Irrigation practices, irrigation development interventions, and local politics: Re-thinking the role of place over time in a village in Baltistan, in the central Karakorum

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Joe Hill

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Abstract

This working paper presents a first analysis of irrigation practices and irrigation development interventions in a village located in the central Karakoram, northern Pakistan. The social arrangements that for centuries sustained farmer-managed irrigation systems are seen to have, due to a range of factors, come under increased pressure in recent decades. Yet in the high altitude mountain valleys of the Karakoram, irrigation systems continue to be managed effectively, for without irrigation life in such desert landscapes would be untenable. This research seeks to understand how it is that farming communities continue to sustain their irrigation systems. It focuses on irrigation practices, water rights systems, and irrigation projects and the socio-political context within which they are situated. Field research, using ethnographic and participatory methods, was conducted in spring 2013 in the upper Shigar valley, Skardu district, Gilgit-Baltistan.

The village is shown to have a historically constructed, distinct materiality, embedded in broader sets of historically constituted social relations while simultaneously regulating and mediating contemporary social relations. This is illustrated by a discussion surrounding irrigation practices and related water rights systems, drawing on the work of Coward (1986, 1990) and Schmidt (2000, 2004, 2008). Local politics involves village-based actors, government agencies and local politicians, a non-government organisation which channels European funds into the region, and religious leaders, all of whom exert different forms of territorial power (essentially, control over resources). Cox’s (1998) notion of ‘spaces of dependence, spaces of engagement’ is shown to be a useful conceptual tool for understanding how water users strive to secure the conditions for their continued existence, e.g. by drawing value (capital) towards the irrigation channels within their village. Thus a group of water-users may strive to secure their farmland’s water supply, while a village-based political leader is concerned with his reputation as well as his village’s water supply. Spaces of dependence relate to an actor’s positionality, and the spaces constructed connect differentially positioned and endowed actors via networks of association that span geographically and politically delineated nested jurisdictions.
1. Introduction

Irrigation is central to agricultural production in the high mountain valleys of the Karakorum because of a severe deficit of rainfall; in valley bottoms rainfall is estimated at less than 150 mm per annum (Schmidt, 2009: 21). The function of irrigation, or more generally water control, in high mountain areas like the Karakorum is, therefore, to provide total irrigation to crops. Irrigation water is supplied to farms and orchards mostly by gravity-flow offtake systems, developed to utilize melt water from glaciers or snow fields, and/or spring water (slope offtake systems), and less frequently river water (river valley offtake systems). The purpose of irrigation is to supply water for plant growth including grains, fruits and vegetables, herbs and shrubs, fodder and trees, most of which have multiple uses (e.g. human consumption or sale, animal feed, construction). Besides supplementing crop water requirements, irrigation protects against frost and low temperatures, and assists early planting in relation to climatic conditions (Vincent, 1995: 15-31). Vincent, who made a comprehensive review of irrigation in mountainous regions, defines an irrigation system as a sociotechnical system, as “the entire body of works involved in the practice of irrigation – the water extraction technology, conveyance canals, control structures and local distribution technology. The term encompasses both the physical infrastructure of works and also the social infrastructure of rules and procedures that ensures the operation of technology and the delivery of water” (1995: 34).

The irrigation literature is multi-disciplinary, and includes engineering, political science, management science, economics, geography, sociology, anthropology. Guijt and Thompson (1994) rightly observed, twenty years ago, that the irrigation literature has been preoccupied with engineering issues and/or management issues. Historically the application of irrigation was guided by the discipline of engineering, whose literature includes hydrology, hydraulics, construction, agronomy. This discipline sought and developed a form of technical knowledge based on practical instrumental rationality and orientated towards the technical control of water and other physical processes involved in agricultural production. More recently, since the 1970s, the social science disciplines of economics, management and political science became influential in the professional irrigation sphere. The mainstream discourses within these disciplines have in common their emulation of the natural sciences in their quests for universals and the production of a scientific knowledge invariable in time and space, thus context-independent, and based on analytical rationality (Flyvbjerg, 2001). In the field of irrigation research, social scientists developed models that sought to command or manage water-users’ behaviour (organisational control of water) to improve irrigation management. Boelens et al. have shown that under such a management framework, “laws, rules and institutions have…to be engineered by knowledgeable specialists – social engineers – in the same way that hydraulic infrastructure has had to be designed by civil engineers” (Boelens et al., 2005: 9). Combined with its engineering roots, contemporary irrigation policy has been shown (by more critical, interdisciplinary scholars) to be guided by an instrumental rationality in its addressing of water control problems, the result of which has been the promotion of standardised solutions that are assumed to have general applicability, hence transferability (Boelens, 1998, Vincent, 1995: 124).1

Yet solutions, be they water-related policy measures or intervention practices, to be effective, have to be accepted and adopted in local settings of water use and water management. Sociological and anthropological (including legal anthropological) research has highlighted the centrality of context,

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1 Hill 2008, Chapter 2, reviews the engineering and management paradigms in irrigation.
of power relations, and of identities, norms and values in irrigation development, management, and usage (Boelens and Davila, 1998, Boelens and Hoogendam, 2002, Mosse, 2003, Roth et al., 2005). This discourse suggests a third form of control inherent to water, that of the socio-economic, socio-legal and political. As Guijt and Thompson point out, irrigation fits into rural people’s *broader* livelihood strategies, thus irrigation must be redefined as a means to an end, and not an end in itself: “An...analysis of irrigated agriculture...confronts the reductionist model of science that says we must study irrigation management as something separate from other activities and endeavour’s of people’s lives” (ibid.: 295). Indeed, by 1980 Coward had already proposed, with respect to farmer-managed irrigation systems, that “irrigation as a mode of agricultural production can be viewed as a sociotechnical adaptation to particular habitat features and population characteristics” (Coward, 1980: 21). Coward also developed the concept of *hydraulic tenure*, which explains why the normative and organizational arrangements required for irrigation management reflect the underlying property grid formed during initial construction: rights and obligations are developed during construction, and reproduced through the use and maintenance of systems (Coward, 1986).

Coward’s theoretical work in the field of farmer-managed irrigation is significant. His study of irrigation systems in the Himalayan foothills (Coward, 1990) is of direct interest to this research because it examines the relationship between irrigation rights recorded by the British in the nineteenth century and the management of irrigation systems in the 1980s, and the involvement of an irrigation agency in attempts to improve these irrigation systems. Much of Coward’s work is nowadays considered common sense knowledge in both academic and practitioner circles. For example, that rehabilitation efforts in irrigation ought to recognise pre-existing patterns of hydraulic property rights (which reflect a pattern of prior investment), and that indirect investment approaches to irrigation development are more likely to be effective and sustainable than direct investment approaches (Coward, 1986). Yet in practice, government agencies continue (for cultural and other reasons) to operate largely in an engineering, top-down mode while non-government agencies, for a variety of reasons including donor-funding cycles, work in an instrumental manner, believing that a one size fits all ‘participatory’ model can adequately engineer the necessary rules and institutions for intervention projects to succeed.  

For farmer-managed irrigation systems to continue to function year after year, regardless of whichever agencies or projects come their way water users must themselves maintain control of and carry out multiple, overlapping tasks including establishment and enforcement of regulations, distribution of water, operation of hydraulic works, maintenance of infrastructure, mobilisation and administration of resources, and alliance building and networking (Beccar et al., 2002: 14). For two decades now it has been recognised that changes induced by globalisation processes, but also by administrative changes introduced by colonial and postcolonial governments (see Sengupta, 1985, Vincent, 1995), such as individualism, factionalism, and commercialism, have exerted negative effects on traditional institutional mechanisms for the collective management of resources in mountain areas (Jodha et al., 1992). Yet despite these changes, particular social conditions have to continue to be fulfilled for irrigation systems to continue to work effectively (Boelens, 1998). It

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2 “Knowledge and power also determine how access to these [land, water, labour, capital] production factors are managed, how technologies evolve and how benefits are obtained” (Vincent, 1995: 75).

3 Hill, 2008 includes a focus on the irrigation interventions of a prominent NGO. It appears common that in its early years an NGO will work hard to develop plans with farmers, but in later years a standardised model will be imposed upon farmers, with the belief that such an approach is participatory and appropriate.
seems peculiar, and is perhaps exceptionally significant, that in the high elevation desert landscapes of the Karakorum and neighbouring mountain regions, irrigation systems continue to be successfully managed despite the pressures brought to bear on local communities. So how do villagers organise themselves to maintain infrastructure, to build alliances and networks to mobilise the resources necessary to keep value (capital) flowing into their villages? This research seeks to understand this from a local perspective, for water users living in Shigar valley, Baltistan, in the Karakorum.

The body of literature regarding farmer-managed irrigation in the Karakorum (and Hindukush) generally treats mountain agricultural systems in a holistic manner. In the 1980s several innovative studies were conducted, documenting for perhaps the first time the conditions under which irrigated agriculture is practised (Allan, 1987, Kreutzmann, 1988, Vander Velde, 1989). In the 1990s the Pakistan-German research programme ‘Culture Area Karakorum’ (e.g. Dittmann, 2000) generated a large pool of studies in the Karakorum’s villages and valleys focussed upon human geographical research problems, with several of these studies touching upon irrigation (Fazlur-Rahman, 2000, Holdschlag, 2000, Polzer and Schmidt, 2000). Kreutzmann’s edited book *Sharing Water* (2000), brought together in a single volume independently conducted research studies from across the Himalaya, the trans-Himalaya, Karakorum and Hindukush regions. For example, Schmid (2000) provides an account of a minority group’s unsuccessful legal attempts to gain access to water in Hunza, and Labbal (2000) details village-level irrigation management arrangements in Ladakh, showing that while landholding and social status are unequal, access to irrigation water is equitable. Limited research work (not including annual reports) appears to have been commissioned in recent years by the Aga Khan Rural Support Programme (AKRSP), the organisation which singularly dominates the non-governmental development sector in northern Pakistan (Wood et al., 2006a)⁴. Studies describing AKRSP’s work in its earlier period (late 1980s, 1990s) do so in an uncritical manner, from a practitioner’s viewpoint, and generally describe the approaches’ successes (e.g. Khan and Hunzai, 2000, chapters in the Wood et al., 2006 edited volume, Fazlur-Rahman, 2007).

As a whole, research in Pakistan’s Gilgit-Baltistan has hardly examined the socio-political context within which irrigation is practised and government and non-governmental development projects are situated; and there has been a disproportionate focus on the geographically relatively small and socio-politically rather distinct Hunza region. One (partial) exception is the work of Schmidt, which read together gives a good overview of the more recent socio-political history of Shigar valley, Baltistan (Polzer and Schmidt, 2000), as well as natural resource management including that of irrigation management (Schmidt, 2004, Schmidt, 2008). Schmidt’s work does not, however, provide details of the strategies deployed by farmers to mobilise resources for their irrigation channels.

With reference to ‘concerted social action to advance alternative imaginaries’ (termed contentious politics), Leitner et al. (2008) show that the construction of political alliances requires engaging with differently positioned individuals/organisations via networks of association. This requires the spatial/social mobility to cover multiple and overlapping geographically and politically delineated boundaries or jurisdictions⁵. These engagements occur in places that can be understood to have

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⁴ At AKRSP’s Skardu office several hours were spent going through the poorly maintained Resource Centre (Library). No studies related to irrigation could be found.

