit or latent contestation. In such contexts, translating existing water rights may take the risk of formalising a contested status quo, and thus generate additional conflicts. Furthermore, formalising water rights into permits is likely to be a highly politicised process, since it may threaten the interests of both local powerholders and national political figures.²⁵¹

Ultimately, even if the successful translation of water rights into permits were somehow achieved, it is questionable whether this would in itself help improve conflict resolution processes. As the evidence presented in this study indicates, wider social and political issues tend to be the most important factors in shaping decision-making during conflict resolution; this is likely to remain true regardless of whether water access is mediated through rights or permits.

7.4 Policy recommendations

Acknowledge the influence of politics in conflict resolution

Policymakers often see the politics of conflict resolution as a nuisance. Consequently, largely Western-designed “good water governance” models such as IWRM, RBM and participation through MSPs tend to overlook the integral role politics plays in water management.²⁵² A first recommendation is therefore to evaluate existing and future water management policies—including on conflict resolution procedures—in the light of local social and political dynamics before adopting them at central level. This means devoting more effort to both facilitate greater local-level dialogue concerning policy proposals, and sustain it in the longer term in order to assess whether policies are in fact supporting positive change on the ground.

Avoiding a strict application of water rights in the design of water permits

A critical point emerging from this study is that a strict application of water rights during conflict resolution may possibly damage local social relationships and threaten the interests of local powerholders and national political figures. The idea of permits should therefore be reconsidered from a less water-centric and a more holistic perspective.

²⁵¹ In addition, there is currently a strong discrepancy between the amount of irrigable land originally used to define water rights and the current size of irrigable land today. This is due to a combination of population increase, social changes and political decisions over the last 60 to 70 years. This gap is particularly extreme in the irrigated areas of Khwaja Do Kuh and Darya-i-Sya, and the issue emerged in the discussion regarding changes to the divider between the two areas during the Taliban period. The rights that would form the basis of permits thus in many cases have little grounding in present socio-economic realities. On the other hand, reviewing water rights and subsequently the dimensions of many proportional dividers would be a very challenging and costly task, and just as likely to generate conflicts.

²⁵² Vincent Thomas, “Good Water Governance Models in Afghanistan: Gaps and Opportunities” (Kabul: Afghanistan Research and Evaluation Unit, 2013).

In addition, it is important to engage in collective assessments of the practicality of applying permits in context. On this basis, it may be advisable to design different sets of permit regulations appropriate to different sub-basins.

Reviewing the SBC/SBA model

The fixed composition of the SBC according to water usage categories and the absence of any role for important political figures such as provincial governors and PC members both pose serious questions regarding the relevance and added value of the SBA/SBC model for RBM. Policymakers and local governments should therefore engage in a collective assessment of the added value the SBA/SBC model brings to dealing with water sharing related conflicts, redefining the roles and compositions of these bodies where necessary.

A successful platform for conflict resolution should be able to command a maximum of influence in the specific area in which a given conflict occurs. Due to the varying locations and levels of conflict within a sub-basin, a committee with a limited and fixed composition is unlikely to be relevant in the majority of cases. If the composition of SBAs and SBCs has to be fixed, both organisations should at least been given the opportunity to jointly define temporary but officially empowered platforms for conflict resolution. Final approval could then rest with the relevant provincial governor until his role within the SBA/SBC model is better defined. This system would allow for much greater flexibility in response to the needs of different conflicts. It would also facilitate the involvement of actors who may be critical in settling specific water-related conflicts, but who may have no interest in sitting permanently on SBA/SBC platforms. Such involvement of local powerholders and political figures may not exactly fit the western liberal ideal of community-based water users representation. However, their valuable capacity to act as deadlock breakers cannot be ignored, at least in the short- to mid-term.

Setting up a flexible, temporary conflict resolution platforms would fit more closely, with existing practices on the ground. However, this raises the question of how such procedures—as supervised by the SBC—would add any value to the current status quo. When it comes to conflict resolution, the composition of the SBC should therefore integrate the idea of complementarities between different actors rather than thinking blindly along the principles of water usage representation. Beyond the rhetoric of “community” versus “government”-based water management, it is important to reflect on how the different roles of community representatives, elected figures, the WMD, provincial governors and national political figures can support and reinforce each other in the process of conflict management and resolution. The current paradigm separating water users in decision-making SBCs from government actors in advisory SBAs does not reflect many of the complementarities currently in play on the ground in the Sar-i-Pul sub-basin. As it stands, there is little evidence that the new policy model would improve on existing practices, and it could even prove counter-productive.²⁵³

If the SBA/SBC model prevails, one of the first tasks of these organisations could be to facilitate a participatory assessment of current procedures of conflict resolution according to criteria such as participation, transparency, decentralisation of decision-making, devolution of decision-making power to water users, and other (Western) ideals embodied in the Afghan Water Law. This should help evaluate whether local actors believe that alternative procedures for conflict resolution would be better than current practices. If this is the case, new procedures should be defined collectively. However, if water users see no need to change current procedures, the SBA/SBC model has little chance of establishing itself as a legitimate or useful alternative to the status quo.

253 Thomas et al., “Mind the Gap?”

Annex 1: Example of Guide/Checklist Questions for Facilitating Conflict Narratives

The following questions were used as a broad frame for interviewers to ensure that they covered the main areas/topics in the investigation of conflict narratives. They did not need to be asked in a strict order, and not all of them were relevant to all cases. The checklist of questions was designed to facilitate respondents' own descriptions of the conflict and its resolution process, and was used a guide to steer discussion if gaps appeared in their narratives.

BACKGROUND AND HISTORY OF CONFLICT

- How was water sharing before the current conflict?

Note: You may start from a time when the conflict did not exist and retrace the events that contributed to initiating the conflict. For instance, if you are dealing with conflicts over the design of infrastructure, you ask about the size of the structure before they had a plan to reconstruct it. If you are dealing with water stealing, you need to know when it started and what reasons or factors triggered it.

- Have there been similar conflicts in the past and were they satisfactorily resolved (or not)?

Note: For instance in the case of conflicts over the size of a structure, you need to check how the size has changed in the past and why. It is sometimes the case that the current conflict is a follow-up to an older, similar conflict. As both events may shape each other it is important to investigate the past events too.

- Have there been tensions or conflicts not necessarily related to water between the different parties in the past?

Note: It could be (or not) that degradation of relationships between parties has contributed to the eruption of the conflict, as a background tension.

DECISION-MAKING PROCESS

- During the conflict resolution process, what do people say? What actions/decisions do they take? And how do they justify them?

Note: As much as possible, the respondents should provide justifications for their behaviour. This requires a lot of probing, but it allows for exploring how the specificity of the local context has shaped decisions and actions of different parties and actors involved in the conflict resolution process.

- Mobilisation of actors and justifications:
 - Who were the different actors involved along the conflict resolution process, and what were the sequences of their involvement?
 - Who mobilised them? How did they justify their choice for involving this specific person (as compare to other possible actors)?

- What was the venue (location) where the meetings took place and who organised the meetings?
- What did you hope that this actor would contribute in resolving the conflict?
- What characteristics of this actor made him the most acceptable person to help resolving this conflict at this specific point in the process? Why was it useful?

Note: Characteristics may include coercive authority, knowledge, respect due to past contributions in the area, previous experience in resolving conflicts (related or not to water) among the same actors.

- What are the reasons for not involving other actors (CDC, DDA, provincial governors, PC, WMD, DAIL etc.) in this specific conflict? Do you think it would have been more or less effective to involve these actors instead of that one? Why? What problems might have emerged if you had involved another actor (mention some) at this specific point in the conflict?

Note: Here be aware that it could be that they think the other actors would not have helped or made things worse. But it could also be that they did not have the capacity to involve an actor although they think that actor would have been better. Overall, the idea is for respondents to reflect about and justify their strategies.

- Sanction rules:
 - Is there any formal/written rule regarding the sanctions over this specific type of defaulting related to this specific conflict?
 - If there are no specific rules, why not?
 - Have the rules been applied? If not, what were the reasons? What would have been the problem or issue if the rule had been applied strictly?

Note: Here you may need to link this point to the reasons why the “losing” party accepted the decisions taken—maybe because there was more to lose than to win from enforcing the rule.

- Justification regarding agreements over a decision:
 - How was the final decision taken? Through what mode?

Note: In terms of mode you may thing check whether it was consensual agreements (as in traditional shuras) or authority for decision-making vested in one or more actors (ekhtyar).

- Was each party satisfied with the final agreement? If not why would they agree? What are the risks if they do not agree with the group or actor that has taken the decision?

Annex 2: List of general interviews (excluding interviews on specific case studies)

s/n	Respondent	Organisation	Province
1	MAIL staff	MAIL	Sar-i-Pul
2	Farmer	Community	Sar-i-Pul
3	Mirab	Mirab	Sar-i-Pul
4	Mirab	Mirab	Sar-i-Pul
5	Farmer	Community	Sar-i-Pul
6	Farmer	Community	Sar-i-Pul
7	Farmer	Community	Sar-i-Pul
8	Mirab	Mirab	Sar-i-Pul
9	WMD deputy director	WMD	Sar-i-Pul
10	Elder	Community	Sar-i-Pul
11	Provincial mirab	Mirab	Sar-i-Pul
12	Provincial mirab	Mirab	Sar-i-Pul
13	Deputy provincial mirab	Mirab	Sar-i-Pul
14	Mirabs, downstream Sar-i-Pul	Mirab	Sar-i-Pul
15	Mirabs, downstream Sar-i-Pul	Mirab	Sar-i-Pul
16	WMD deputy director	WMD	Sar-i-Pul
17	Mirab	Mirab	Sar-i-Pul
18	DDA head	DDA	Sar-i-Pul
19	PC member	gPC	Sar-i-Pul
20	Member of parliament	Parliament	Sar-i-Pul
21	Member of parliament	Parliament	Sar-i-Pul
22	River mirab	Mirab	Jawzjan
23	Elder	Community	Jawzjan
24	WMD staff	WMD	Jawzjan
25	DDA member	DDA	Jawzjan
26	CDC member	CDC	Jawzjan
27	Head of CDC	CDC	Jawzjan
28	Farmer	Community	Jawzjan
29	River mirab	Mirab	Jawzjan
30	WMD deputy director	WMD	Jawzjan
31	MAIL engineer	MAIL	Jawzjan
32	Elder	Community	Jawzjan
33	Saatchi	Mirab	Jawzjan
34	DDA head	DDA	Jawzjan
35	Elder	Community	Jawzjan
36	Deputy provincial governor	Provincial governor's office	Jawzjan

s/n	Respondent	Organisation	Province
37	WMD staff	WMD	Jawzjan
38	Elder	Community	Jawzjan
39	Former WMD staff	WMD	Jawzjan
40	Elder	Community	Jawzjan
41	CDC member	CDC	Jawzjan
42	Elder	Community	Jawzjan
43	Elder	Community	Sar-i-Pul
44	Elder	Community	Sar-i-Pul
45	CDC member	CDC	Sar-i-Pul
46	Elder	Community	Sar-i-Pul
47	Elder	Community	Sar-i-Pul
48	Elder	Community	Sar-i-Pul
49	Elder	Community	Jawzjan
50	Farmer	Community	Jawzjan
51	Farmer	Community	Jawzjan
52	Saatchi	Mirab	Jawzjan
53	Farmer	Community	Jawzjan
54	Elder	Community	Jawzjan
55	Provincial mirab	Mirab	Jawzjan
56	Farmer	Community	Jawzjan
57	Canal mirab	Mirab	Jawzjan
58	Saatchi	Mirab	Jawzjan
59	DDA head	DDA	Jawzjan
60	District governor	District governor's office	Jawzjan
61	Saatchi	Mirab	Jawzjan
62	Elder	Community	Jawzjan
63	Provincial mirab	Mirab	Sar-i-Pul
64	MAIL senior staff	MAIL	Jawzjan
65	WMD staff	WMD	Jawzjan
66	Local government staff	Local government	Jawzjan
67	Canal mirab	Mirab	Jawzjan
68	River mirab	Mirab	Jawzjan
69	CDC head	CDC	Jawzjan