⁵ By spatial mobility, I mean the ability to physically move across distances. By social mobility, I mean having in one’s possession sufficient capital (in the Bourdieun sense) to be able to enter certain social spaces, to engage
historically constructed, distinct materialities that regulate and mediate social relations (Leitner et al. 2008), but that are also relationally constituted and embedded in broader sets of social relations (Jessop et al. 2008). Places can be viewed as multilocal in the sense that they shape and express polysemic meanings for different users (Rodman (1992) uses the example of a single landscape). Places, and indeed contentious politics, are thus seen to have a materiality which has socio-spatial effects: agency is not located solely with humans but distributed across the more-than-human world (Latour, 2005, Leitner et al., 2008). Thus places are not solely ‘territorial spaces’, nor is it sufficient to analyse the connectivity of people and places across space/time with the concepts of scale and territory alone (e.g. distance, relative location, accessibility, situation). Inspired by the examples provided by Leitner et al. (2008), Sheppard (2002) and Jessop et al. (2008), this research seeks to utilise several interdependent and co-implicated sociospatial concepts in its analysis.

More specifically, the conceptual framework combines an actor-orientated approach with Cox’s (1998) notion of ‘spaces of dependence’ and ‘spaces of engagement’. An actor-orientated approach allows for an explicit exploration of water-users’ organisational capacities, strategic actions and social practices (Arce, 1998). Actors are seen to “often follow fragmented organising strategies, without collective projects ever becoming crystallised. They work with one set of actors and then another, develop strategies and change them in the course of action” (Nuijten, 2003: 11). This approach can explain differential responses to similar structural circumstances, even where conditions appear relatively homogenous (Long, 1992). Social action is seen to be shaped by routine and explorative organising practices, and bounded by certain social conventions, values and power relations (Long, 2001). Actors are sociospatially positioned within certain (social and physical) contexts, thus their actions are constrained and enabled by factors beyond those relating to their own agency. Village communities are seen as heterogeneous bodies comprised of social actors having differing, often conflicting, perceptions and claims over irrigation and other resources. This recognition of contextual constraints allows for the possibility of irrigation management practices to be viewed as elite-driven, exclusive, messy and conflict-ridden; a move away from a common property resources (or management framework)-type stance on collective action or a structural-functionalist stand on (formal) irrigation institutions (see Spiertz, 2000).

The notion of ‘spaces of dependence, spaces of engagement’ developed by Cox is utilised to analyse how water users (strive to) secure the conditions for their continued existence within their village (in this case, and due to changing social relationships at the local-level, by drawing value (capital) towards their irrigation channels). The political geographer Cox (with Mair), drawing on Harvey’s theorisation of the tension between spatial fixity (e.g. infrastructure) and mobility of capital, in 1988 formulated the intermediate level abstraction of ‘local dependence’ in order to suggest how space can make a difference to processes of capital accumulation (Jonas and Wood, 2012). In 1998 Cox distinguished ‘spaces of dependence’ from ‘spaces of engagement’. Spaces of dependence define place-specific conditions for material well-being and sense of significance, and comprise more-or-less localised social relations upon which the realisation of essential interests are located. Value must be made to continue to flow through such spaces if place-dependent interests are to be

in conversations and form networks of significance. Needless to say, a poor villager cannot afford to travel, nor intermingle on equal footing with those having decision-making powers.

6 Note here, that actors include irrigation channels, water sources, etc. The sociospatial positionality of such artefacts impacts, for example, their usefulness for villagers, how much attention will be directed to them, but they are also constrained by factors far beyond their sphere of influence, e.g. global warming.
realised. Spaces of engagement are constructed by people who strategically organise in order to secure the conditions for the continued existence of their spaces of dependence (Cox, 1998). Discussing the politics of space, Cox observes that spaces of dependence occur at diverse scales (and for some actors they may be multiple), and their boundaries may be blurred. The ability to realise local interests is critically conditioned by the ability to exercise territorial power, a power which Cox notes is not exclusive to the state (and its various agencies), although state power tends to underpin (through permitting, legitimising, enforcing) other actors/agencies’ power. Networks of association are constructed to influence state (and other) agencies or actors (centres of power), and such networks can facilitate ‘scale jumping’ if such a form of mobilising is required. Actors’ objectives are realised by drawing in those centres of power that have decision-making capacities, however it is important to note that centres of power have a diversity of forms and interests (such that alliances may be formed between those who have different ends but who share an interest in particular local conditions, e.g. politicians interested not so much in an outcome, but rather in their continued support from constituents). Cox concludes that the relation between spaces of dependence and of engagement is thoroughly contingent.

This section has introduced the rationale of this study and the theoretical underpinning of the planned analysis. In section 2 I introduce the research experience and methods employed during fieldwork in Baltistan in 2013. Section 3 presents a sketch of Thurgu’s location, socio-political structure, the livelihoods and education of its inhabitants, agriculture and the irrigation channels that form its lifeline; and includes an analysis of water management, contrasting the rights recorded 100 years ago with present-day practices. Section 4 provides a brief history of administrative and political developments in the Shigar valley and in Tisar Union Council. Section 5 discusses irrigation interventions sanctioned by three different agencies (the PWD, LG&RD, and AKRSP), showing that these projects are not implemented in a participatory and problem-free manner, but are rather the sites of power struggles and contestations over their content and meaning. Section 6 presents a discussion and section 7 concludes.

2. The field research experience, and field methods employed

Qualitative field research was undertaken in Skardu district, Gilgit-Baltistan, between mid April and late May 2013. Following visits to several valleys, two villages were independently and purposively selected for intensive study. The decision was made keeping in mind the villages selected for field research in 2012 in mountain valleys of the Tajik Pamir and Kyrgyz Alai. Furthermore, after completing fieldwork in Baltistan, I travelled via Islamabad, Lahore, the Wagah border, Amritsar and Srinagar, to Ladakh, where I undertook field research in Kargil district (June-July 2013). The four research sites can be seen in Figure 1. For each of the sites, I had about six weeks to conduct my work. This allowed me just three weeks of village-based work, for the remaining time was taken up finding research assistants, selecting study villages, and interviewing government and non-government agencies’ staff.

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7 “The goal [of territorial power] is to control the actions and interactions of others both within and between respective spaces of dependence; the means is control over a geographic area” (Cox, 1998: 7).
8 Importantly, it is noted that scale jumping need not necessarily mean a jump from smaller to larger, but can be in the reverse direction too, i.e. it can mean the construction of more global networks of association or a strategy of a more localising kind (Cox, 1998: 7).
Here I convey some of the difficulties I experienced during field research in Pakistan. I do so because it provides important context to the overall study, and highlights the perseverance a researcher...
must possess when seeking to undertake an independent inquiry in such an environment. I flew from Islamabad to Skardu because on the overland route, in Diamer district, several hundred of Baltistan and Gilgit’s Shia inhabitants have been murdered in the past few years and I did not want to risk my life (Hunzai, 2013, Parwana, 2012). I had to wait six days for my flight, cancelled as it is on most days due to the weather, thus losing one of my six weeks. Arriving at Skardu airport, I felt a tap on my shoulder before I had even collected my baggage from the conveyor belt. A plain clothed man in an agitated state asked me why I had come to Skardu. I was taken aside and interrogated, and felt quite shaken up while travelling from the airport to Skardu town. On the second day I was visited at the hotel by plain clothes officials, one from the airport, who without introduction again wanted to know my plans. I told them my profession, and showed them our project’s (Crossroads Asia) webpage on my laptop. These officials continued to visit me throughout my stay, and I struck up a certain relationship with them. In the first few days I interviewed several research assistant candidates, the majority completely unsuitable. I met my first assistant, who I hired for one week on a trial basis.

On my fifth day in Baltistan I travelled to Shigar, a sub-divisional head-quarter of Skardu district, and the only settlement of significant size in Shigar valley, and stayed for a night in one of its two hotels. I wanted to locate a research site comparable to my site in the Tajik Pamir. I discussed the matter with hoteliers and Aga Khan Rural Support Programme (AKRSP) staff who passed by the hotel, and together we thought that Dassu union council in Braldu valley might be appropriate (see Figure 2). My assistant arrived at noon the next day, and we set off after lunch to Dassu. I rode pillion, my luggage weighing my back down, causing me discomfort. We were about to reach at dusk, but all of a sudden an army checkpoint that nobody had mentioned came into view. The courteous officers said we could not pass without official permission. After they served us tea, we set off back to Shigar, which took four hours due to a puncture incurred on the way. On the seventh day we returned to Skardu. I went to the AKRSP office to discuss my work plan with the Regional Programme Manager.

On the eighth day we took a public vehicle from Skardu to Chutron, passing through several check points. In Chutron we stayed at a government rest-house constructed besides the well-known natural hot spring baths (see Azhar-Hewitt, 1998). I was later shown an old photograph (its origin is unknown) which had been taken at Chutron some 60-80 years ago, in which men and women can be seen bathing together, fully clothed. Times have changed drastically in Baltistan, partly due to the region’s administration by Pakistan. In the five weeks I spent in Baltistan I spoke to just five or six women, and only once in one of the two research villages did I talk with females; for women and girls have been taught to look away from male outsiders, and men do not allow their female household members to interact with male outsiders. Interestingly, on one occasion when my assistant had gone to pray, leaving me on a roadside, a man called me over to his house and invited me in. I assumed, from the look of his tiny wooden home, that his was one of the poorest households in the village. The man allowed his wife, daughter and mother-in-law to talk with me, and they eagerly asked me a whole range of questions. For me it was a relief, for having grown up in Europe surrounded by women, and having an equal number of female to male friends, I was quite fed up with being surrounded by men, especially because they showed little interest in me and my work. By comparison, I could only meet my host in the village’s female family members once or twice, and by chance. To extend the comparison, in Ladakh’s Kargil, which is also Shia Islamic, the women of my research village crowded round me in open spaces, and freely talked and joked with
me. This serves to illustrate that the *pardah* (seclusion) women and girls must obey in Baltistan is but a cultural-political construct of recent times. It also meant that as a male, European researcher I could not interact with half of the local population.

Over the next three days my assistant and I walked across the Union Council, visiting each of its six villages, with the result that I decided to select Thurgu and Niesolo as my case study villages. We stayed in Thurgu on the last night, having met with one of the village’s two political factions’ leaders, a Sheikh who agreed that I could do my research in his village. Sheikhs, according to Rizvi who studied the Balti of Kargil in the mid-1970s (Rizvi, 1974, 1993) are indigenous priests by virtue of their theistic accomplishment in *madrassas* in Iraq and Iran. They differ from Aghas, who are Syeds by birth. Rizvi’s description holds true for the Sheikhs of Skardu (and Kargil) in the present-day. By the evening of the eleventh day I had realised that I could not continue my work with my assistant. He had trained in the tourism sector, and walked around the villages getting local people to take his photo with his camera. Of the wazir class (historically advisors to the *raja*), he felt himself superior to the villagers, an attitude that he could not recognise, change, and that I felt hindered our work. Satisfied that I had made huge progress, on the twelfth day we took a shared taxi to Skardu.