Annex 3: List of interviews for the eight case studies on conflict resolution procedures

s/n	Respondent	Organisation	Province	Case study	Party to conflict
1	Elder	Community	Sar-i-Pul	Inter-provincial	Sar-i-Pul
2	Elder	Community	Jawzjan	Inter-provincial	Jawzjan
3	Provincial mirab	Mirab	Jawzjan	Inter-provincial	Jawzjan
4	Deputy provincial mirab	Mirab	Sar-i-Pul	Inter-provincial	Sar-i-Pul
5	Elder	Community	Jawzjan	Inter-provincial	Jawzjan
6	Canal mirab	Mirab	Jawzjan	Inter-provincial	Jawzjan
7	Deputy provincial governor	Provincial governor's office	Jawzjan	Inter-provincial	Jawzjan
8	Key informant	N/A	N/A	Inter-provincial	N/A
9	Elder	Community	Sar-i-Pul	Inter-provincial	Sar-i-Pul
10	DDA member	DDA	Sar-i-Pul	Inter-provincial	Sar-i-Pul
11	Elder	Community	Jawzjan	Inter-provincial	Jawzjan
12	River mirab	Mirab	Jawzjan	Inter-provincial	Jawzjan
13	Elder and former mirab	Community	Jawzjan	Inter-provincial	Jawzjan
14	WMD deputy director	WMD	Sar-i-Pul	Inter-provincial	Sar-i-Pul
15	PC member	PC	Sar-i-Pul	Inter-provincial	Sar-i-Pul
16	Provincial mirab	Mirab	Sar-i-Pul	Inter-provincial	Sar-i-Pul
17	DDA member	DDA	Jawzjan	Inter-provincial	Jawzjan
18	WMD staff	WMD	Jawzjan	Inter-provincial	Jawzjan
19	Canal mirab	Mirab	Jawzjan	Inter-provincial	Jawzjan
20	DDA member	DDA	Jawzjan	Darya-i-Safed/ Khwaja Du Koh	Darya-i-Safed
21	Provincial mirab	Mirab	Jawzjan	Darya-i-Safed/ Khwaja Du Koh	Khwaja Du Koh
22	CDC member	Community	Jawzjan	Darya-i-Safed/ Khwaja Du Koh	Darya-i-Safed
23	CDC member	Community	Jawzjan	Darya-i-Safed/ Khwaja Du Koh	Darya-i-Safed
24	River mirab	WMD	Jawzjan	Darya-i-Safed/ Khwaja Du Koh	Darya-i-Safed

s/n	Respondent	Organisation	Province	Case study	Party to conflict
25	DDA member	DDA	Jawzjan	Darya-i-Safed/ Khwaja Du Koh	Darya-i-Safed
26	Former WMD staff	WMD	Jawzjan	Darya-i-Safed/ Khwaja Du Koh	N/A
27	Elder	Community	Jawzjan	Darya-i-Safed/ Khwaja Du Koh	Darya-i-Safed
28	Provincial mirab	Mirab	Jawzjan	Darya-i-Safed/ Khwaja Du Koh	Khwaja Du Koh
29	WMD deputy director	WMD	Jawzjan	Darya-i-Safed/ Khwaja Du Koh	N/A
30	Former WMD staff	WMD	Jawzjan	Darya-i-Safed - Khwaja Du Koh	N/A
31	Elder	Community	Jawzjan	Darya-i-Safed - Khwaja Du Koh	Khwaja Du Koh
32	Elder	Community	Jawzjan	Darya-i-Safed - Khwaja Du Koh	Khwaja Du Koh
33	Elder	Community	Jawzjan	Darya-i-Safed - Khwaja Du Koh	Khwaja Du Koh
34	CDC member	Community	Jawzjan	Salmazan	Qawchin
35	Elder	Community	Jawzjan	Salmazan	Qawchin
36	Canal mirab	Mirab	Jawzjan	Salmazan	N/A
37	Head of PC	PC	Jawzjan	Salmazan	PC
38	Former WMD staff	WMD	Jawzjan	Salmazan	N/A
39	Elder	Community	Jawzjan	Salmazan	Salmazan
40	Elder	Community	Jawzjan	Salmazan	Salmazan
41	CDC member	CDC	Jawzjan	Jegdalek	Jegdalek
42	DDA head	DDA	Jawzjan	Jegdalek	N/A
43	Elder	Community	Jawzjan	Jegdalek	Gardana
44	PC member	PC	Jawzjan	Jegdalek	N/A
45	Elder	Community	Jawzjan	Jegdalek	Jegdalek
46	Canal mirab, Gardana	Mirab	Jawzjan	Jegdalek	Gardana
47	Elder	Community	Jawzjan	Jegdalek	Gardana
48	Elder	Community	Jawzjan	Jegdalek	Gardana
49	Deputy provincial governor	Provincial governor's office	Jawzjan	Jegdalek	N/A
50	Canal mirab, Emshek	Mirab	Jawzjan	Emshek	N/A
51	Elder	Community	Jawzjan	Emshek	Emshek
52	Elder	Community	Jawzjan	Emshek	Emshek

s/n	Respondent	Organisation	Province	Case study	Party to conflict
53	Elder	Community	Jawzjan	Emshek	Chelmard
54	CDC member	CDC	Jawzjan	Emshek	Chelmard
55	Elder	Community	Jawzjan	Emshek	Chelmard
56	Saatchi	Mirab	Jawzjan	Emshek	Chelmard
57	Elder	Community	Jawzjan	Emshek	Emshek
58	Saatchi Altkhoja	Mirab	Jawzjan	Emshek	Altkhoja
59	Elder	Community	Jawzjan	Emshek	Altkhoja
60	Elder	Community	Sar-i-Pul	Inter-canal, Sar-i-Pul	Downstream Sar-i-Pul
61	Elder	Community	Sar-i-Pul	Inter-canal, Sar-i-Pul	Downstream Sar-i-Pul
62	Elder	Community	Sar-i-Pul	Inter-canal, Sar-i-Pul	Laghman Valley
63	CDC head	CDC	Sar-i-Pul	Inter-canal, Sar-i-Pul	Laghman Valley
64	WMD deputy director	WMD	Sar-i-Pul	Inter-canal, Sar-i-Pul	N/A
65	Elder	Community	Sar-i-Pul	Inter-canal, Sar-i-Pul	Angut
66	Canal mirab	Mirab	Sar-i-Pul	Inter-canal, Sar-i-Pul	Angut
67	DDA member	DDA	Sar-i-Pul	Inter-canal, Sar-i-Pul	Downstream Sar-i-Pul
68	Elder	Community	Sar-i-Pul	Inter-canal, Sar-i-Pul	Downstream Sar-i-Pul
69	WMD deputy director	WMD	Sar-i-Pul	Inter-canal, Sar-i-Pul	N/A
70	Provincial mirab	Mirab	Sar-i-Pul	Inter-canal, Sar-i-Pul	N/A
71	PC Member	PC	Sar-i-Pul	Inter-canal, Sar-i-Pul	N/A
72	Elder	Community	Sar-i-Pul	Inter-canal, Sar-i-Pul	Asyabad
73	Elder	Community	Sar-i-Pul	Inter-canal, Sar-i-Pul	Asyabad
74	Pump owner	Community	Sar-i-Pul	Inter-canal, Sar-i-Pul	Laghman Valley
75	Elder	Community	Sar-i-Pul	Akhtash	Akhtash
76	Elder	Community	Sar-i-Pul	Akhtash	Akhtash
77	Elder	Community	Sar-i-Pul	Akhtash	Akhtash
78	Saatchi	Mirab	Sar-i-Pul	Akhtash	Akhtash

s/n	Respondent	Organisation	Province	Case study	Party to conflict
79	Canal mirab	Mirab	Sar-i-Pul	Akhtash	N/A
80	Mudir-i-Huqooq	Civil Law Department	Sar-i-Pul	Akhtash	N/A
81	Elder, mill owner	Community	Sar-i-Pul	Akhtash	Afredi
82	WMD deputy director	WMD	Sar-i-Pul	Akhtash	N/A
83	Elder	Community	Sar-i-Pul	Akhtash	Afredi
84	Saatchi	Mirab	Jawzjan	Jui level	N/A
85	Farmer	Community	Jawzjan	Jui level	Farmer 1
86	Former DDA head	DDA	Jawzjan	Jui level	N/A
87	Farmer	Community	Jawzjan	Jui level	Farmer 2
88	Elder	Community	Jawzjan	3 Darak	Darya-i-Sya
89	Deputy provincial governor	Provincial governor's office	Jawzjan	3 Darak	N/A
90	Elder	Community	Jawzjan	3 Darak	Darya-i-Sya
91	Elder	Community	Jawzjan	3 Darak	Gardana
92	Former WMD staff	WMD	Jawzjan	3 Darak	N/A
93	Elder	Community	Jawzjan	3 Darak	Salmazan
94	CDC member	CDC	Jawzjan	3 Darak	Gardana
95	Elder	Community	Jawzjan	3 Darak	Gardana
96	Elder	Community	Jawzjan	3 Darak	Darya-i-Sya
97	Elder	Community	Jawzjan	3 Darak	Salmazan

Annex 4: Key conflicts and their levels of occurrence at difference levels of the canal system

Jawzjan			Level of importance
Hydraulic level	Social level	Conflict occurrence and type of conflicts	
Jui/Juicha	Water sharing between farmers from the same village	<ul style="list-style-type: none"> At this level, water stealing is relatively difficult because everyone involved knows the time and sequence of turns between and within jui. The small scale of jui also makes water stealing easier to detect at this level. Social capital and social control are the highest at this level, limiting the emergence of conflicts. Minor conflicts may arise due to issues such as poor synchronisation of watches. Conflicts may also arise as a consequence of water stealing at higher level (for instance at a divider). How much this happens will depend on the ability of the mirab or chakbashi to anticipate and contain potential disputes by building contingencies into the implementation of water turns. At this level, most conflicts are invisible since they are resolved without the intervention of village-level mediating bodies. 	*
Nahr/jui divider	Water sharing between communities from different villages	<ul style="list-style-type: none"> Stealing along a canal (nahr) through breaching and syphoning is very difficult in Jawzjan. This is because the most important canals there convey water below field level-level. When this is not the case, theft may happen and become a source of conflicts (see Gardana/Jegdalek case study). Since water is shared automatically through proportional dividers, there is little room for mismanagement in the operation of the infrastructure. It is possible to steal water by temporarily tampering with dividers using obstructions such as sandbags. However, this is relatively easy to detect and is thus unlikely to be a long-term problem. However, such practices may become more of an issue when dividers are located in insecure areas, since this makes patrolling dangerous. The main way for communities to permanently increase their access to water relative to their neighbours is to redesign the size of dividers to their advantage. Although these kinds of conflict are relatively rare, respondents viewed them as the most significant due to their potential long-term impact on people's livelihoods. Such conflicts tend to take place in the context of wider social and political change. They are also facilitated by issues of legal pluralism and contested water rights regarding land registration in different canals. 	***
Darya and darya/nahr dividers	Water sharing between communities from different groups of villages	<ul style="list-style-type: none"> Theft along a river (darya) through breaching and syphoning is even more difficult than at canal level, to the extent that it is effectively impossible. As at nahr-level, conflicts over water access at this stage are related to the re-design of dividers, and follow broadly similar contours. 	**

Annex 4: Key conflicts and their levels of occurrence at difference levels of the canal system (continuation)

Sar-i-Pul			
Hydraulic level	Social level	Conflict occurrence and type of conflicts	Level of importance
Jui/juicha	Water sharing between farmers from the same village	<ul style="list-style-type: none"> At this level, water stealing is relatively difficult because everyone involved knows the time and sequence of turns between and within chaks. The small scale of jui also makes water stealing easier to detect at this level. Social capital and social control are the highest at this level, limiting the emergence of conflicts. Minor conflicts may arise due to issues such as poor synchronisation of watches. Conflicts may also arise as a consequence of water stealing at higher level (for instance at a divider). How much this happens will depend on the ability of the mirab or chakbashi to anticipate and contain potential disputes by building contingencies into the implementation of water turns. At this level, most conflicts are invisible since they are resolved without the intervention of village-level mediating bodies. 	*
Nahr (below sarband)/jui or nahr divider	Water sharing between communities from different villages	<ul style="list-style-type: none"> Water stealing within canals is not common but in some cases (see the Akhtash case study) it may become a recurrent practice that is difficult to stop. In particular, power differences and weak social capital may also be a factor in sustaining such practices. Other factors facilitating water theft are related to issues of monitoring and control. Theft is easier where there are security issues in the area of the divider or along branches below the divider. A divider located far from villages and irrigated land may also be especially hard to control. In contrast to Jawzjan, conflicts over the re-design of divider openings in order to change de-facto water rights are not so prominent in Sar-i-Pul. This may be partly explained by the fact that some canals organise turns between branches of dividers, in which case the size of divider openings is not critical. 	**
Darya/sarband (regulation of sarband along the river)	Water sharing between communities from different groups of villages	<ul style="list-style-type: none"> This is the level at which most conflicts happen and where impacts are most significant for water users in downstream canals. The main source of conflict is parties' failure to respect the regulation of flow for each canal. Due to the hierarchical nature of the river/canal layout, the impact is more extreme the further downstream a canal is located. These problems are exacerbated when water availability in the river is low. They are thus particularly severe during dry years (see case study of inter-canal conflicts in Sar-i-Pul during 2011). Insecurity in certain areas reduces the possibility for patrolling along a sarband. Insecurity combined with low social capital between communities from different areas makes coercive measures more a source of additional problems than long-term solutions. 	***

Annex 4: Key conflicts and their levels of occurrence at difference levels of the canal system (continuation)

Inter-provincial			
Hydraulic level	Social level	Conflict occurrence and type of conflicts	Level of importance
River	Water sharing between two provinces	<p>Conflicts may happen during the implementation and monitoring of water turns between provinces.</p> <ul style="list-style-type: none"> In practice, Sar-i-Pul water users may open their sarbands to irrigate their land during Jawzjan's water turn. Due to the large area to monitor—and therefore the costs involved—the extent to which water rights are respected depends largely on the willingness of Sar-i-Pul water users and powerholders to play by the rules. Poor security conditions facilitate defaulting, since they pose further constraints to monitoring in Sar-i-Pul. The level of social capital shared by both provinces also plays an important role in determining how fare water turns are respected. When river flow is extremely low, Jawzjan may view it as acceptable not to conduct water turns. However, agreeing where exactly the benchmark lies has been a source of conflict in the past. Conflict may also arise from attempts to redefine water rights between provinces (see case study). At this level, conflicts may become politicised due to the large number of people they involve, and the subsequent impact they may have on the social capital of an entire region. 	****

Annex 5: Layout and Dimensions of Dividers in Jawzjan

Table 35: Dimensions of proportional dividers in the Salmazan irrigated area

Structure S/N	Name of Branch	Size of opening (cm)	Command area (in paykals)	% of water flow	% of land	Description
S-1	Kodi	15	1.5	5.9%	4.5%	No conflicts. Minor differences between share of land and share of water are due to a consensual agreement. Since the Kodi branch was not receiving a critical flow due to being at the same level as the crest, it was awarded a few extra centimetres as compensation.
	Salmazan Canal	240	31.5	94.1%	95.5%	
S-2	Qaghdan	15	1	5.8%	3.2%	No conflicts. See above.
	Salmazan canal	245	30.5	94.2%	96.8%	
S-3	Qarakent	15	2	7.1%	6.6%	No conflicts. See above.
	Salmazan Canal	195	28.5	92.9%	93.4%	
S-4	Qawchin	36	5	23.7%	17.5%	Conflict: The dimensions of this division structure are contested. See Qawchin/Salmazan case study.
	Salmazan Canal	116	23.5	76.3%	82.5%	
S-5	Gulguntoghai	20	1.5	12.1%	6.3%	Conflict: The dimensions of this division structure are contested. They are the result of a dispute where influential leaders in Gulguntoghat managed to impose an increase in the dimensions for their branch.
	Salmazan canal	145	22.5	87.9%	93.8%	
S-6	Mirshekar-i-Ulia	24	3.5	15.6%	15.6%	No Conflicts.
	Salmazan Canal	130	19	84.4%	84.4%	
S-7	Altkhoja–Baba Dehqan Kalan	65	9.5	50.0%	50.0%	No Conflicts.
	Salmazan Canal	65	9.5	50.0%	50.0%	
S-8	Salmazan Uzbekia	N/A	1	N/A	10.5%	No conflicts. This divider could not be surveyed due to security reasons. However, both sides reported no conflicts over the dimensions of the divider
	Salmazan Canal	N/A	8.5	N/A	89.5%	
S-9	Mirshekar-i-Sufta	25	3	35.7%	35.3%	No Conflicts.
	Last division of Salmazan	45	5.5	64.3%	64.7%	

Figure 26: Schematic map of proportional dividers and canal layout in the Salmazan irrigated area.

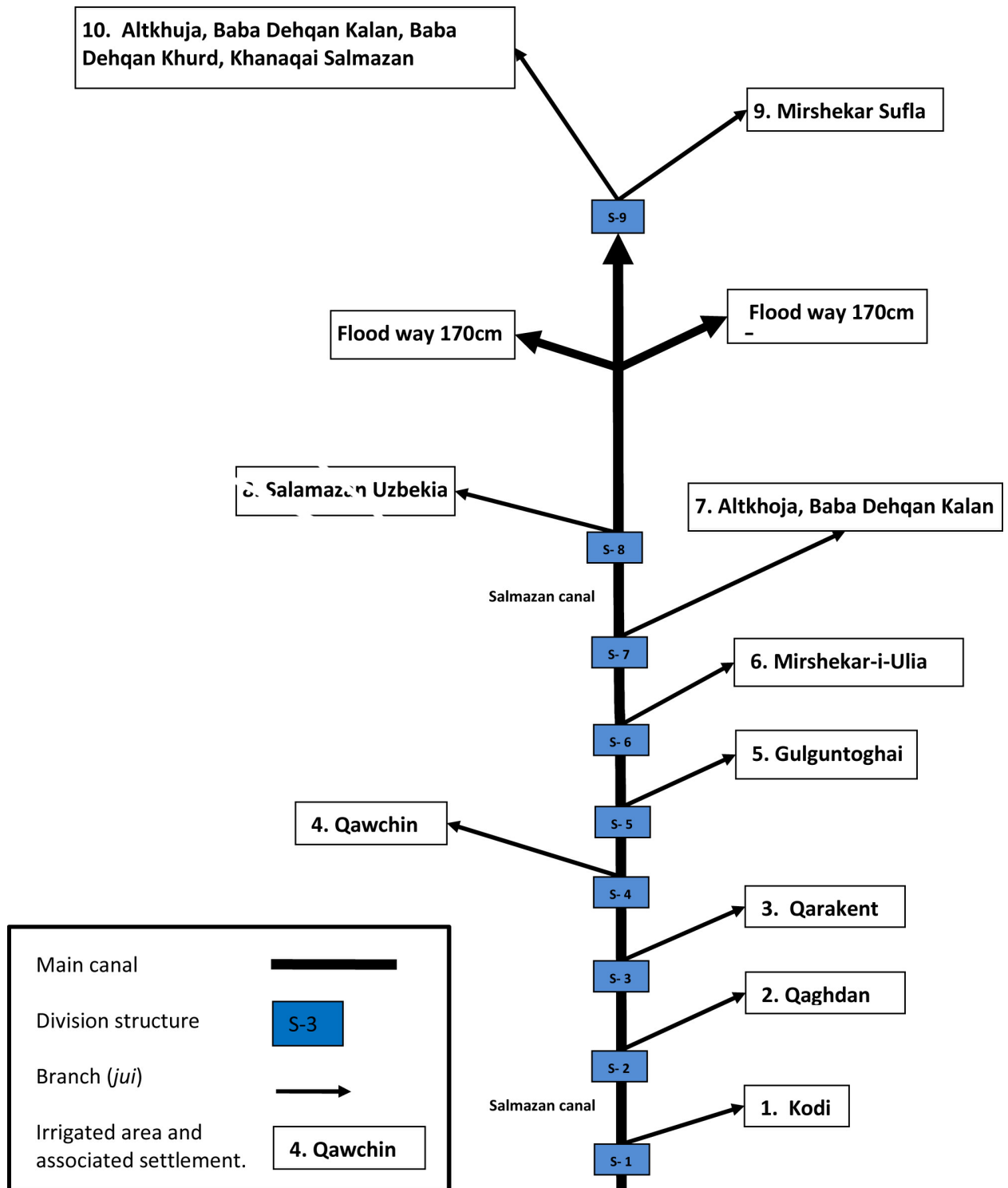


Table 36: Dimensions of proportional dividers in Gardana irrigated area

Structure S/No	Name of Branch	Size of opening (in cm)	Command area (in paykals)	% of water flow	% of land	Description
S-1	Tarnab	40	3.5	9.5%	9.7%	<p>Minor conflict: The design of this structure is contested, although there is no open conflict. The dimensions of the structure were changed during the Taliban period. At the time, the leaders in Gardana canal main canals were close to the Taliban leadership and managed to impose a change. This was contested particularly by Uzbek leaders in Qarakent, who were sent to jail.</p>
	Torkhel	40	3.5	9.5%	9.7%	
	Afghan Tepe Turkmania	45	4	10.7%	11.1%	
S-2	Qarakent	50	5	11.9%	13.9%	<p>Minor conflict: The design of this structure is contested, although there is no open conflict. The dimensions of the structure were changed during the Taliban period. At the time, the leaders in Gardana canal main canals were close to the Taliban leadership and managed to impose a change. This was contested particularly by Uzbek leaders in Qarakent, who were sent to jail.</p>
	Gardana Main Canal	245	20	58.3%	55.6%	
	Char Paykal canal	70	4	21.2%	20.0%	
S-3	Gardana Canal	260	16	78.8%	80.0%	<p>No conflicts.</p>
	Char Paykal (Hajji Karim)	100	2	50.0%	50.0%	
	Char Paykal (Taj Mohamad)	100	2	50.0%	50.0%	
S-4	Mughal (Hajji Sheer Mohamad)	65	4	33.0%	33.3%	<p>No conflicts.</p>
	Gardana Canal	132	8	67.0%	66.7%	
S-5	Joye Alam (Hajji Rasheed)	100	6	74.1%	75.0%	<p>No conflicts.</p>
	Gardana (Hajji Yaseen)	35	2	25.9%	25.0%	