In Skardu the next day, I informed my assistant that his one week trial period was over and that I had decided not to work with him. Within an hour of his departure, two plain clothed men came to the hotel demanding to know what I was doing. I had been teaching at the GC University in Lahore for a second year running in March 2013; and prior to my departure to Pakistan had been too busy and disorganised to have sent off my passport in time to request a research permit. I had therefore made the trip to Baltistan with the thought in mind that it was only for a short time period, and that it should not matter. At the office of the Deputy Commissioner I explained my position. Upon my request, he agreed that it might be possible to gain a temporary No Objection Certificate (NOC) in Gilgit. The next day I travelled to Gilgit, and met the Home Secretary. I explained my predicament and the academic work I had undertaken in Lahore, and he kindly agreed to issue me the NOC for a three week period. On my fifteenth day in Baltistan I returned to Skardu. The next day, accompanied by my new assistant, a young BA English graduate from Shigar valley, I travelled to upper Shigar valley’s Tisar Union Council where I stayed for a two week period. Mentally exhausted, I was happy to begin my field research work.

In Tisar Union Council I stayed in Thurgu village for one week, then Niesolo village for the second week. I selected these two villages purposively: Thurgu is located on the left bank of the Basha, opposite Chutron, its settlement and farmland positioned on a steep hillside; whereas Niesolo’s settlement and much of its farmland sits on an alluvial fan, on the right bank of the Basha, further up the Basha valley. When feeling ill one day in Thurgu, I visited Chutron to bathe in its hot spring water. To relax for a day in between the village stays, my assistant and I hiked up the Basha valley to Bisil to bathe at its famous hot spring, stopping over for a night at a government resthouse. These trips were important for catching a glimpse of life in the valley, to talk to villagers and government employees, and to meet regional travellers who come to Basha valley to bathe in the hot springs, the water of which is said to have health benefits. In the villages a case-study approach to irrigation systems was pursued. Observations were noted and informal interviews carried out while walking across the villages to map and understand their complex network of irrigation systems and the farmland each channel served. Participatory Rural Appraisal (PRA) techniques of mapping and timelines were used to create detailed maps of the villages and to discuss village histories: a group
meeting in a public space was called, large sheets of paper and pens were provided, villagers were encouraged to participate, and I attempted to observe while my assistant facilitated the process. In-depth interviews were carried out at people’s houses. However we were unable to interview all the people we wanted to due to time constraints. Outside of the selected research villages, in Shigar and in Skardu, we interviewed AKRSP staff, local government officials, elected politicians, and bureaucrats. In Skardu we were able to check and make a record of the villages’ record-of-rights, although the patwari (land record officer) was not helpful. This working paper focuses on the research findings from one of the two selected villages, Thurgu.

3. Thurgu village: location and socio-political structure, livelihoods and irrigation systems

Location and socio-political structure

Geographically Shigar valley can be divided into three parts, the narrow Braldu valley (its villages ranging in elevation from 3050 m to 2530 m), the relatively narrow Basha valley (2780 m to 2450 m), and the much wider, downstream Shigar valley (2450 m to 2300 m) which goes on to meet the Indus river at Skardu (Polzer and Schmidt, 2000: 180). Thurgu village is located on the left bank of the lower Basha valley (see Figure 29). A century ago, at the time of Skardu’s second regular settlement, the settlement officer Thakar Singh (Singh, 1913a: 5-8) classified the tehsil’s10 199 villages (termed ‘estates’) into four classes according to climate, crops and fruits production. Singh placed Thurgu village in the third class category: where agriculture is more difficult, fruit is poor and consumed at home, the estate being not easily accessible. Thurgu is located across the Basha River from Chutron. The main road from Skardu and Shigar passes through Chutron and continues up the right bank of the Basha River. Thurgu, therefore, continues to be difficult to access: four to five small bridges, often no more than logs fastened together with cloth and supported by rocks, must be crossed when travelling by foot from Chutron to Thurgu, a journey that takes at least 30 minutes. The alternative route is via a road whose construction began in 1998 (funded by AKRSP, later widened by the government) up the Basha’s left bank, which connects the relatively new village of Hyderabad (to which the residents of Mango relocated) at the mouth of the Braldu, with the villages on the Basha’s left bank. However very few vehicles travel along this road, meaning that the Basha River must often be crossed by foot to reach Thurgu. In the summer months when melt water bloats the Basha, such a crossing is not possible.

9 This map is reproduced with the kind permission of Matthias Schmidt.
10 A tehsil is the administrative unit below the district. The tehsildar (the chief clerk of land records) has several patwari (the lowest state functionary charged with maintaining land records) working for him.
Thurgu revenue village falls in Tisar Union Council, which comprises six revenue villages: Tisar, Chutron, Hamasil, Niesolo, Demal and Thurgu (all can be seen in Figure 2). Thurgu revenue village includes Thurgu, with about eighty-five households, and a hamlet called Zing Zing, located about 1 km away, with eight households (see Photo 1). The eighty-five households of Thurgu belong to three lineages (*qaum*), the Hungo-pa, Zhirka Khor-pa and the Ghorza Khor-pa. In 1913 AD, according to the
village revenue records (Singh, 1913b), Thurgu had 52.4 hectares of land (1047 kanal) including 27.8 hectares of cultivated land\(^{11}\). When asked, the patwari gave almost identical figures for the present-day. Yet it seems improbable that in 100 years no extra land has been colonised. During field research newly developed plots of land were observed. One therefore assumes that the patwari does not know the area irrigated because he and his predecessors have not calculated it. For Niesolo village in Tisar Union Council, the patwari provided more plausible figures: 38.2 hectares (of 67.2 hectares) is presently cultivated, as compared with 27.1 hectares (of 58.8 hectares) in 1913 AD.

**Photo 1: Thurgu village (left) and Zing Zing hamlet (right), with the Basha River in the foreground**

All the six revenue villages in Tisar Union Council (UC) differ in their physical characteristics, such as steepness of slopes, relative relief, aspect, dissectedness of landscape, and elevation of farmland and irrigation headwork; all of which are important factors for agricultural production. However they share some physical qualities, such as low rates of precipitation in the valley bottom, and socio-cultural characteristics, such as religion and language. Table 1 provides data for Thurgu village.

Regarding the religion of Tisar Union Council’s inhabitants, Shia Islam is practised. Rizvi (1993) studied the Shia Islamic Balti of Kargil district in the mid 1970s. Although his research villages fall on the Indian side of the Line of Control, his study took place just three decades after partition, and his hierarchical typology of social status continues to fit well with that observed in Shigar valley (Table 2). Rizvi (1993: 41-43) distinguishes Agha, the Syed clergy, who have an ascribed status by birth, from Sheikh, Akhun, Haji and Saget, who have an achieved social status. Sheikhs are autochthonous priests by virtue of their theistic accomplishment in madrassahs in Iraq and Iran. Rizvi observes that they take an interest in day-to-day socio-economic activities in their villages and their families, and are greatly respected by their fellow villagers. Akhuns, who do not go abroad to study, are likewise respected. Haji refers to commoners who return from visiting the tombs of Imams and members of

\(^{11}\) 20 kanal equals 1 hectare; 8 kanal equals 1 acre.
the Prophet’s family situated in Iraq, Iran and Syria, and not necessarily from performance of the Haj pilgrim at Mecca. Hajis enjoy a relatively higher social prestige vis-a-vis the farmer, and usually belong to the economically well off section of the village population, as considerable expenditure is involved in making the pilgrimage. Rizvi makes the observation (1993: 46-47) that mobility is neither decided by birth nor by tradition, that achievement of higher status through Islamic learning is possible to all. Mobility among the groups is unidirectional and upward, and reverse movement is very difficult if not impossible. Besides the group categories mentioned, the Baltis are also divided by lineage groupings (phospone, or qaum) on the basis of a shared common ancestor; these close-knit groups “characterised with the spirit of co-operation and comraderie” (Rizvi, 1993: 48).

**Table 1: Basic characteristics of the research**

<table>
<thead>
<tr>
<th>Research village / Valley</th>
<th>Thurgu / Basha valley, in upper Shigar valley</th>
</tr>
</thead>
<tbody>
<tr>
<td>Union Council / Sub-division</td>
<td>Tisar / Shigar</td>
</tr>
<tr>
<td>District / Region</td>
<td>Skardu / Baltistan</td>
</tr>
<tr>
<td>Province / Nation-state</td>
<td>Gilgit-Baltistan / Pakistan</td>
</tr>
<tr>
<td>Water sources for irrigation systems</td>
<td>Snowmelt (khachu), spring (chumikchu)</td>
</tr>
<tr>
<td>Type of irrigation systems in Thurgu</td>
<td>Slope offtake (combined with reservoirs in Zing Zing)</td>
</tr>
<tr>
<td>Local name for irrigation channel</td>
<td>Hrkong, hrka (also kuhl)</td>
</tr>
<tr>
<td>Range of length of channels (km)</td>
<td>0.5 – 8</td>
</tr>
<tr>
<td>Irrigated farmland altitude (MASL)</td>
<td>2400-2580</td>
</tr>
<tr>
<td>Channel headwork altitude (MASL)</td>
<td>2450-3800</td>
</tr>
<tr>
<td>Estimated annual precipitation (mm)</td>
<td>&lt;150 mm in valley bottoms</td>
</tr>
<tr>
<td>Number of cropping seasons</td>
<td>One, starts April (if second crop, for fodder production)</td>
</tr>
<tr>
<td>Dominant cropping system</td>
<td>Wheat-barley-grass</td>
</tr>
<tr>
<td>Ethnicity / Religion / Languages</td>
<td>Balti / Shia Islam / Balti, Urdu</td>
</tr>
</tbody>
</table>

Source: Compiled by the author. Altitudes estimated from Google Earth (2013); estimated annual precipitation from Schmidt, 2009; other information obtained during field research.

**Table 2: Hierarchical typology of social status among the Balti of Kargil**

<table>
<thead>
<tr>
<th>Ascribed status</th>
<th>Agha</th>
<th>Syed clergy</th>
<th>Trained abroad</th>
</tr>
</thead>
<tbody>
<tr>
<td>Achieved status</td>
<td>Sheikh</td>
<td>Non-Syed clergy</td>
<td>Trained abroad</td>
</tr>
<tr>
<td></td>
<td>Akhun</td>
<td>Indigenous clergy</td>
<td>Trained in country</td>
</tr>
<tr>
<td></td>
<td>Haji</td>
<td>Returned pilgrims</td>
<td>Pilgrims to Iraq and Iran</td>
</tr>
</tbody>
</table>

Source: Rizvi, 1993

Thurgu is divided into three main mohallas (neighbourhoods), has three mosques, a primary school and a two-roomed hospital building that has never had a doctor, dispenser or medicines. Its population is divided into two groups/factions, each led by a Sheikh and supporting one of Shigar valley’s two political (party) leaders. One of Thurgu’s Sheikhs (XX) originally hails from Zing Zing, the villagers of Thurgu having provided him homestead and farmland in their village in return for his theistic services. Sheikh XX continues to own land and maintain relations in Zing Zing, his daughter

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12 Data sources: altitudes estimated from Google Earth (2013); annual precipitation (estimated) from Schmidt 2009; other information obtained during field research.