Figure 27: Schematic map of proportional dividers and canal layout in Gardana irrigated area

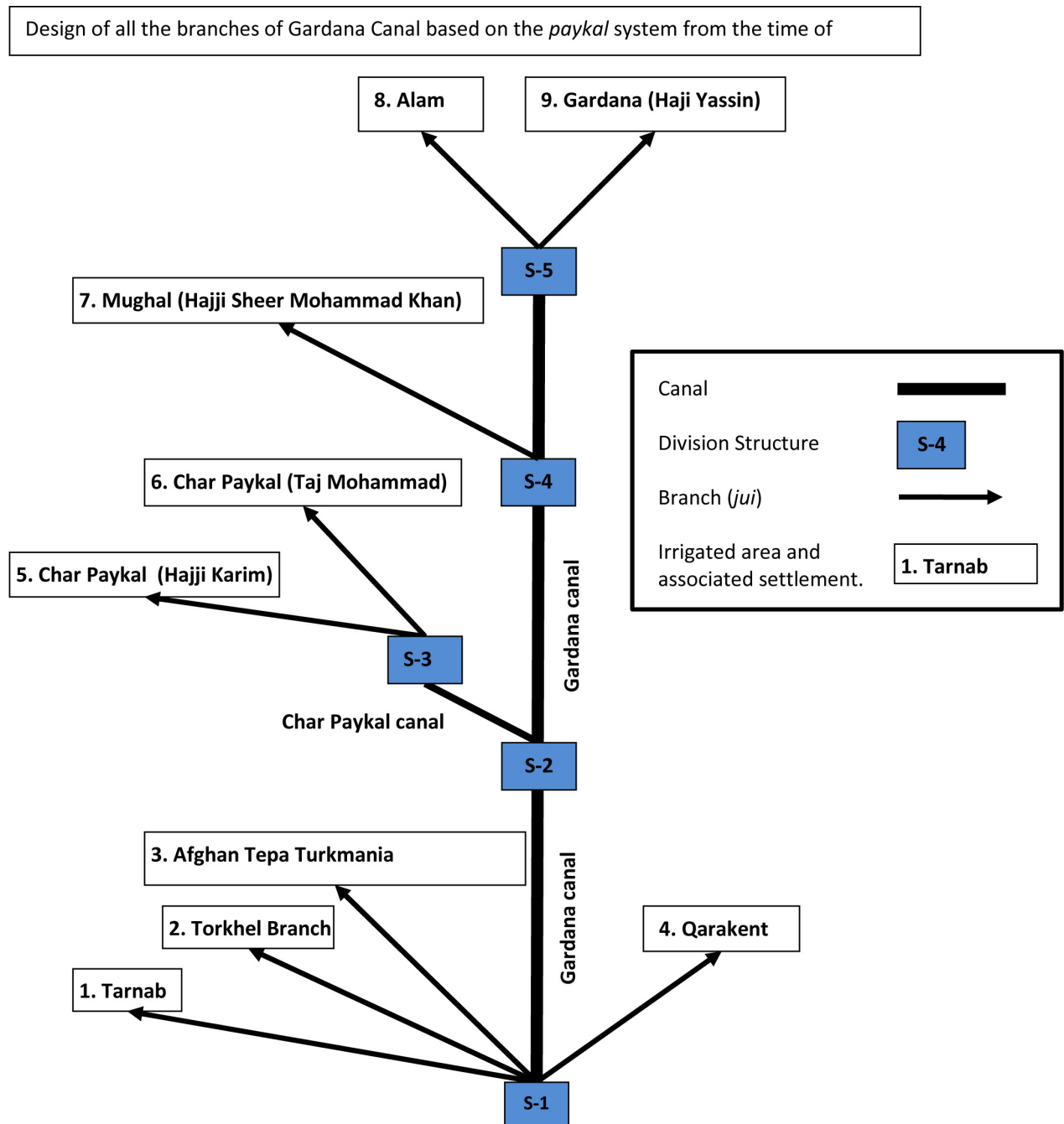


Table 37: Dimensions of proportional dividers in the Darya-i-Sya irrigated area

Structure S/No	Name of Branch	Size of opening (in cm)	Command area (in paykals)	% of water flow	% of land	Description
S-1	Soft Qala	30	8	4.5%	6.0%	Minor Conflict: The dimensions of Soft Qala are contested. Political leaders imposed an increase in the size of the opening during the 1990s. However, since its impact on Darya-i-Sya has been very moderate, there has been no follow-up since then.
	Darya-i-Sya	630	125	95.5%	94.0%	
S-2	Shorareq	175	23	18.1%	18.4%	No conflicts.
	Darya-i-Sya	660	85	68.4%	68.0%	
	Yangareq	70	9	7.3%	7.2%	
	Qanjughra	60	8	6.2%	6.4%	
S-3	Shorareq Turkmania	52	6	25.7%	27.3%	Minor conflict: Shorareq Turkmania used their contacts during the Taliban period to modify the dimensions of their branch.
	Shorareq Afghanistan	150	16	74.3%	72.7%	
S-4	Shorareq Afghanistan, Taghenareq Afghanistan	80	10	55.2%	55.6%	No conflicts
	Chekhchi, Jadran, Ganish	65	8	44.8%	44.4%	
	Shorareq Afghanistan	50	5.5	55.6%	55.0%	
S-5	Taghenareq Afghanistan	40	4.5	44.4%	45.0%	No conflicts
	Chekhchi	40	3	36.4%	37.5%	
S-6	Jadran	35	2.5	31.8%	31.3%	No conflicts
	Ganish	35	2.5	31.8%	31.3%	
	Darya-i-Sya	222	45	52.6%	52.9%	
S-7	Chobash and Mesrabad	200	40	47.4%	47.1%	No conflicts

Table 37: Dimensions of proportional dividers in the Darya-i-Sya irrigated area (continuation)

Structure S/No	Name of Branch	Size of opening (in cm)	Command area (in paykals)	% of water flow	% of land	Description
S-8	Chobash	100	18	40.0%	45.0%	Conflict: During the civil war period at a time of Junbesh political dominance, the water users of Mesrabad (Uzbeks) managed to impose a change in the design of the structure through their relations with a powerful Uzbek leader. This took place at the expense of the Turkmen community of Chobash.
	Mesrabad	150	22	60.0%	55.0%	
S-9	Oramast	42	4	8.9%	8.9%	No conflicts
	Youraghli	65	6	13.7%	13.3%	
	Jalalabad and Islam jui	225	21	47.5%	46.7%	
	Hassan Abad	70	7	14.8%	15.6%	
	Char Shanbeh	30	3	6.3%	6.7%	
	Nekrabad	42	4	8.9%	8.9%	
S-10	Jalalabad	116	15	68.6%	71.4%	Minor conflict: The dimensions of the divider are contested but not to the extent of raising the issue. A change was made toward the end of the time of Zahir Shah to accommodate land provided to former government employees.
	Islam Jui	53	6	31.4%	28.6%	

Figure 28: Schematic map of proportional dividers and canals layout in Darya-i-Sya irrigated area

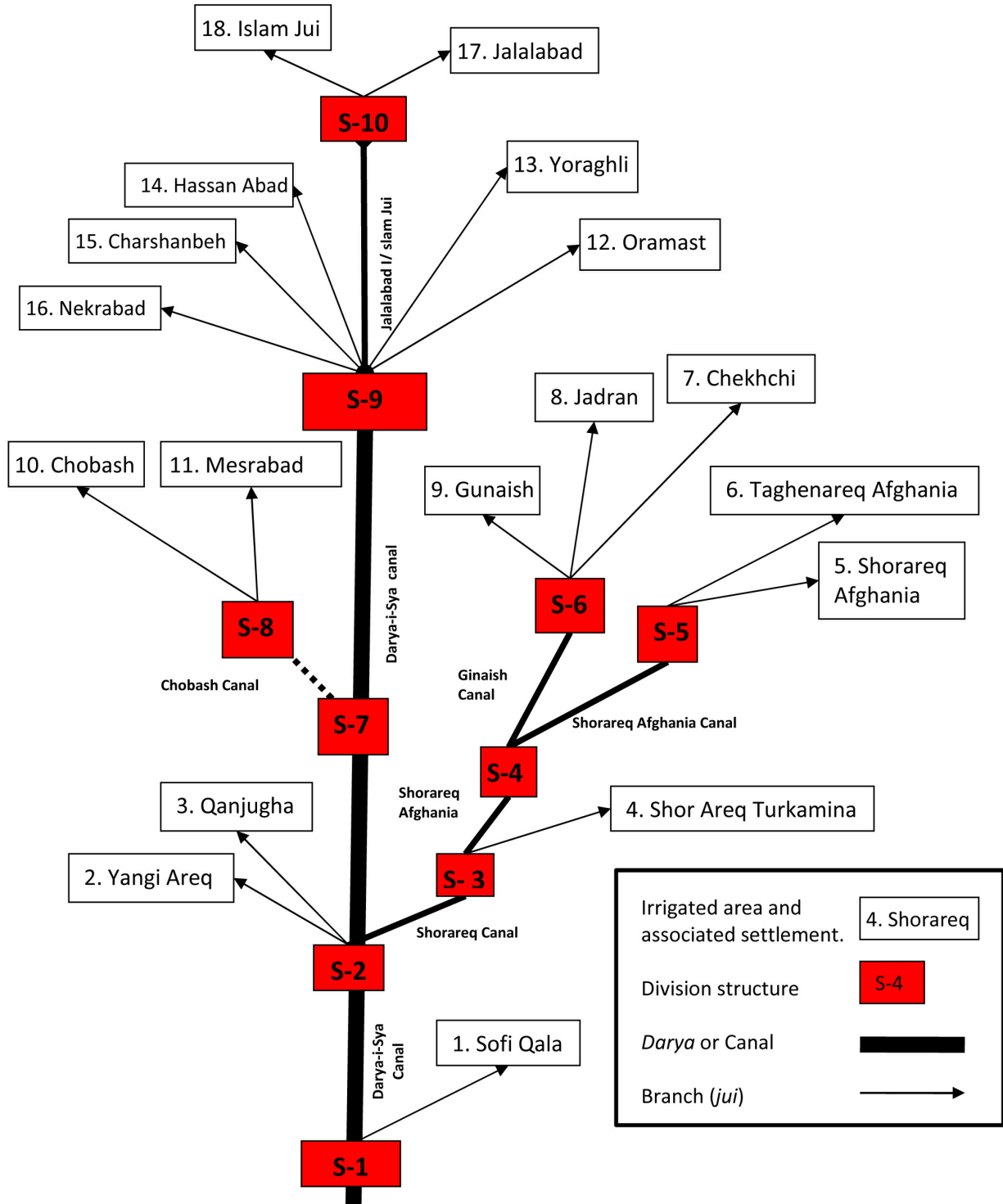


Table 38: Dimensions of proportional dividers in the Khwaja Du Koh irrigated area

Structure S/No	Name of Branch	Size of opening (in cm)	Command area (in paykals)	% of water flow	% of land	Description
S-1	Taghen	95	7	6.8%	7.0%	No conflicts.
	Khwaja Du Koh	1300	93	93.2%	93.0%	
S-2	Islamjui or Shakarak Bazaar	40	5.5	6.0%	5.9%	No conflicts.
	Qezel Ayagh	210	30	31.3%	32.3%	
	Khwaja Du Koh	270	37	40.3%	39.8%	
	Salteq Khurd,	150	20.5	22.4%	22.0%	
S-3	Qezel Ayagh	100	12	40.0%	40.0%	No conflicts.
	Salteq Kalan	100	12	40.0%	40.0%	
	Mengajek	50	6	20.0%	20.0%	
	Mengajek part A	127	3	50.0%	50.0%	
S-4	Mengajek part B	127	3	50.0%	50.0%	No conflicts.
	Aimmaq	150	25	36.7%	36.8%	No conflicts: A structure has been recently rebuilt with the support of an INGO. All communities agreed to re-design the structure based on their own assessments of the actual irrigable land in each branch, as opposed to the irrigable land registered under the paykal system. In the event, the differences between the old and new structures were not significant.
Arabqarlegh	114	19	27.9%	27.9%		
Eityruq	145	24	35.5%	35.3%		
S-6	Salteq Khurd	75	10	49.3%	48.8%	No conflicts.
	Chobash Khurd	70	9.5	46.1%	46.3%	
	Korak or Sehgeran	7	1	4.6%	4.9%	

Figure 29: Schematic map of proportional dividers and canal layout in Khwaja Du Koh irrigated area.

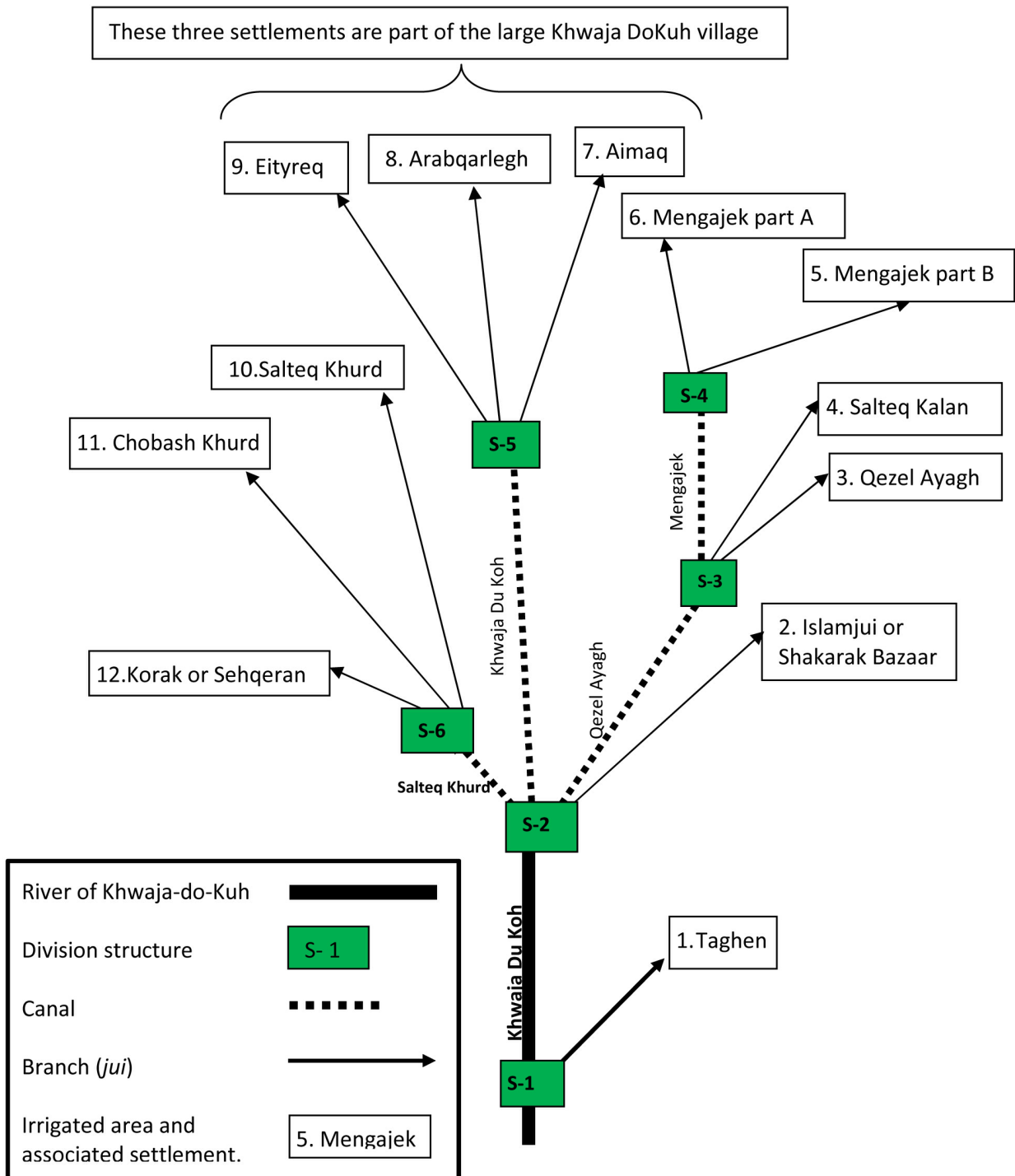


Table 39: Dimensions of proportional dividers in the Darya-i-Safed irrigated area

Structure S/No	Name of Branch	Size of opening (in cm)	Command area (in paykals)	% of water flow	% of land	Description
S-1	Tanga and Chelmetra	45	10	5.39%	5.28%	Minor Conflict: The dimensions of the division structure are contested. The design was modified during the early 1990s at the instigation of local powerholders. The changes mainly affected the Darya-i-Safed branch, but only to a limited extent. Consequently, no serious conflict has occurred since the time of the change.
	Push-t-i-Olang	35	8	4.19%	4.22%	
	Shakarak	30	3.5	3.59%	1.85%	
	Darya-i-Safed	725	168	86.83%	88.65%	
S-2	Emshak	110	26	14.86%	15.48%	No conflicts: Despite some differences in proportionality between the amount of irrigable land and the water flow for each branch, none of the communities concerned contest the current dimensions of the divider.
	Hassan Taben	30	7	4.05%	4.17%	
	Murghab	30	7	4.05%	4.17%	
	Qazanchi Main Canal	75	18	10.14%	10.71%	
S-3	Darya-i-Safed	495	110	66.89%	65.48%	No conflicts: Despite some differences in proportionality between the amount of irrigable land and the water flow for each branch, none of the communities concerned contest the current dimensions of the divider.
	Yatem Qala	20	3	10.81%	11.54%	
	Emshek	165	23	89.19%	88.46%	
S-4	Altkhoja	75	6	31.25%	18.75%	Conflict: See Emshek/Altkhoja case study
	Emshek	165	26	68.75%	81.25%	
S-5	Chelmard	35	4	14.00%	13.79%	No more conflicts: This structure was the subject of a conflict until changes brought the situation back to normal. See Chelmard/Emshek case study.
	Emshek	215	25	86.00%	86.21%	
	Kohgunbad	N/A	6	N/A	37.50%	
S-6	Qazanchi	N/A	10	N/A	62.50%	Could not be surveyed
	Qushqul	40	8	7.34%	7.48%	
S-7	Yamaruq	45	7	8.26%	6.54%	Conflict: The dimensions of this structure are contested. During the time of Zahir Shah, a powerful government official with land in Yamaruq rebuilt the division structure with his own money, increasing the dimensions of the Yamaruq branch by around 10cm.
	Darya-i-Safed	460	92	84.40%	85.98%	

Table 39: Dimensions of proportional dividers in the Darya-i-Safed irrigated area (continuation)

Structure S/No	Name of Branch	Size of opening (in cm)	Command area (in paykals)	% of water flow	% of land	Description
S-8	Ainulmal	70	9	8.84%	9.78%	No major conflict: During the time of Zahir Shah, parts of Yaka Bagh and Jangle Bagh were irrigating government gardens. The government was thus granted larger dimensions for the branch. However, the impact of reduced water flow was distributed evenly among the remaining communities. There was thus no major conflict over this decision. However, a few informants suspected that the size of the gardens in Yaka Bagh did not justify the increase in dimensions.
	Yaka Bagh	195	15	24.62%	16.30%	
	Baba Ali	190	25	23.99%	27.17%	
	Maranjan	140	19	17.68%	20.65%	
	Jangle Bagh	82	9	10.35%	9.78%	
	Shubai	115	15	14.52%	16.30%	
S-9	Jangle Bagh	N/A	1.12	N/A	4.29%	Could not be surveyed
	Shubai Afghanistan					
	Shubai Uzbekia					
	Beshkepa					
	Yakachenar					
	Eidmahala					
		N/A	25	N/A	95.71%	
	Jaghsaaya					
	Yakhafra					
	Qezeelche					

Figure 30: Schematic map of proportional dividers and canal layout in Darya-i-Safed