14 To not reveal the identities of respondents, a code is used e.g. AA, ZZ.
having married a young man there in 2013. The other Sheikh (YY) was born and lives in Thurgu but conveys his teachings in Tisar village. Islam is strongly practised in the village and in Bash village more generally, with long established networks extending to Karachi, Lahore, Iran and Iraq. For example, a group called Akbaria, run by Islamic students of the village based in Karachi and Lahore, recently sold 150,000 Pakistani rupees (~1,150 Euro)\(^{15}\) of wood to fund construction of a mosque.

**Livelihoods and education**

Agriculture, animal husbandry and nonfarm employment (such as portering, wage employment in road construction projects, or seasonal migration) comprise the mainstay of livelihoods in Thurgu and the surrounding villages. Mining for marble, mica and other minerals is a common livelihood in neighbouring villages, such as Chutron and Niesolo, however Thurgu has no such deposits. Thurgu has just two government employees: one a second grade army employee, the other a first grade sweeper at the primary school. In contrast, we were told, Chutron has one or more government employee in each and every household. As stated in Polzer and Schmidt (2000: 206), since Thurgu and other villages in Shigar valley are situated close to the highest peaks of the Karakorum (most notably K2), mountaineering expeditions and trekking tours offer the local population opportunities for earning cash. Indeed, Thurgu’s men work for companies that take outsiders on slow treks of between 15 to 30 days, and faster expeditions of between two and 24 days. Payment is made according to the number of stages (parao) travelled, at a 2012 rate of 500-600 Pakistani rupees (~4.7 Euro) per parao. One parao takes about two-three hours to cover, while the sardar (leader) receives twice the payment of porters. A journey from Askole (upper Braldu) to K2 base camp covers 11 parao, which earns a porter 5,500 Pakistani rupees (~51 Euro). Porters are not remunerated for their return journey. Respondent AA worked as a porter five times in 2012, with expeditions of Chinese, USA and Pakistani climbers. He earned about 25,000 Pakistani rupees (~212 Euro) in total. He has done so for 10 years, and his brother for 7-8 years; though his brother only goes once or twice in a year. Together they can earn about 30-35,000 Pakistani rupees (~275 Euro in 2012) in a year.

Many of Thurgu’s men migrate for work. Currently Khushab in Punjab is a common destination. One former Union Council representative for Thurgu, respondent BB, says each year he migrates for 4-7 months to Islamabad, Rawalpindi, Karachi, Khushab or Gilgit, leaving Thurgu at the onset of winter. He travels in a party of between five and 50 men. In 2012 he went to Khushab for six months, to work in coal mines 1200 ft underground, where he can earn 6,000-8,000 Pakistani rupees (~60 Euro) per month, his living costs amounting to 1,500-3,000 Pakistani rupees (~20 Euro) per month. He can bring home about 30-35,000 Pakistani rupees (~280 Euro). The eldest son of another respondent (CC) went to Khushab in March 2013 for three months. Last year he spent one year there. He earns 10-12,000 Pakistani rupees per month, and brings home about 40-50,000 Pakistani rupees (~380 Euro). Others were unable to earn as much, and do not plan to return. The barapa (also lurapa, employed by the village community to watch over crops to protect them from free-grazing livestock) went to Khushab in 2012 for ten months, and brought home just 10,000 Pakistani rupees (~85 Euro). For fear of sectarian violence, both respondent BB and the barapa took return flights from Skardu to Islamabad in 2012, costing 11,000 Pakistani rupees each way, reducing their take-home money. The son of our host (respondent DD) worked in Khushab three years ago and has suffered from ill health.

\(^{15}\) Rates taken from xe.com are used to convert amounts mentioned in the text from Pakistani Rupees to Euros. For example, here the rate given for 30th December 2012, of 129 Pakistani Rupees to 1 Euro is used. A table showing the exchange rates used in the text is given at the end of the paper.
ever since: he says he was caught in a gas leak while working underground, and to this day suffers from weakness. Migration is not a new phenomenon. Born in 1950, respondent EE told us that he left for Karachi at the age of 22. He worked in a textile mill for five years then returned home in 1977-1978 because identity cards were being issued in Baltistan. Migration of the Balti to Jammu, Kashmir, and via Ladakh to Simla was documented by Drew in 1875 (Drew, 1976 [1875]: 358-359).

Thurgu’s population is poorly educated: four to five have passed Matric level, one or two have studied at Intermediate level; otherwise the people are largely illiterate. Those who attend high school, mostly boys, have to walk to Tisar. Thurgu’s primary school has just one teacher, recently transferred from the village Doko. The teacher was hopeful his school would soon be upgraded from primary to middle standard, and showed us a letter from the Director of Education, Baltistan Region, stating that on the demand of the Member of Legislative Assembly (MLA) Raja Azam Khan, five primary schools (including Thurgu’s) and two middle schools would be upgraded, and eight new primary schools opened. Two weeks later in interview Raja Azam Khan suggested it would be difficult to upgrade Thurgu’s school from primary to middle because it only has 37 students. He believes one teacher is enough for 40-45 students, though there should be two teachers for every primary school. Although I do not have statistics for household size, it can safely be estimated that many primary school-aged children in Thurgu (with 85 households) are not attending school. For example, respondent BB lives with his wife, four daughters and one son. His eldest daughter is 13 years old, studied to class 3 only, and has spent the past three years studying the Koran at the village madrassah. His second daughter, in class 2, will soon leave school to read the Koran.

Early writers on Baltistan observed that with their adoption of Islam the Balti dropped the Buddhist custom of polyandry (Drew, 1976 [1875]: 357, Lawrence, 2002 [1909]: 103). It was hypothesised that this led to emigration for work, because the area of cultivation in villages is limited, so there was little in the way of means to support the growing population (ibid.). According to Wood, the need to resolve consumption and resource disputes between inheriting brothers and their immediate kin, especially after the death of a patriarch, is a factor that encourages family nucleation (Wood, 2006a: 43). Also, the marked increases in inequality and social differentiation that have occurred in the past two-three decades in Gilgit-Baltistan can be understood as class differences/stratification rather than exploitative class relations (ibid.: 45). Wood’s view is that “any differentiation between peasant families in the society had [in the 1980s-1990s] to be understood as demographic rather than social” (ibid.: 48), with the sex composition of children in a family being a significant factor. With population growth above the Pakistan average, the resultant fragmentation of landholdings and reduction in land size per household reduces the capacity of households to survive solely on their land and livestock (ibid.: 66-67).

**Landholdings, agriculture and irrigation systems**

Landholdings in Thurgu vary considerably, from 1.2 hectares per household to just 0.05 ha. Schmidt estimates for Shigar an average landholding of 0.3 ha (2004: 323). Our host has the third largest landholdings in the village, 0.9 ha (18 kanal). He has relatively large holdings because he was an only child, and his mother’s sole brother had died, meaning that he received both his father’s and his mother’s land: he received 0.25 ha from his father and 0.65 ha from his mother. When he dies his

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16 By comparison, in the research village Shokhirizm in Tajikistan’s Gorno-Badakhshan landholdings vary from 2.27 hectares per household to 0.36 hectares, with an average of 0.95 hectares (Hill, 2013: 303).
five sons will each inherit 0.15 ha and his three daughters will each receive 0.05 ha. The father of the former Union Council representative (BB) divided his landholdings twelve years before his death, his three sons each receiving 0.25 ha, and his two daughters each receiving 0.15 ha. As the father stayed with BB till his death, and his sisters married outside of the village, BB farms his sisters’ land in addition to his own, a total of 0.55 ha. When they visit him, three to four times a year for five to fifteen days at a time, he feeds them, buys them clothes, medicines and sometimes gives them money and grain to take back to their home. In other words, his usage of their land balances out in the longer term (see Schmidt, 2004: 324-325 for details). One final example is respondent AA and his brother (who work as porters). They live together with their wives, two daughters and their mother, and their land is undivided. They have 0.2 ha of arable land (in two places), and 0.15 ha of irrigated meadow (ol) from which they harvest grass once in a year, in September. Schmidt discusses land fragmentation, and provides an example over five generations (see Schmidt, 2004: 325-6, Figure 9).

Cultivation patterns vary by village according to variables such as the relief or soil type. In Thurgu, as in Shigar valley more generally, the most important crops are wheat (tra) and barley (nas). Five varieties of wheat were listed by villagers, four of which were introduced (china, baburoad, samato, Pak 81) and one of which is native (malitro). The three native varieties of barley listed are swarnas, yangnas, manas/smoonas. Leafy green vegetables (sag) are sometimes grown alongside barley. One respondent said that he has not sown sag in 2013 because in 2012 other people had cut and stole the vegetable from his plot. The vegetation period in villages below 2,600 m elevation allow for the cultivation of two crops per season where barley is the first crop (due to its shorter growing period than wheat) (Schmidt, 2004: 320). Thurgu’s farmland falls between 2,400 m and 2,600 m elevation, just allowing for the cultivation of two crops. Usually, as stated by Schmidt (ibid.), buckwheat (blo) or millet (chha) are sown as the second, autumn crop, with the latter only used for fodder and harvested before maturity. Varieties of buckwheat grown in Thurgu are khoblo (medicinal) and gyamblas, whereas millet was mentioned by villagers in Zing Zing. Other crops of relevance in Thurgu are beans (mothu and naqstran), peas (boqstran), and potato (alu). A little potato is grown in Thurgu, and in neighbouring Demal; but further up the Basha, we were told, little potato is grown. Maize is not grown. Schmidt rightly points out that it is remarkable that no specific fodder crops like alfalfa or rape seed are grown in Shigar valley (2004: 320)17. For the feeding of livestock through the long winters, grass is harvested from irrigated meadows (ol), located at the periphery of field areas, on slopes, on grassy strips between fields and along paths and channels, and in gardens (bagh, or in Balti tshar). Apricot, mulberry, walnut, apple and peach trees are grown in garden plots and along the borders of arable plots. Poplar and willow are also commonly grown for use in construction and repair of houses and other buildings, and for use as fuelwood.

In Thurgu village rights to water, pastures, and infrastructure like paths and irrigation channels (hrkong, hrka) are held by the village community, and all households must collectively maintain such infrastructure (Schmidt, 2004). Our host’s (DD) 0.9 ha of farmland is fragmented, comprising ten field plots spread across the village. DD used to own 1.06 ha (21.25 kanal), but lost 0.2 ha to the river ten years back. Table 3 shows that DD’s various plots receive water from some eight different sources, six of which are irrigation channels (hrka or hrkong). Thus on an annual basis DD’s

17 Van Beek (1999: 436) mentions that European officers had sought to encourage cultivation of alfalfa (Yarkhandi ‘Ol), as well as poplars and willow, in Ladakh in the latter half of the 19th century. In the Suru valley, Kargil district, alfalfa is grown. However it does appear to be grown in Shigar valley.
household must participate in the management, repair and maintenance of seven irrigation channels, including Ghora Bloq pi hrkong which supplies several of the channels (see below).