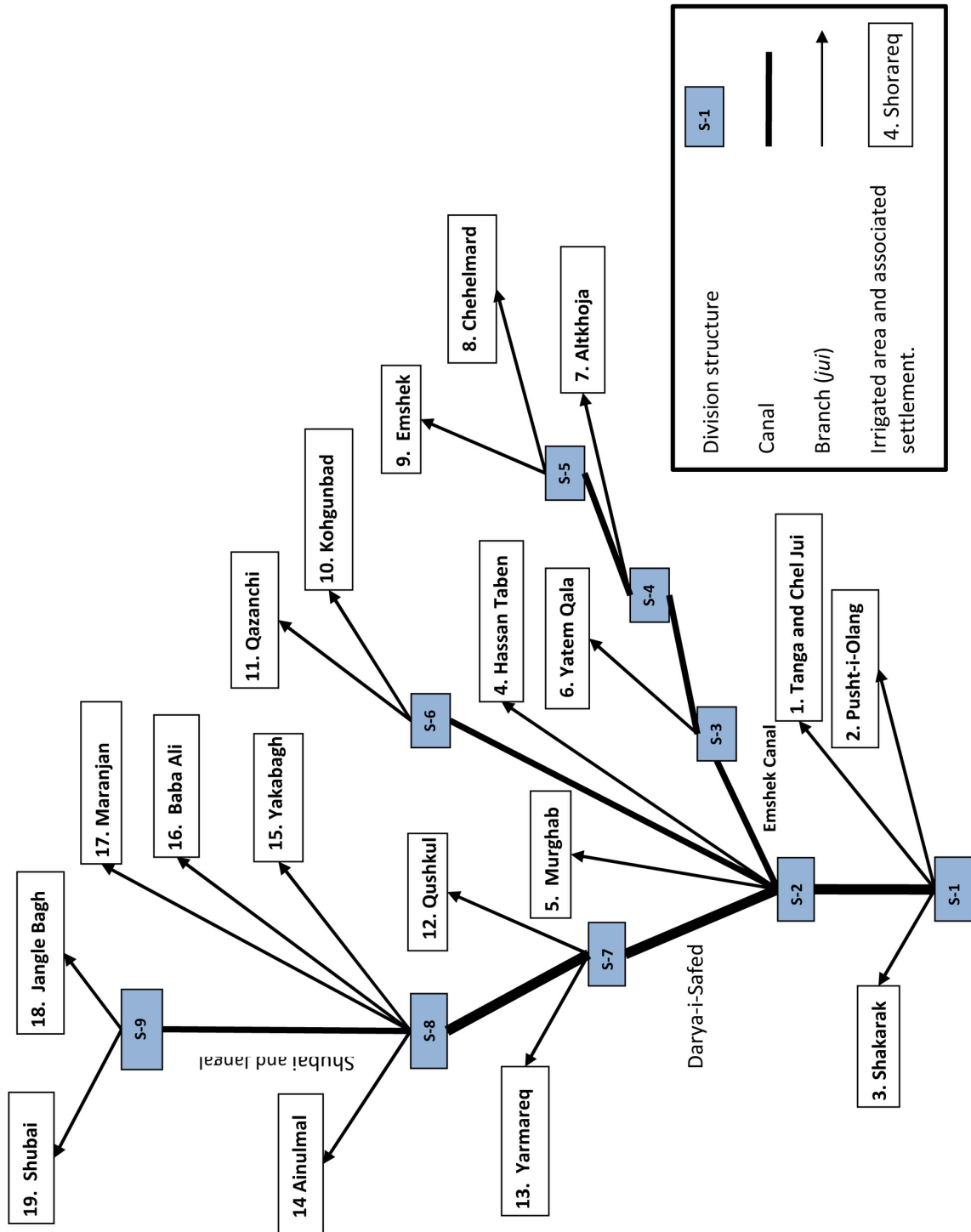


Table 40: Dimensions of proportional dividers along the main rivers

Structure S/No	Name of Branch	Size of opening (in cm)	Command area (in paykals)	% of water flow	% of land	Description
S-1	Darya-i-Sya	600	200	40.0%	40.0%	No conflicts.
	Darya-i-Safed	900	300	60.0%	60.0%	
S-2	Galamola	40	3	5.6%	1.5%	Conflict: The area of Galamola has been highly insecure in recent years, and the proportional divider has been tampered (i.e. both enlarged and deepened—see Image X). However, security conditions have left little opportunity to address the situation.
	Darya-i-Sya	680	197	94.4%	98.5%	
S-3	Salmazan	270	30	20.1%	15.2%	Conflict: The structure used to be proportional until the early 1960s. At the time, several influential leaders in Jawzjan were from Gardana and Salmazan. This included the Hakim himself and the newly posted Head of Court. Both played a central role in changing the size of the structure, arguing that more land needed to be put under irrigation in Gardana and Salmazan due to population increase. However, this argument did not make sense to Darya-i-Sya representatives, since their area had also faced similar pressure on demand over the years. Eventually, coercive means were used to impose the change.
	Darya-i-Sya	800	133	59.5%	67.5%	
	Gardana	275	34	20.4%	17.3%	
S-4	Jegdalek	40	3.5	1.4%	1.2%	No conflicts: Jegdalek was given a few extra centimetres due a technical constraint that slightly restricted the flow entering the branch. All communities consider that the principle of proportionality remains respected.
	Darya-i-Safed	2700	289.5	96.3%	96.5%	
	Seh-Shanbeh	65	7	2.3%	2.3%	
S-5	Darya-i-Safed	575	189.5	63.9%	65.5%	Conflict: See Darya-i-Safed/Khwaja Du Koh case study.
	Khwaja Du Koh	325	100	36.1%	34.5%	



Image 22: River mirab witnessing that the opening of the Jui Galamola, which has been tampered with in the context of high levels of insecurity in the area.



Image 24: 3-darak (left to right: Gardana, Darya-i-Sya, Salmazan)



Image 23: 6-darak (S-9) in Darya-i-Sya; extreme right: Jui Nekrabad, extreme right: Jui Oramast

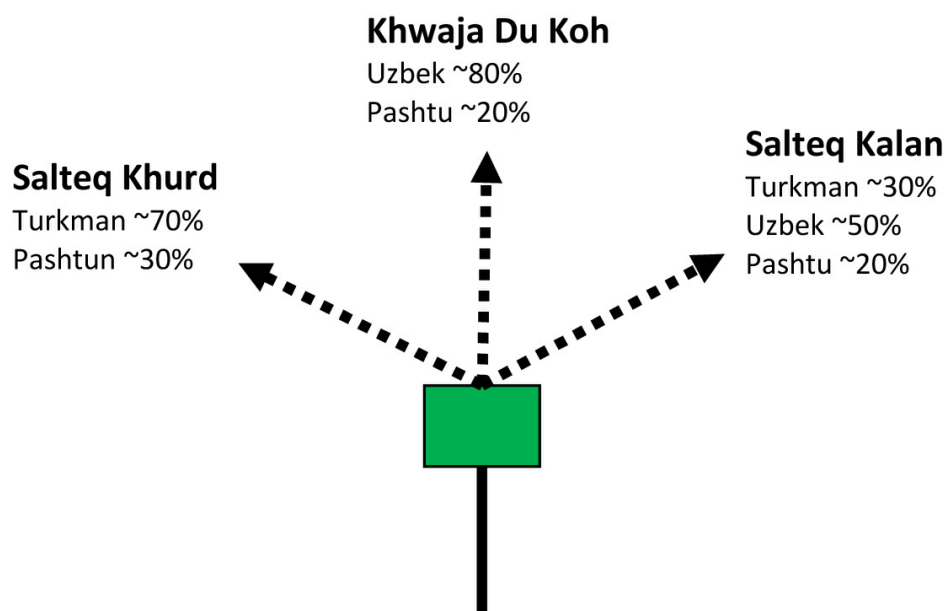


Image 25: Proportional divider

Annex 6: Development of canal systems in Jawzjan: The example of Khwaja Du Koh

Before the reign of Abdur Rahman (1880-1901), the current irrigated area of Khwaja Du Koh was composed of different ethnic groups, but mainly Uzbeks and Turkmens. At the time, irrigated agriculture was limited and pastoralism was the dominant source of livelihoods. The area's limited amount of irrigated land was not irrigated by the Darya-i-Safed through the divider of She-Chambe, as it is today. Instead, it was irrigated through a branch from the current Darya-i-Safed irrigated area. This branch supplied a divider located in the same place as the current divider of Khwaja Du Koh (see Map 3). At the time, the divider split into three branches supplying the three villages Salteq Khurd, Khwaja Du Koh and Salteq Qalan (See Figure 26).

Figure 32: Original branch layout in Khwaja Du Koh



Although they were home to different ethnic groups, the villages shared common cultivated land. Since the amount of water flowing into the area was only enough to irrigate one-third to one-half of the land at any one time, only one branch was used for irrigation (rotating each year), with the harvest shared among families from all three villages. However, this was not a problem since the system was sufficient to feed the population of all three villages, which in any case had no storage to keep any surplus.

In the early years of Abdur Raman's rule, a first wave of Pashtun settlers arrived in the area. The government asked local residents to support them in building new houses in the existing villages. When the Pashtun were settled, the government also requested that they be included in the system of collective farming. Although this created some tension at first, the new settlers were incorporated in the villages.²⁵⁴

²⁵⁴ According to an elder from Khwaja Du Koh, a number of villagers rebelled against the government in protest against the inclusion of new settlers, and on several occasions attacked the Hakeem of Jawzjan.

After some years, more new settlers came to the area. However, this time the migrants settled in new villages and were given land²⁵⁵ around their new settlements. This required the creation of new canal branches. The Hakeem decided that from this time forward, each settlement should have its own land and its own branch. At the same time, they also decided that the original three villages that had been irrigating land as common property should now have their own land and an associated branch. This period marked the start of a process of formal land registration and its associated water rights. The Hakeem provided each settlement with a given amount of land, which in turn served as the basis for calculating a proportional share of water rights. To facilitate this process, wooden dividers were created in order to split water flow automatically into the correct proportions. The creation of canals was thus directly related to the government-led creation of new settlements and distribution of new land.

These increased pressure these developments placed on water demand inevitably reduced the amount of water available for the area's original population. However, resisting the decisions of the Hakeem and the Khalifa was impossible due to the level of coercive power available to the government at the time. Nevertheless, the Khalifa explained to the government that with the continued inflow of new settlers to the area, the supply of water from the Darya-i-Safed branch would soon fall far short of demand. He therefore sourcing water from a new divider located much further upstream along the Darya-i-Safed, at the current location of the Seh-Chambe divider.²⁵⁶ Although residents in the Darya-i-Safed area were not in favor of this agreement, they finally accepted it under the pressure from the Hakeem.

The canal took many years to build, and only became fully functional during the early years of Habibullah Khan's reign (1901-1919). This new arrangement provided a larger share of water to the area of Khwaja Du Koh and thus reduced pressure on water demand. However, settling of new migrants continued progressively during the reigns of Habibullah Khan, Amanullah Khan (1919-1929) and Nadir Shah (1929-1933). As above, the process once again constrained the amount of water available to the original population.²⁵⁷ Yet the power of the government still meant that significant protest was out of the question.

During the reign of Zahir Shah (1933-1973), the arrival of new settlers largely ceased. However, water users in the area were instead faced with a new problem. During the second part of Zahir Shah's reign, many retired government employees were given large amounts of land (sometimes exceeding 70 paykals or 5,600 ha) as pension. On the direct order of the King, this land was irrigated via the extension of existing canal branches.²⁵⁸ However, no new division structures or branches were created, and the existing division structures were not changed. Overall, this process ultimately led to a reduction in the time available for water turns inside each branch. Furthermore, elders in Khwaja Du Koh recalled that some powerful former government officials often abused from their position to get longer water turns, negatively affecting other farmers. Yet again, their links to a still-powerful government precluded any action against this.

After Mohammed Daoud came to power, the area saw no new settlers or land grants. Some farmers were able to convert rainfed land to irrigation. However, they received no additional water rights and instead had to stretch their existing allocation.