**Table 3: A household’s fragmented landholdings: area, water source, crop grown on each field plot**

<table>
<thead>
<tr>
<th>No.</th>
<th>Area (ha)</th>
<th>Water source</th>
<th>Crop grown in 2013 (and in 2012)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.1 (by riverside)</td>
<td>Gonji cholong</td>
<td>Potato and wheat</td>
</tr>
<tr>
<td>2</td>
<td>0.2</td>
<td>Zhari hrka</td>
<td>Barley, then buckwheat (wheat)</td>
</tr>
<tr>
<td>3</td>
<td>0.06</td>
<td>Skillma hrka</td>
<td>Barley (wheat)</td>
</tr>
<tr>
<td>4</td>
<td>0.05</td>
<td>Dukhzakhsi hrka</td>
<td>Barley</td>
</tr>
<tr>
<td>5</td>
<td>0.03</td>
<td>Skillma hrka</td>
<td>Wheat</td>
</tr>
<tr>
<td>6</td>
<td>0.05</td>
<td>Hrkong Lungma</td>
<td>Wheat</td>
</tr>
<tr>
<td>7</td>
<td>0.1</td>
<td>Kostroqbo hrka</td>
<td>Wheat</td>
</tr>
<tr>
<td>8</td>
<td>0.15</td>
<td>Birfi hrka</td>
<td>Wheat</td>
</tr>
<tr>
<td>9</td>
<td>0.03</td>
<td>Birfi hrka</td>
<td>Wheat</td>
</tr>
<tr>
<td>10</td>
<td>0.1 (earlier 0.3)</td>
<td>Unnamed springs</td>
<td>Grass (ol)</td>
</tr>
<tr>
<td>Total</td>
<td>0.87 ha</td>
<td>Eight water sources</td>
<td>Five types of crop</td>
</tr>
</tbody>
</table>

Thurgu revenue village has a complicated network of irrigation channels, which the locals refer to as *hrkong* or *hrka*. *Hrkong* are generally larger in size than *hrka*. Figure 3 shows a map created with the help of villagers, images from Google Earth, and also by transect walks across the village. It shows one main stream (*nalla*) called Lungma, which is fed by several springs (including Folchani chumik), and from which at least eight irrigation channels (*hrkong*) are sourced. The topmost *hrkong*, called Maloni hrkong, supplies water every four days to the hamlet Zing Zing (Maloni hrkong can be seen cutting across the hillside in Photo 1). A smaller *hrkong* with its headwork also at the top of Lungma, known as ‘Aga Khan pi hrkong’, was created in 1996 by an AKRSP funded-project. The most important irrigation channel is called ‘Ghora Bloq pi hrkong’. Every year, in the month of May, a group comprising one male representative from each household (regardless of their landholding size in the command area) trek up the mountainside, to camp a night at 3800 m elevation at the place known as Ghora Bloq (*ghora* means ‘boulder area’, and *bloq* is Balti for ‘alpine pasture’). The next day, working downwards towards the village, the group repairs the irrigation channel. Ghora Bloq pi hrkong channels snow melt water to the village. Once the water reaches the village, it is conveyed along Ghora Bloq pi hrkong, which further down is called Ghorza pi hrka, almost to Lungma, where it joins and supplies water to Hrkong Lungma, which in turn supplies water to Dukhzakhsi hrka and Skillma hrka. Besides the springs which feed the Lungma, the village of Thurgu has an additional 10-15 springs (*chasma*, or in Balti *chumik*) which feed into larger *hrkong* or form the source of *hrka*, such as Barfi hrka and Zhari hrka. Aside from water received from Maloni hrkong, the hamlet Zing Zing relies on the limited water flows of several springs located in its main stream (*nalla*) (seen above Zing Zing in Photo 1), which is why the hamlet has four *zing* (storage reservoirs). *Zing* store water (often sourced from springs, where the flow is less) over night, for use the next morning.  

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18 Snowmelt is dependent on cloud cover on a day-to-day basis, thus channels exclusively dependent on snowmelt are the least reliable. Spring water has the advantage of being free of silt, showing less variability in quantity of flow, and being warmer in temperature having a positive effect on plant growth (Vander Velde, 1989: 7-8).

19 Schmidt’s detailed account of land, water resource, and livestock management in Shigar valley can be referred to (2004: in particular pages 320-328).
Figure 3: Map of Thurgu showing its network of irrigation channels and other features

Source: Joe Hill, the product of a participatory mapping exercise with Thurgu’s villagers (May 2013)

**Thurgu’s Riwaj-i-Abpashi: irrigation customs and rights recorded in 1913 AD**

At the time of Skardu’s second regular settlement, a revenue record book (*jamabandi*) was created for each and every village, which includes a section called the *Riwaj-i-Abpashi* (“book of irrigation customs”). The *Riwaj-i-Abpashi* is a record of the irrigation channels (*kuhls*) to which a village has irrigation rights, and the nature of those rights (Coward, 1990: 81). Coward concludes that the property rights and irrigation rights recorded by the British in the foothills of the Himalaya (Kangra district), and made part of the administrative system for enforcement and adjudication, continue to exert a large influence on the current social organisation of irrigation: “the irrigation rights documented in the British era provide much of the social glue required for operating and sustaining these small hydraulic works” (ibid.: 87, 78). The *Riwaj-i-Abpashi* section of Thurgu’s village revenue records (Singh, 1913b) mentions only several of the largest of the village’s irrigation channels. A part of its content is difficult to grasp, possibly due to translation difficulties (Box 1).
Box 1: Translation/interpretation of Thurgu’s Riwaj-i-Abpashi

<table>
<thead>
<tr>
<th>Rights and obligations: no other village has a right to the water of Thurgu [revenue village], water is internally distributed. Zing Zing takes water from Folangchan spring from 1pm till 1am, whereas Thurgu does so from 1am till 1pm. Since four years there is a rule which provides three-quarters of the water of Khyalab spring to Thurgu, and one-quarter to Zing Zing.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Facilities of irrigation:</strong> irrigation is provided from streams (<em>nalla</em>), channels (<em>hrkong/hrka</em>), springs (<em>chumik</em>), and reservoirs (<em>zing</em>). Ghora Bloq pi hrkong is utilised by Thurgu’s villagers only; the channel divides into many smaller channels in the village. The channel serving Zing Zing is Maloni hrkong.</td>
</tr>
<tr>
<td><strong>Which land has rights:</strong> the village has a system of water distribution (<em>bari</em>): one household irrigates, then the next.</td>
</tr>
<tr>
<td><strong>Government nurseries:</strong> the village has no government nurseries.</td>
</tr>
<tr>
<td><strong>Irrigation timing:</strong> the irrigation period begins in the last week of March and ends in late August.</td>
</tr>
<tr>
<td><strong>Procedure of irrigation:</strong> tax is paid to the government according to landholding. Land is irrigated according to tax paid. Distribution of water is agreed upon by all villagers, according to taxable land [note: 100 years ago land was taxable].</td>
</tr>
<tr>
<td><strong>Changes to order of irrigation:</strong> no single person can change the order of irrigation, everyone must agree to a change.</td>
</tr>
<tr>
<td><strong>Maintenance:</strong> each household should provide as many members as are able for the maintenance of channels as required. The fine (<em>jurmala</em>) for not attending maintenance is 3 <em>topa</em> grain [wheat, barley] per household [note: the weight equivalent of a <em>topa</em> is unclear; in the last section ‘other traditions’, a penalty of 1 kg grain daily is mentioned].</td>
</tr>
<tr>
<td><strong>Supervisor (<em>hrkongpa</em>):</strong> there is no permanent supervisor. There is only a supervisor at Ghora Bloq, who is paid 3 <em>bre</em> (kg) of barley or wheat per household [note: <em>bre</em> is Balti for an imperial seer, roughly 1 kg]. Each year the villagers choose one man to send for 40 days to work at Ghora Bloq. In harsh summers, there may be floods [at Ghora Bloq].</td>
</tr>
<tr>
<td><strong>Water mills:</strong> All water mills are restricted to use water during irrigation. Giving water to the field is priority.</td>
</tr>
<tr>
<td><strong>Other traditions:</strong> on all cultivable and non-cultivable land there are trees, and water is given according to need. If maintenance is required, one person from each household will go. All are responsible for Ghora Bloq pi hrkong’s repair. If not attend a penalty of 1 <em>seer</em> (kg) <em>makan</em> [ghee] is levied for this specific <em>kuhl</em> [Ghora Bloq], or for any other channel, a penalty of 1 kg grain daily.</td>
</tr>
</tbody>
</table>

Source: Singh, 1913b

Translated into English by the Record Keeper at the District Records Office, Skardu

Square brackets added for explanation
**Comparison of present-day irrigation practices with those mentioned in the Riwaj-i Abpashi**

The most important irrigation channel in Thurgu is Ghora Bloq hrkong. 100 years ago the penalty levied to a household for not attending the annual repair of Ghora Bloq hrkong was 1 kg (seer) ghee (makan), whereas nowadays the same fine applies: 1 kg of deshi ghee per household. The supervisor or hrkongpa (also hrkongstrungpa), as stated in the 1913 record, is not permanent but selected annually by the villagers. In 2013 the supervisor was a 67 year old man, who was performing the task for the second year running. The supervisor informed us that his job entails staying at Ghora Bloq for a three month period, from mid-May to mid-August, to keep an eye on the irrigation channel to ensure the water supply to the village does not stop. He used to be a labourer, but now he has grown old, and cannot work hard, therefore the villagers chose him for the job, and it suits him. The supervisor said that he is remunerated 3 kg of barley or wheat by each household at the end of the season, so a total of about 240 kg grain (~80 households made the payment in 2012). This is the same rate per household as recorded 100 years ago. However 100 years ago, it is recorded that the task lasted just 40 days, whereas in 2012 the supervisor worked for three months (or 90 days). This may relate to the importance of the water source now that the village has grown to 80+ households. According to the Gazetteer of Kashmir and Ladakh (1974 [1890]: 215), Thurgu and Zing Zing together had just 23 households in 1890, and virgin land is likely to have been brought under the plough in the past century. An increase in number of households over time also means a gradual increase in remuneration for the supervisor, for while the rate of payment (3 kg of grain per household) stays constant, the number of households making the payment rises: 80 households made the payment in 2012, whereas it was likely that the ~40 households paid in 1913.

The penalty for not attending the annual repair of any of the smaller channels, 100 years ago, was 1 kg of wheat or barley per day of absence. Nowadays the penalty for not attending is disputed. When Thorstway hrka was cleaned on 2nd May 2013, only 10 of 20-25 households attended. A meeting in this regard was held three years ago in Thurgu, where it was decided that, because people can no longer agree with one another, there would be no penalty demanded from non-attendees. In older times, the penalty levied is said to have been 2 kg grain per household, which was then sold, and the cash divided by those who had attended. However our host DD disputed this, saying that if a wealthy person fails to attend the cleaning of any channel that he takes water from, a fine of 30 Pakistani rupees will be levied; however if a poor person fails to attend, 1 kg barley grain (of value 10-12 Pakistani rupees) will be levied. These fines have been developed because water is limited, and the right to use water is tied to the obligation to maintain the infrastructure. As households are inter-related through complex kinship networks, and monitoring of water use is not feasible, such rules have been developed according to local notions of equity. The penalties, according to DD, are discussed and collected at Ghora Bloq when the village’s men go for the annual repair of Ghora Bloq pi hrkong. The collected money is spent on community projects: in 2012 they renewed the inside of a village masjid with ply board and plaster; other expenditures may be covered, such as the purchase of wood to build footbridges over the Basha River, or batteries for the masjid’s loud

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20 When I first crossed the river from Chutron to Thurgu, the footbridges were not in place, having apparently been removed by Chutron’s villagers in a protest against some of Thurgu’s villagers allegedly cutting bushes on the Chutron side to take to their homes in Thurgu. By the next day, the footbridges were in place again.
speaker. In 2013 and 2014 the villagers aim to collect 22-25,000 Pakistani rupees (~180 Euro) to purchase and put metal sheeting on their main mosque’s (masjid) roof.

Photo 2: The annual repair of Thorstway hrka (irrigation channel)

With respect to water distribution, the Riwaj-i-Abpashi states little other than that one household irrigates after another, according to their landholding size, and that the order of irrigation cannot be changed unless everyone agrees to it. In Thurgu there are two main water sources: the stream Lungma supplied by spring water, and Ghora Bloq pi hrkong supplied by snow melt. The right to irrigate using an irrigation channel is attached to these two sources, i.e. not to a particular irrigation channel. According to Sheikh YY, the village’s system of water distribution (bari) follows a three day cycle. Lungma delivers spring water to five hrka (and partially to three hrkong). For example, Harikway hrka’s command area includes land 15-20 households’ land, its water taken according to a three day bari, based on the names of 12 ‘mother households’ (i.e. four on day one, four on day two, four on day three). Lungma also provides water to Hrkong Lungma (and then to Dukhzakhisi and Skillma hrka) during March, April and May, in the period before water is brought from Ghora Bloq.

Ghora Bloq pi hrkong delivers snow melt water from Ghora Bloq from the month of May onwards (the date the villagers go to repair the channel and bring water depends upon the weather). Ghora Bloq pi hrkong serves nearly all households in the village: before it crosses Dangjini chalong (see Figure 3) it serves 10 households, whereas after crossing Dangjini chalong, where it is renamed Ghorza pi hrka, it serves 71 households. The 10 households having land between Kharachani and Dangjini chalong can use its water permanently (no rules), whereas the remaining 71 households must follow the system of water distribution (bari) (the three day cycle). Farmer CC explained the bari (Table 4). Each of the village’s three neighbourhoods (mohalla) is entitled to one day of water in the three day cycle. Each mohalla is divided into eight ‘mother households’, four of which can take water from 5am to 12pm, and the other four from 12pm to 5pm. Respondent CC takes water in the
morning on day one, in the afternoon on day four, and in the morning on day seven, etc. Extra water can be taken at night-time by those who need it. Note that the morning irrigators are allowed seven hours, and the afternoon irrigators five hours, which allows for the greater flow of water in afternoons. Respondent CC gave the example of his 23 household *mohalla*, Zhirka Khor, which is divided into three groups of eight farming households (two groups of eight households, one of seven): the total flow of water reaching Zhirka Khor is divided into three, with each of the three groups taking one-third of the water for the 24 hour period; so four in the morning and four in the afternoon. These four households further divide in two, with each pair irrigating for about three hours.

**Table 4: System of water distribution (bari) in Thurgu**

<table>
<thead>
<tr>
<th>Day</th>
<th>Time of day</th>
<th>Number of households in <em>bari</em> (according to the rules)</th>
<th><em>Mohalla</em> name (and number households)</th>
<th>Number of households in <em>bari</em> (according to the practice)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5am-12pm</td>
<td>4</td>
<td>Zhirka Khor (23)</td>
<td>4-4-4</td>
</tr>
<tr>
<td></td>
<td>12pm-5pm</td>
<td>4</td>
<td></td>
<td>4-4-3</td>
</tr>
<tr>
<td>2</td>
<td>5am-12pm</td>
<td>4</td>
<td>Hongo pi Khor (24)</td>
<td>4-4-4</td>
</tr>
<tr>
<td></td>
<td>12pm-5pm</td>
<td>4</td>
<td></td>
<td>4-4-4</td>
</tr>
<tr>
<td>3</td>
<td>5am-12pm</td>
<td>4</td>
<td>Ghorza pi Khor (24)</td>
<td>4-4-4</td>
</tr>
<tr>
<td></td>
<td>12pm-5pm</td>
<td>4</td>
<td></td>
<td>4-4-4</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>24</td>
<td></td>
<td>71</td>
</tr>
</tbody>
</table>

Zing Zing hamlet comprises eight households, with 3.5 ha (69 kanal) of land owned by nine households (including the land of Sheikh XX who lives in Thurgu). One household has 0.75 ha, another 0.7 ha, three households share 1 ha, and another four households share 1 ha. Zing Zing’s main source of irrigation is their spring (*chumik*), and their secondary source is Maloni hrkong (which sources water from springs at Thurgu). There are four reservoirs (*zing*) in Zing Zing, three located on the main road, and one below. The *zing* in the centre of the village is the largest, and can irrigate 0.75-1 ha of farmland. The hamlet’s spring water is limited: in one night it provides only enough water to fill the largest reservoir. To irrigate their land, the farmers direct the spring water to different reservoirs on different nights of the week. The villagers are entitled to the water of Thurgu’s Lungma’s springs once every four days, via Maloni hrkong. The 1913 *Riwaj-i-Abpashi* states “Zing Zing takes water from Folangchan spring from 1pm till 1am, whereas Thurgu does so from 1am till 1pm” and “since 4 years, one-quarter of the Khyalab spring’s water is for Zing Zing, and three-quarters for Thurgu”. There appears to have been some alteration here. In 2013 Zing Zing’s villagers bring water via Maloney hrkong every four days, for a 12 hour period: for example, on Monday from 6am till 6pm, on Thursday from 6pm till 6am, on Tuesday from 6am to 6pm, and Friday from 6pm to 6am, etc. Each 12 hour irrigation session allows for about 2 ha (40 kanal) to be irrigated. About eight irrigation sessions take place each month, thus once a month it is the duty of one of each of the hamlet’s eight households to send a member to the headwork of Maloni hrkong, where he will stay for the 12 hour period (to ensure their maximum entitlement of water is obtained). Two to four members of each household attend the annual maintenance of Maloni hrkong in late March.
While the rules that govern water distribution and management may be slow to change, in other areas change is more rapid. Water mills, which have been used for centuries, are nowadays close to becoming redundant in Thurgu village. There are currently between two to four functional water mills in the village, while five years ago there were 10-12. One old man who owns a water mill said he is going out of business because since 2009 there is an electric mill in the village. Electric mills do not require much labour (man power) and can mill an estimated 400 kg of wheat or barley in 1.5 hours, at a cost of 400 Pakistani rupees (~3 Euro). Water mills require man power throughout the day and night, and take much longer to mill the same volume of grain.
4. Political and administrative context in the Shigar valley and Tisar Union Council

This section provides a brief sketch of political and administrative developments in Shigar valley. It starts with a focus on the administrative changes made by the Dogras in the mid-nineteenth century and the British through the revenue settlements of the early twentieth century. It then moves to the post-partition period, since when Baltistan and the Shigar valley have been administered by the Government of Pakistan. As Vincent has emphasised in her comprehensive review of irrigation in mountain regions, “Locating and comparing experiences in relation to political contexts is much more difficult than comparisons based on environments or farming systems. However, replication of programmes inappropriate to social, economic and political conditions is as significant a cause of limited results as poorly adapted technical interventions in hill and mountain areas” (1995: 121). Therefore this section pays explicit attention to the political and administrative context within which irrigation development interventions, the subject of Section 5, are situated.

Brief political and administrative history of Shigar valley

The people of Shigar valley are Balti by ethnicity, and speak the Balti language – which is an archaic dialect of Western Tibet related to Purig (Kargil) and Ladakhi (Magnusson, 2006: 192). All the population are Muslim, the majority belonging to the Shia, though some villages (for example, in Gulabpur Union Council on the right bank of the Shigar River) have sizeable Nurbakhshi and Sunni communities. According to Sheikh (Sheikh, 2010: 68-69), who provides a brief history of Islam in the region, Mir Shams-ud-din Iraqi, a noted Shia Muslim scholar, accompanied by 50 preachers visited Baltistan in 1505 converting a majority of Muslims to his school of thought21. Bray (2012) finds the history of this region for the period around the sixteenth to seventeenth centuries rather obscure.

Prior to 1842, Baltistan was politically divided into eight principalities, each ruled by its own hereditary Raja (in Balti cho) (Polzer and Schmidt, 2000: 182). The Rajas are said to have fought against each other regularly, but also to have formed alliances against common outside enemies. Ranked below the autocratic Rajas were the wazir, who were advisors to their rulers. In Shigar valley the control of the Raja and his advisors (wazir), as would seem obvious, was strongest in and around the centre of the valley than it was in the periphery (i.e. the upper valley, including Basha and Braldu valleys)22. From 1834 to 1840 General Zorawar Singh led several expeditions to subdue the rulers of the various chieftains of Baltistan and Ladakh. By 1840 Ladakh and Baltistan lost their independence and came under the effective control of Raja Gulab Singh, who became Maharaja of the princely state of Jammu and Kashmir in 1846 (Datta, 1984: 30-58). In fact, after Skardu was captured by the Dogras in 1840, it was the Raja of Shigar, Haider Khan who led a revolt against them. By 1842 however, the Dogras had regained control, and later Haider Khan was captured, and imprisoned in Srinagar where he later died (Polzer and Schmidt, 2000: 186-187).

21 See also Bray (2012: 15), who cites Holzwarth (1997) who argues that Mir Shams-ud-din Iraqi was the first Muslim teacher who is definitely known to have visited and made converts in the region. Bray states that Shams ud-din Iraqi belonged to the Nurbakhshi tradition, whereas Sheikh calls him a ‘noted Shia Muslim’.

22 Polzer and Schmidt (2000) state that in Shigar valley, twelve patrilineal lineages (qaum) were lifted to the status of wazir over the generations, and that by the time of their research in the 1990s, only three of these qaum were still well-known and influential.
The Dogra rulers, from the 1840s onwards, initially limited their interest in local development to the imposition and collection of an additional layer of taxes, which came on top of villagers’ existing obligations to local landlords (van Beek, 1999: 436). Afridi, who copies some of his text almost directly from Singh (1913a: see pages 12-13) without proper acknowledgement, writes, “The early Dogra Thanedars did not change the old system of revenue collection... The system was, however, changed by Kidaru, Thanedar, of Baltistan from Sambat 1908 to 1920 [1851-1863 AD]. He took the realization of revenue directly into his own hands... Mehta Mangal, the Dogra Administrator of Baltistan (1932-1942 Bikrimi) [1875-1885 AD] reassessed the country. But no proper measurements were made nor were any records of rights prepared... with the result that the influential got their lands leniently assessed whilst the poor got no relief... People complained to the authorities of their sad plight, but the authorities did not seem to have made any attempt to check the officials and others from making illegal collections” (Afridi, 1988: 239-240).