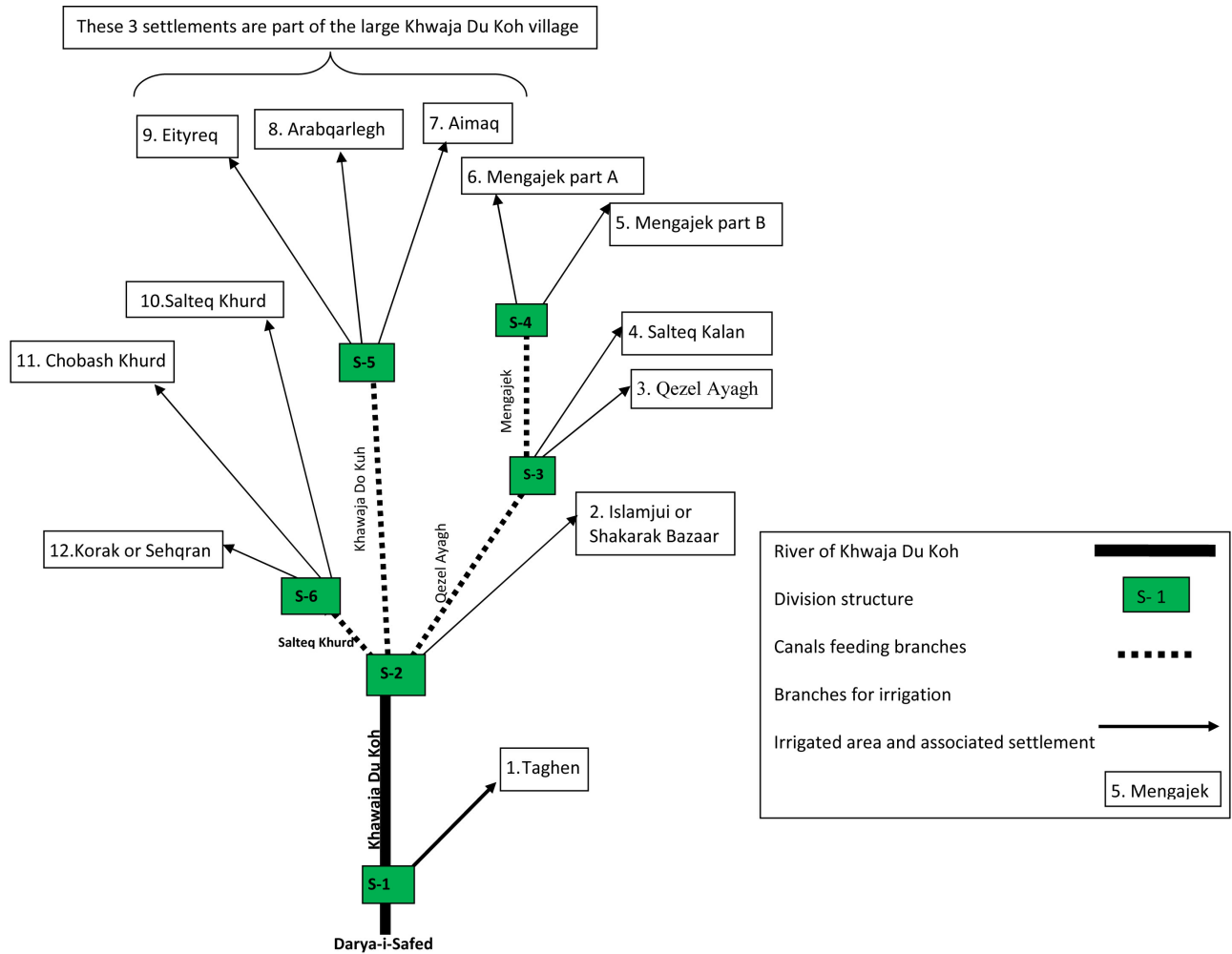
255 At the time this land was not in use, making it easy for the government to distribute it to new settlers.

256 See more discussion on water rights between Darya-i-Safed and Khwaja Du Koh in Section 6.

257 Note that not all new settlers during that period were Pashtun. For instance, the settlers in Korak village were Turkmen. Nevertheless they were given authorisation and support from the Hakeem to settle in the area

258 The land provided to retired government staff was distributed across different parts of Khwaja Du Koh.

Figure 33: Current branch layout and settlements in Khwaja Du Koh.



Annex 7: Numbers and types of mirabs in Sar-i-Pul and Jawzjan Provinces

Type of mirab	Sar-i-Pul	Jawzjan
Provincial mirab (mirab-i-wulayati)	2*	1
River mirab (mirab-i-darya)	N/A	3
Canal mirab (mirab-i-nahr)	40	9
Saatchi	N/A	48
Chakbashi	37	N/A

* There is one provincial mirab and one deputy.

Bibliography

Amjad, U. Q. *Water, Conflict, and Cooperation: Ramallah, West Bank*. Blacksburg VA: Virginia Polytechnic Institute and State University, 1999.

The Asia Foundation. "Afghanistan in 2011 - A Survey of the Afghan People." Kabul: The Asia Foundation, 2011.

Baland, J. M., and J. P. Platteau. *Halting degradation of natural resources: Is there a role for rural communities?* Oxford: Clarendon Press, 1996.

Baland, J. M., and J. P. Platteau. "The ambiguous impact of inequality on local resource management." *World Development* 27, no. 5 (1999): 773-88.

Barfield, T. "Informal Dispute Resolution and the Formal Legal System in Contemporary Northern Afghanistan." Washington, DC: United States Institute of Peace, 2006. Available at http://www.usip.org/files/file/barfield_report.pdf (accessed June 5, 2013).

Barfield, T. "Culture and Custom in Nation-Building: Law in Afghanistan." *Maine Law Review* 60, no. 2 (2008): 348-73.

Boesen, J., R. Odgaard and F. Maganga. "Rules, norms, organizations and actual practices: land and water management in the Ruaha River Basin." In *Managing the Globalized Environment: Local strategies to secure livelihoods*, edited by T. Granfelt. Trowbridge UK: Cromwell Press, 1999.

Brick, J. "The Political Economy of Customary Village Organizations in Rural Afghanistan." Annual Meeting of the Central Eurasian Studies Society. Washington D.C., 2008. Available at <http://www.bu.edu/aias/brick.pdf> (accessed 5 June, 2013).

Cleaver, F. "Moral Ecological Rationality, Institutions and the Management of Common Property Resources." *Development and Change* 31, no. 2 (2000): 361-83.

Cookman C., and C. Wadhams. "Governance in Afghanistan. Looking Ahead to What We Leave Behind." Washington, DC: Center for American Progress, 2010.

Cossio, V., L. Soto and T. Skielboe. "Case studies on conflict and cooperation in local water governance - Report No. 1 - The case of the Tiraque highland irrigation conflict Tiraque, Bolivia." Unpublished presentation, 2010.

Center for Policy and Human Development. "Afghanistan human development report 2007: bridging modernity and tradition: Rule of law and the search for justice." Kabul: United Nations Development Programme/Kabul University, 2007.

Democratic Republic of Afghanistan, Ministry of Water and Power. "Hydrological Yearbook 1964-1975. Part IV-9 To 13. Murghab, Shirintagab, Sarepul, Balkh and Khulm River basins." Kabul: Water and Soil Survey Department General Directorate of Hydrology, 1975.

Democratic Republic of Afghanistan, Ministry of Water and Power. "Hydrological Yearbook 1976-1978. Part IV. North Flowing Rivers Murghab, Shirin Tagab, Sarepul, Balkh and Khulm." Water and Soil Survey Department General Directorate of Hydrology, 1978.

Dempsey, J., and N. Coburn. "Traditional Dispute Resolution and Stability in Afghanistan." Washington, DC: United States Institute of Peace, 2010.

Dennys, C., and I. Zaman. "Trends in local Afghan conflicts." Kabul: Cooperation for Peace And Unity, 2009.

Deschamps, C., and A. Roe. "Land Conflict in Afghanistan Building Capacity to Address Vulnerability." Kabul: Afghanistan Research and Evaluation Unit, 2009.

Eggertsson, T. "A Note on the Economics of Institutions." In *Empirical Studies in Institutional Change*, edited by L. J. Alston, T. Eggertsson and D. North, 6-24. Cambridge: Cambridge University Press, 1996.

Etzold, B., H. G. Bohle, M. Keck and W. P. Zingel. "Informality as Agency - Negotiating Food Security in Dhaka." *Die Erde* 140, no. 1 (2009): 3-24.

Facius, J. L. "Water scarcity in Tanzania - conflict or cooperation? An analysis of the relationship between institutions and local water conflict and cooperation." Unpublished Masters Thesis, University of Sussex Institute for Development Studies, 2008.

Favre, R., and G. M. Kamal. *Watershed Atlas of Afghanistan*. Kabul: Ministry of Irrigation, Water Resources and Environment, 2004.

Flyvbjerg, B. "Five Misunderstandings about Case-Study Research." *Qualitative Inquiry* 12, no. 2 (2006): 219-45.

Franks, T., and F. Cleaver. "Water Governance and Poverty: A Framework for Analysis." *Progress in Development Studies* 7, no. 4 (2007): 291-306.

Funder, M., R. Bustamante, V. Cossio, P. T. M. Huong, B. Koppen, C. Mweemba, I. Nyambe, L. T. T. Phuong and T. Skielboe. "Strategies of the Poorest in Local Water Conflict and Cooperation - Evidence from Vietnam, Bolivia and Zambia." *Water Alternatives* 5, no. 1 (2012): 20-36.

Funder, M., and C. Mweemba. "Case studies on conflict and cooperation in local water governance. Report No. 11 - The case of the Kumalesha Borehole. Namwala, Zambia." [Unpublished presentation], 2010.

Funder, M., and H. M. Ravnborg. "Addressing water conflicts: Governance, institutions and functions. In *Water and Conflict: Conflict Prevention and Mitigation in Water Resources Management*, edited by H. M. Ravnborg, 31-64. Copenhagen: Danish Institute for International Studies, 2004.

Gang, R. "Community-Based Disputes Resolution Processes in Balkh Province." Kabul: Afghanistan Research and Evaluation Unit, 2010.

Gang, R. "Community-Based Disputes Resolution Processes in Kabul City." Kabul: Afghanistan Research and Evaluation Unit, 2011.

Giustozzi, A. "Respectable Warlords? The Politics of State-Building in Post-Taleban Afghanistan." London: London School of Economics, 2003.

Giustozzi, A. "The Debate On Warlordism: The Importance Of Military Legitimacy." London: London School of Economics Crisis States Research Centre, 2005.

Giustozzi, A., and C. Reuter. "The Insurgents of the Afghan North: The rise of the Taleban, the self-abandonment of the Afghan government and the effects of ISAF's 'capture-and-kill campaign.'" Kabul: Afghanistan Analysts Network, 2010.

- Giustozzi, A., and C. Reuter. "The Northern Front. The Afghan insurgency spreading beyond the Pashtuns." Kabul: Afghanistan Analysts Network, 2010.
- Giustozzi, A. "The Resilient Oligopoly: A Political-Economy of Northern Afghanistan 2001 and Onwards." Kabul: Afghanistan Research and Evaluation Unit, 2013.
- Gunderson, L. H., and C. S. Holling (editors). *Panarchy: Understanding transformations in human and natural systems*. Washington, DC: Island Press, 2002.
- Hauge, W., and T. Ellingsen. "Beyond Environmental Scarcity: Causal Pathways to Conflict." *Journal of Peace Research* 35, 3 (1998): 299-317.
- Hermans, L. M., R. M. J. Kadigi, H. F. Mahoo and G. E. V. Halsema. "Mapping Uses and Competition for Shared Water Resources: Conflicts and Values in Mkoji sub-catchment, Tanzania." FAO-Netherlands Partnership Programme, 2004. Available at http://r4d.dfid.gov.uk/PDF/Outputs/Water/R8064-Hermans_et_al_paper_Loskop.pdf (Accessed June 5, 2013).
- Horst, L. "The Dilemma of Water Division: Considerations and Criteria for Irrigation System Design." Colombo: International Irrigation Management Institute, 1997.
- Huston, S. P. "Management of Water Scarcity and the Application of Conflict Resolution: Cases of India and China." Bradford, CT: University of Bradford, 2006.
- Jones-Pauly, C., and N. Nojumi. "Balancing Relations Between Society and State: Legal Steps Toward National Reconciliation and Reconstruction in Afghanistan." *American Journal of Comparative Law* 52 (2004).
- Kakar, M. H. *Government and Society in Afghanistan: The Reign of Amir Abd al-Rahman Khan*. Austin and London: University of Texas Press, 1979.
- Kantor, P., and A. Pain. "Securing Life and Livelihoods in Rural Afghanistan: The Role of Social Relationships." Kabul: Afghanistan Research and Evaluation Unit, 2010.
- Korf, B. *Conflict, Space and Institutions. Property Rights and the Political Economy of War in Sri Lanka: Volume 19. Institutional Change in Agriculture and Natural Resources*. Aachen: Shaker, 2004.
- Kramer, A. "Water and Conflict - Policy Brief for USAID." Berlin/Bogor/Washington DC: Adelphi Research/Center for International Forestry Research, 2004.
- Kramm, J., and L. Wirkus. "Local Water Governance: Negotiating Water Access and Resolving Resource Conflicts in Tanzanian Irrigation Schemes." Brighton: University of Sussex Institute of Development Studies, 2010.
- Leach, M., R. Mearns and I. Scoones. "Environmental Entitlements. A Framework for Understanding the Institutional Dynamics of Environmental Change." Brighton: University of Sussex Institute for Development Studies, 1997.
- Mehta, L., M. Leach, P. Newell, I. Scoones, K. Sivaramakrishnan and S. A. Way. "Exploring Understanding of Institutions and Uncertainty: New Directions in Natural Resources Management." Brighton: University of Sussex Institute for Development Studies, 1999.
- Mehta, L. "Rethinking Key Assumptions in Natural Resource Management: Drawing Lessons from the Case of Water." Bloomington, IN: 8th Biennial Conference of the International Association for the Study of Common Property, 2000.