By the end of the century, in 1899, Baltistan, Ladakh and Gilgit Wazarat were merged to form a single ‘frontier district’, and in 1901 the district of Ladakh was established, which incorporated Skardu, Kargil and Leh tehsils under the administration of a wazir-i-wazarat (governor) (Sheikh, 2010: 166, Lawrence, 2002 [1909]: 100-105, Dani, 1989: 320). Skardu tehsil was administered by a tehsildar (district governor) with his headquarter in Skardu (Polzer and Schmidt, 2000: 187). The first and second settlements, completed by Clarke and Singh in 1902 and 1913 respectively, combined small villages to form mauza (revenue villages). In Shigar valley the revenue villages were arranged to form ten halqah (in 1961 these jurisdictional units were renamed Union Councils), each attended by a patwari (land record officer)23, who was himself subordinated to a girdawar (revenue inspector). These steps meant that the Raja no longer had an intermediary role in regard to taxes, which meant a further loss in his power and control (Polzer and Schmidt, 2000: 188). However the Raja and some of his advisors (wazir) were given tax exemptions, “as a measure of the Dogra to keep them peaceful, loyal, and reasonably content...” (ibid.: 191). One other important position created during the settlement process was that of the nambardar, a local person, selected at the level of the mauza (revenue village) to serve as an intermediary between the government and the farmers24. Not necessarily an inherited post, the office usually remained with one lineage (ibid.: 195). The summary description of Baltistan provided by Lawrence is worth consulting (Lawrence, 2002 [1909]: 101-105). Lawrence oversaw Kashmir’s settlement at the turn of the twentieth century, and this process was then replicated to the north of Kashmir in Ladakh Wazarat25.

23 The task of the patwari was to control that the tax in his halqah was paid on time, and to note land transfers in each village’s revenue records (or cadastre, known as Jamabandi). It was also to measure and classify newly cultivated land, and to make an annual inspection of the crops grown in every field (ibid.: 190).

24 The nambardar was mainly responsible to maintain order in his mauza and to supervise the revenue collection there. He called people for communal works, like to repair irrigation channels, and could fine people for their absence. He also was present during land transfers, and when land was divided after the death of a head of household (ibid.: 195-197)

25 Younghusband (1909: 188-193) explains that Kashmir’s settlement took six years to complete. For every village a map large enough to show every field, and a register detailing necessary facts relating to each field such as class of soil, source of irrigation etc. was produced. This new settlement improved on the older system, as revenue was to be paid in cash not in kind, thus reducing the chances of petty officials taking advantage of landholders. Lawrence naturally used caution, Younghusband explains, so the settlement was fixed for just ten years, so to avoid its calculations being unfair either to state or landholder. At the end of the ten years, a second settlement was made; its period fixed at fifteen years.
At the time of independence from British rule, Jammu and Kashmir was effectively excluded from the partition agreement, leading Pakistan and India to fight a war over the region (Grist, 2008)\(^{26}\). As a result of this war Ladakh Wazarat and the Balti people were divided by the Line of Control that to the present-day separates Pakistan and India\(^{27}\). The name Baltistan came to be reserved for the part of Baltistan falling on the Pakistani side of the border, which includes the districts of Skardu and Ghanche. However members of the Balti community are also found in the districts of Kargil and Leh on the Indian side (Magnusson, 2011: 34). Traditional links and trade routes between Baltistan and Kargil/Srinagar and Leh/Ladakh were cut, which has continued to affect the economy of the larger region and people’s livelihoods.\(^{28}\) The regions, on both sides of the Line of Control, came to be dependent on their respective nation-states’ lowlands (i.e. Pakistan and India), though Baltistan is also supplied with trading products from China via the Karakorum Highway (Schmidt, 2004: 318)\(^{29}\).

In 1947 Pakistan installed a Political Agent in Gilgit (the capital of the Northern Areas which included Baltistan), and in 1948 an Additional Political Agent was deputed to Skardu. In 1961 the system of ‘Basic Democracies’ was introduced to the Northern Areas, with Union Councils (UCs) formed at the local level, and District Councils (DCs) formed above them. The UCs were given the task of engaging in economic, social and educational development in their respective areas, including construction of irrigation channels, protective bunds, roads and buildings (Afridi, 1988: 299). By the end of the 1960s, demand for democracy increased in Pakistan, resulting in a Northern Areas Advisory Council being formed in 1969, renamed the Northern Areas Council (NAC) in 1971. All members to this council were appointed (Polzer and Schmidt, 2000: 198). Reforms in the early 1970s, credited to Zulfikar Bhutto and his government, were far-reaching. The agency system was abolished, districts were established, and Political Agents were redesignated as Deputy Commissioners (Dani, 1989).\(^{30}\)

Shigar became a sub-division of Baltistan district, with its own Assistant Commissioner (AC). Systems of begar (unpaid labour tasks), res (provision of services in exchange for land use rights) and jagir (leases collected by large landowners) were abolished, as were the collection of all land taxes (Schmidt, 2008: 257). However the regulations fixed during the settlements for pastures and irrigation systems remained in force, and the patwari continued his duties although he no longer had to collect taxes. The post of nambardar was abandoned, resulting in the local institution of village

\(^{26}\) There have been further conflicts in 1965, 1971 and 1999 – the latter known as the Kargil War.
\(^{27}\) The overly patriotic Afridi describes what he terms the ‘liberation of Baltistan’ (1988: 222-235). It is problematic to refer to it as having been a liberation for the Balti however because the fighters on the Pakistan side were largely non-Balti, and the Balti could not have possibly understood the future implications of what was taking place. Subsequent political developments have left the Balti without full citizenship rights within Pakistan, and religious sectarianism has led to the targeting and murder of the Shia Balti by fundamentalists.
\(^{28}\) For example, a respondent of Rizvi’s from Suru valley (now on the India side, prior to partition in Kargil tehsil) testified that in the years prior to partition, “in the area there would hardly have been a single household from which one male member would not have gone trading” (Rizvi, 1999: 137). This respondent annually travelled on horseback to Zangskar, to Skardu, and to Kashmir trading in grains, apricots and salt.
\(^{29}\) Van Beek argues that Ladakh (the point also applicable to Baltistan) has been reduced to a state of dependence, which “is partly attributable to government policies aimed at replicating nationalist projects of development in this rather different region [than the lowland], for example through the promotion of tourism, cash cropping, and modern education, and the concurrent undermining of local livelihoods by the provision of heavily subsidized agricultural inputs and rations of ‘essential commodities.’ The growth of waged employment and cash incomes in general is tied mostly to government jobs and the armed services, and through these agencies' procurement of local agricultural produce...” (Van Beek, 1999: 442).
\(^{30}\) In the past 65 years there have been a total of 12 political agents (1948-1972) and 28 deputy commissioners (1973-2012) based in Skardu, which indicates the high turnover of administrators.
elders (tsharma) being revived. The authority of tsharma is high in peripheral villages, Schmidt suggests, because of the weak presence of government administrators. Tsharma have since played an important role in communal affairs, for example, settling disputes and fixing the dates for the repair and maintenance of irrigation channels (Schmidt, 2008: 257).

Shigar valley’s centre and periphery have been conceptually distinguished by Polzer and Schmidt, who argue that the establishment of Union Councils allowed for the valley’s periphery to become a second centre (2000: 198). As the Raja of Shigar was employed by the government (as a Naib Tehsildar) at the time of the 1970s reforms, he could not be nominated for the post of Northern Areas councillor. Hence he supported the man he had confidence in, Haji Mohammad Hussain, of the nambardar qaum (lineage) in the village Kayu (Gulabpur Union Council). From 1971 to 1987 Haji Mohammad Hussain served as Northern Areas Councillor, during which time tensions are said to have grown between centre and periphery. In 1987, Raja Mohammad Azam Khan, the son of Shigar’s Raja Mohammad Ali Shah, contested and won the seat, breaking the ties between these two families – raja and nambardar (ibid.: 198-199). To this day, as shown in Table 5, these two families continue to alternatively maintain political representation in the valley. Since 1994 candidates have been able to stand for election under the banner of mainstream political parties31. In August 2009 the ‘Gilgit-Baltistan Empowerment and Self Governance Order’ led to a reshaping of politics within the province, though the province was again denied full provincial status (Hussain, 2009: 6).

At the time of the 2013 national election, the majority of Gilgit-Baltistan Legislative Assembly’s 33 Members (MLAs) were with the Pakistan People’s Party (PPP)32. Raja Azam Khan was the only Muttahida Quami Movement (MQM) party representative. In 2008 both Imran Nadeem and Raja Azam Khan had joined the PPP however Raja Azam Khan had switched to the MQM just before the 2009 election which he won after being out of office for three consecutive turns (1994-2009). Imran Nadeem and his uncle (Haji Mohammad Hussain) had served with the Tehrik-e-Jaferia party (TJP)33 from 1994-1999 and 1999-2004. Although TJP is a platform for religious Shia, Imran Nadeem had secured the support of other sects within Gulabpur Union Council (see Figure 2), where Shia are a minority, third in number to the Nurbakhshi and Sunni. When the TJP was banned by President Musharraf in 2002, Imran Nadeem switched to the Pakistan Muslim League Quaid-e-Azam (PML-Q). This he did due to both personal contacts within the party, and by the will of the elders of the upper Shigar valley, who according to Imran Nadeem took the decision for him.

According to the current MLA Raja Azam Khan, in 2013 there are ten Union Councils (UCs) in Shigar, and three directly elected councillors to the District Council which sits in Shigar (see also Polzer, 1995: 844). Elections for the post of UC Chairman were not held in 2012; however they were for the five-year periods from 1962-1967 till 2002-2007, and for 2007-2012 (though the system was dismissed around 2009). Population growth in the Shigar valley has been high in the past three decades. There has been no census since 1998, although one is planned for 2014 (Table 6, reproduced from Polzer and Schmidt (2000: 200), shows population figures for Shigar valley as a

31 Although, as noted by Polzer and Schmidt, when Raja Azam Khan stood in the 1994 elections he did so without joining a party, believing that his ascribed status would win him the seat; it did not (2000: 199).
32 See http://gilgitbaltistan.gov.pk/index.php?option=com_content&view=article&id=70&Itemid=66 (accessed November 2013, February 2014). This page may or may not have been updated recently.
33 See Polzer and Schmidt (2000: 201-202) for a discussion on the TJP and the Islamisation of Pakistani politics.
whole, and for Tisar Union Council in particular, for the years 1911 to 1998, with estimates for the 2013 populations provided by Sheikh ZZ for Tisar UC, and by Raja Azam Khan for Shigar valley).