- Mehta, L. *The politics and poetics of water: Naturalising scarcity in Western India*. New Delhi: Orient Longman, 2005.
- Meinzen-Dick, R. "Water Rights Issues in Agriculture." In *Issues of Water Management in Agriculture: Compilation of Essays*, edited by S. S. Jinendradasa, 63-67. Colombo: International Water Management Institute, 2003.
- Ministry of Rural Rehabilitation and Development/Central Statistics Organization. "National Risk and Vulnerability Assessment 2007/8: A Profile of Afghanistan." Cologne: ICON-Institute/GmbH and Co KG Consulting Gruppe, 2009.
- Mirumachi, N., and J. A. Allan. "Revisiting Transboundary Water Governance: Power, Conflict, Cooperation and the Political Economy." Basel: Proceedings of the International Conference on Adaptive and Integrated Water Management, 2007.
- Mollinga, P. "Water Control in Sociotechnical Systems: A Conceptual Framework for Interdisciplinary Irrigation Studies." Unpublished paper, 1997.
- Mollinga, P. *On the Water Front*. New Delhi: Orient Longman, 2003.
- Mosse, D. "The Symbolic Making of a Common Property Resource: History, Ecology and Locality in a Tank-irrigated Landscape in South India." *Development and Change* 28, no. 3 (1997): 467-504.
- Mulford, C. L., and D. L. Rogers. "Definitions and Models." In *Interorganizational Coordination: Theory, research and implementation*, edited by D. L. Rogers and D. A. Whetten. Ames, IA: Iowa State University Press, 1982.
- Nixon, H. "Sub-national State-Building in Afghanistan." Kabul, Afghanistan Research and Evaluation Unit, 2008.
- North, D. *Institutions, Institutional Change and Economic Performance*. New York, NY: Cambridge University Press, 1990.
- Norwegian Refugee Council. "The Relationship between the Formal and Informal Justice Systems in Afghanistan." Kabul: Norwegian Refugee Council, 2007.
- Ostrom, E. *Crafting Institutions for Self-Governing Irrigation Systems*. San Francisco, CA: Institute for Contemporary Studies Press, 1992.
- Ostrom, E. "Self governance and common-pool resources." Bloomington, IN: Indiana University Bloomington, 1997.
- Patterson, M. "The Shiwa pastures, 1978-2003: Land tenure changes and conflict in northern Badakhshan." Kabul: Afghanistan Research and Evaluation Unit, 2004.
- Peattie, L. "Theorizing planning: Some comments on Flyvbjerg's Rationality and power." *International Planning Studies* 6, no. 3 (2001): 257-262.
- Peszowski, R. "Reforming Jombesh. An Afghan Party on its Road to Internal Democracy." Kabul: Afghanistan Analysts Network, 2012.
- Phillips, R. S., and A. J. McCulloch. *Gazetteer of Afghanistan Part II: Afghan Turkestan [4th edition]*. Calcutta: Government of India, 1907.
- Rassul, K. "Water Use and Local Conflict: Case Study from Kunduz." Kabul: Cooperation for Peace And Unity, 2011.

Ravnborg, H. M. "Conflict prevention and mitigation in water governance: lessons learned and options available." In *Water and Conflict: Conflict Prevention and Mitigation in Water Resources Management*, edited by H. M. Ravnborg, 5-16. Copenhagen: Danish Institute for International Studies, 2004.

Ravnborg, H. M., R. Bustamante, A. Cissé, S. M. Cold-Ravnkilde, V. Cossio, M. Djiré, M. Funder, L. I. Gomez, J. Koch, P. Le, C. w. Maseka, C. Mweemba, I. Nyambe, T. Paz, R. Rivas, J. Sjorslev, T. Skielboe, B. V. Koppen and N. T. B. Yen. "Competing for water: Conceptual and methodological framework for understanding conflict and cooperation in local water governance." Montpellier: XIIIth World Water Congress: Global changes and water resources: confronting the expanding and diversifying pressures, 2008.

Renger, J. "New Perspectives on Water Management: Rent-seeking in Irrigated Agriculture." In *Reforming Institutions for Sustainable Water Management*, edited by S. Neubert, W. Schuemann and A. van Edig, 51-9. Bonn: German Development Institute, 2002.

Ribot, J. C., and N. L. Peluso. "A Theory of Access." *Rural Sociology* 68, no. 2 (2003): 153-181.

Rogers, P., and P. Lydon. *Water in the Arab World: Perspectives and Prognoses*. Cambridge, MA: Harvard University Press, 1993.

Saltmarshe, D., and A. Medhi. "Local Governance in Afghanistan. A View from the Ground." Kabul: Afghanistan Research and Evaluation Unit, 2011.

Schetter, C., and R. Glassner. "Neither Functioning, nor failing of the State: Seeing Violence in Afghanistan from Local Perspectives." In *From Fragile State to Functioning State: Pathways to Democratic Transformation in A Comparative Perspective*, edited by S. Collmer, 137-56. Berlin: George C. Marshall European Centre for Security Studies, 2009.

Schetter, C., R. Glassner and M. Karokhail. "Beyond Warlordism: The Local Security Architecture in Afghanistan." *Internationale Politik und Gesellschaft*, 2 (2007): 136-153.

Sexton, R. "Natural Resources and Conflict in Afghanistan. Seven Case Studies, Major Trends and Implications for the Transition." Kabul: Afghanistan Watch, 2012.

Smith, D. J., and L. Kim. "Community-Based Disputes Resolution Processes in Nangarhar Province." Kabul: Afghanistan Research and Evaluation Unit, 2009.

Swanström, N. L. P., and M. S. Weissman. "Conflict, Conflict Prevention, Conflict Management and Beyond: a conceptual exploration." Washington, DC and Uppsala: Central Asia-Caucasus Institute/Silk Road Studies Program, 2005.

Tamas, P. "Water Resource Scarcity and Conflict: Review of Applicable Indicators and Systems of Reference." Paris: UNESCO International Hydrological Programme, 2003.

Tanner, F. "Conflict Prevention and Conflict Resolution: Limits of Multilateralism." *International Review of the Red Cross* 82, no. 839 (2000): 541-559.

Tapper, N. "The advent of Pashtun maldars in north-western Afghanistan." *Bulletin of the School of Oriental and African Studies* 36, no. 1 (1973): 55-79.

Thomas, V., A. Osmani and K. Wegerich. "Local Challenges for IWRM in Afghanistan." *International Journal of Environmental Studies* 68, no. 3 (2011): 313-31.

Thomas, V. “‘Good’ water governance models in Afghanistan: Gaps and opportunities.” Kabul: Afghanistan Research and Evaluation Unit, 2013.

Thomas, V., and M. Ahmad. “A Historical Perspective on the Mirab System: A Case Study of the Jangharoq Canal, Baghlan.” Kabul: Afghanistan Research and Evaluation Unit, 2009.

Thomas, V., and N. Eqrar. “Managing Water Resources, Scarcity and Climate Shocks.” In Afghanistan Human Development Report 2011—The Forgotten Front: Water Security and the Crisis in Sanitation. Kabul: Center for Policy and Human Development, 2011.

Thomas, V., W. Mumtaz and M. Ahmad. “Mind The Gap: Local Practices and Institutional Reforms for Water Allocation in the Panj-Amu River Basin, Afghanistan.” Kabul: Afghanistan Research and Evaluation Unit. 2012.

Thomas, V., and N. Sabawon. “Sharing Irrigation Water Equitably.” In Afghanistan Human Development Report 2011 - The Forgotten Front: Water Security and the Crisis in Sanitation. Kabul: Center for Policy and Human Development, 2011.

Thomasson, F. “Water and Local Conflict: A brief review of the academic literature and other sources.” Stockholm: Swedish Water House, 2004.

Thomasson, F. “Local Conflict and Water: Addressing Conflicts in Water Projects.” Stockholm: Swedish Water House, 2005.

Thomasson, F. “What do we know about local conflicts with water components?” San Diego, CA: 47th Annual Convention of the International Studies Association, 2006.

United Kingdom Department for International Development. “Conducting Conflict Assessments: Guidance Notes.” [Unpublished, Undated].

Uphoff, N. Local Institutional Development: An Analytical Sourcebook with Cases. West Hartford, CT: Kumarian Press, 1986.

United States Agency for International Development/World Food Programme. “Afghanistan Emergency Food Security Assessment EFSA Drought Impact Classification, September 12, 2011.” Available at http://reliefweb.int/sites/reliefweb.int/files/resources/map_1346.pdf (accessed 5 June, 2013).

Wade, R. Village republics: Economic conditions for collective action in South Asia. Oakland, CA: ICS Press, 1988.

Waldman, M. “Community Peacebuilding in Afghanistan: The Case for a National Strategy.” Oxford: Oxfam International, 2008.

Wallensteen, P. Understanding Conflict Resolution, War, Peace and the Global System. New York, NY: Sage, 2002.

Wardak, A. “Jirga: A Traditional Mechanism of Conflict Resolution in Afghanistan.” Glamorgan, UK: University of Glamorgan, 2003. Available at <http://unpan1.un.org/intradoc/groups/public/documents/apcity/unpan017434.pdf> (accessed 5 June, 2013).

Wardak, A. “State and Non-State Justice Systems in Afghanistan: The Need for Synergy.” University of Pennsylvania Journal of International Law 32, no. 5 (2011): 1305-24.

Wolf, A. T. “Indigenous approaches to water conflict negotiations and implications for international waters.” International Negotiation: A Journal of Theory and Practice 5, no. 2 (2000): 357-73.

Zeitoun, M., and M. Mirumachi. "Transboundary Water Interaction I: Reconsidering Conflict and Cooperation." *International Environmental Agreements: Politics, Law and Economics* 8, no. 4 (2008): 297-316.

Zeitoun, M., and J. Warner. "Hydro-hegemony: A framework for analysis of transboundary water conflicts." *Water Policy* 8, no. 5 (2005): 435-60.]

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