**Table 5: Political party representation from 1972 to the present in Shigar valley**

<table>
<thead>
<tr>
<th>Period</th>
<th>Northern Areas Councillor</th>
<th>Party</th>
<th>Opposition</th>
<th>Party</th>
</tr>
</thead>
<tbody>
<tr>
<td>1972-1987</td>
<td>Haji Mohammad Hussain</td>
<td>Independent (no political parties)</td>
<td>None</td>
<td>Not applicable</td>
</tr>
<tr>
<td>1987-1991</td>
<td>Raja Azam Khan</td>
<td>Independent (no political parties)</td>
<td>Haji Mohammad Hussain</td>
<td>Independent (no political parties)</td>
</tr>
<tr>
<td>1991-1994</td>
<td>Raja Azam Khan</td>
<td>Independent (no political parties)</td>
<td>No opposition: Haji Mohammad Hussain supported a Shia boycott of elections</td>
<td>Independent (no political parties)</td>
</tr>
</tbody>
</table>

Mainstream political parties enter regional and local politics in Gilgit-Baltistan

<table>
<thead>
<tr>
<th>Period</th>
<th>Northern Areas Councillor</th>
<th>Party</th>
<th>Opposition</th>
<th>Party</th>
</tr>
</thead>
</table>

**Gilgit-Baltistan Empowerment and Self Governance Order brings minor changes**

<table>
<thead>
<tr>
<th>Period</th>
<th>Northern Areas Councillor</th>
<th>Party</th>
<th>Opposition</th>
<th>Party</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009-present</td>
<td>Raja Azam Khan</td>
<td>MQM (Muttahida Quami Movement)</td>
<td>Imran Nadeem</td>
<td>PPP (from October 2008)</td>
</tr>
</tbody>
</table>

**Table 6: Population in Tisar Union Council, and Shigar valley as a whole, from 1911-1998**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Tisar Union Council</td>
<td>3,127</td>
<td>2,918</td>
<td>2,887</td>
<td>3,152</td>
<td>3,456</td>
<td>No data</td>
<td>10,000</td>
</tr>
<tr>
<td>Shigar valley (10 Union Councils)</td>
<td>26,256</td>
<td>24,136</td>
<td>24,723</td>
<td>27,738</td>
<td>32,364</td>
<td>45,321</td>
<td>75,000-76,000</td>
</tr>
</tbody>
</table>

Source: Polzer and Schmidt, 2000: 200;

* Estimates by Sheikh ZZ for Tisar UC, Raja Azam Khan for Shigar valley
Administrative and political developments in Tisar Union Council

According to Raja Azam Khan, influential mullahs (Aghas and Sheikhs) are found in both the upper Braldu and in Basha valley. These mullahs are considered by Raja Azam Khan, Imran Nadeem, AKRSP staff, and Polzer and Schmidt (2000: 201) to be political as well as religious persons. The former Chairman of Tisar Union Council, Sheikh ZZ, resides in Chutron which is also the home of the Shia religious leader, the Agha. According to Azhar-Hewitt who conducted fieldwork in Chutron in the 1980s, the Agha’s religious influence is most strongly felt in his own village Chutron, where he makes decisions affecting legal and economic matters (Azhar-Hewitt, 1998). Sheikh ZZ said that there are two types of tsharma, elders and village leaders. While the Agha is involved in religious disputes, village meetings are called for taking village decisions, and Sheikh ZZ himself settles conflicts. However we were later informed by a government employee of Chutron that the Agha has vowed to reform the entire Basha and Braldu. He recently settled a dispute that extends beyond that of the religious; in this case an ongoing dispute over pasture land between the people of Tiston and Dassu in the lower Braldu. The Agha declared that the rights of Tiston are to be respected. The Agha’s interests clearly extend into politics, as do those of the Sheikhs who take leadership positions in the UCs and villages.

Until recently the Union Councils’ councillors had at their disposal funds provided by the Local Government and Rural Development (LG&RD) department. According to Sheikh ZZ, Chairman of Tisar UC from 2002-2007, the Government of Pakistan ended this system in 2009 and nowadays control over the use of the funds is vested in the Skardu-based Deputy Commissioner (DC), and the Shigar-based Assistant Commissioner (AC) and tehsildar34. In the Skardu LG&RD office, the officer-in-charge for Shigar explained the changes: since 2009 the tehsildar acts as the administrator of the Union Councils, and the Deputy Commissioner as administrator of the District Council. Writing on Gilgit-Baltistan in 2006, Wood states “In the present circumstances of the early twenty-first century in Pakistan, the particular problem is the conflict of interest between established patterns of federal-provincial-district administration and the current greater emphasis upon the powers of elected local government representatives. Although there were previously elected Chairman of Districts and Unions, they had very limited powers in relation to the erstwhile delegated powers of District level officials (crucially the Deputy Commissioner) from the Provincial centres... it is hard to imagine that this current experience of representative local government will be easy to dismiss by any future regime, unless it is done by starving local authorities of budgets (Wood, 2006b: 25-26). This is precisely what seemed to be happening to the UCs and DCs in the spring of 2013.

The Local Government and Rural Development (LG&RD) department has the following structure: a Deputy Director, beneath him a Project Manager (the sub-divisional director, e.g. for Shigar sub-division), and at the Union Council level, one secretary (a government servant) and an elected chairman. Government funds are distributed among the UCs as follows: 50% of funds are divided equally to the UCs, and the other 50% is divided in proportion to the UC population. There is also a ‘public’ component to the projects carried out by the LG&RD: 10% of any project (labour or material) should be provided by the people. One LG&RD Project Manager said he hopes that the new government of Nawaz Sharif, elected in 2013, will reinstate the UC system (dismissed in 2009) because “democracy is the best system”. This indicates that he does not favour bureaucrats, who are often from the Pakistani lowland, controlling resources.

34 Local elections, scheduled for 2014, may again reverse this.
Thurgu and Demal’s elected councillor to the UC from 2002-2007, respondent BB of Thurgu, said that he and the other five councillors had selected Sheikh ZZ to be Chairman of the UC for 2002-2007. 63 year old respondent EE said that two men, Haji Mehadi (UC councillor) and Haji Hussain (UC councillor after Haji Mehadi, and ‘judge of the people’), together ran the affairs of Thurgu and set the rules for a 30-35 year period (perhaps from 1962 till 1997). 18 years ago Haji Hussain died, and 12 years ago Haji Mehadi passed away, after which another man became councillor (1997-2002), followed by respondent BB (2002-2007). The illiterate Haji Hussain’s judgement is said to have been perfect. The former councillor, BB, was openly irritated by the leadership role assumed by Sheikh YY in the present-day: on hearing that the Sheikh had suggested to us, on the day of our interview, that the villagers may set off to Ghora Bloq to clean the channel, BB responded “I make the village rules, so that’s a lie. Everyone is acting as lord in this village”. BB stated he wants to make reforms in the village, but the villagers pay him no heed. Respondent DD said that nowadays the village elders do not take decisions; each individual makes his own decision. Fazlur-Rahman (2000: 75), for Astor valley, makes a similar point, citing modern development and internal conflicts as the reason.

5. Irrigation development interventions (with a focus on Tisar Union Council and Thurgu)

The first records of government-funded irrigation development interventions in Baltistan may well be those recorded in the settlement reports of Thakur Singh (Singh, 1913a). Polzer and Schmidt (2000: 203) found no evidence of the Shigar valley’s Raja having played any role in the creation of irrigation channels. For the Hunza region, Kreutzmann describes the role the principalities played in the creation of irrigation channels (through 1790-1974). The Rajas (called Tham or Mir) and their prime ministers (wazir) used forced labour to construct new channels (Kreutzmann, 1988: 246-250).

The assessment reports for both Gilgit tehsil and Skardu tehsil describe the role the Public Works Department began to play in developing irrigation channels, one which, mirroring that of the former rulers appears to have used the forced labour of the villagers. Such a perspective is slightly obscured in the discourse of the Aga Khan Rural Support Programme, which has its roots in the Hunza region, and which tends to present a more romanticised picture of the past: “For centuries, the physical infrastructure in the NAC [Northern Areas and Chitral] was developed by the princely states... irrigation channels, pony tracks, seasonal roads, and bridges... were financed by the princely states and constructed and maintained by the local communities... This traditional system of infrastructural development started to weaken in the early twentieth century and became completely inoperative when the princely states were abolished during the late 1960s and early ‘70s” (Malik et al., 2006: 198). The AKRSP perspective seems to extrapolate the Hunza experience (the Aga Khan being the leader of the Hunza Ismaili people) to the rest of the Northern Areas (Gilgit-Baltistan), even though there appears to be little evidence to sustain this perspective. Vander Velde, focusing on the Gilgit region, states: “Following the arrival of British-supported Dogra administration in Gilgit in 1890s, there was a gradual decline in feudal authority, accompanied by a reduction in irrigation system development. This trend continued after the independence of Pakistan until 1974” (1989: 9). Vander Velde (1989) and Kreutzmann (1988), unlike the AKRSP, do not seek to glamorise the link between feudal authority and irrigation system development.

Soon after the system of ‘Basic Democracies’ was introduced to the Northern Areas (Gilgit and Baltistan), Union Councils were given the task of engaging in development activities which included
the financial support to villagers for the construction and maintenance of irrigation channels (Afridi, 1988: 293-298). Afridi notes that Pakistan’s Third Five Year Plan (1965-1970) allocated 2.7 million Pakistani rupees [exchange rate unknown for 1965] to Baltistan’s newly created local government system for local development activities (ibid.: 299). Two decades later, in 1986, the NGO Aga Khan Rural Support Programme (AKRSP) began its work in Baltistan. The NGO was established in 1982 as an expansion of the Aga Khan Foundation’s network of welfare programmes serving the Ismaili community, its activities having started in Gilgit in 1983, and been expanded to Chitral and Baltistan in 1986 (Clemens, 2000: 3-4). By increasing agricultural productivity and surplus marketing, AKRSP had the ambitious objective of supporting the commercialisation of the subsistence villages in their area of operation (ibid.). This section first discusses interventions by the Public Works Department (PWD) in Baltistan and Gilgit in the early twentieth century, drawing on Singh’s observations (Singh, 1913a, 1917). It then focuses on Tisar Union Council and Thurgu village, looking at interventions over the past two decades by the PWD, the Local Government and Rural Development (LG&RD), and the AKRSP.

**Public Works Department interventions in the early twentieth century**

The first regular settlement in Skardu tehsil, its report published in 1902 [1958 Bikrimi] by Clarke, defined existing rights including irrigation rights. It was for a term of ten years only. The second settlement (a reassessment) was taken up in 1911, its report published in 1913 (Singh, 1913a, 1917). The tehsil level assessment report of Thakar Singh includes a section on irrigation and irrigation projects, which includes a table that lists and remarks upon irrigation projects (Table 7 gives an excerpt of the table). These details provide a glimpse into the kinds of irrigation development interventions undertaken by the PWD in the 1900-1910s.

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35 Aga Khan Development Network initially funded AKRSP’s work, later GTZ, CIDA, DFID financed projects, and the Pakistan government provided some funds (Fazlur-Rahman, 2007: 334-335). Settle (2010: 26) reproduces data from Campos et al., 2004, to show that over the period 1982-2000, 34% of AKRSP funding came from the British ODA, 20% from CIDA, 16% from the Netherlands government, 8% from the Norwegian government, 8% from the European Union, and just 7% from the Aga Khan Foundation itself (the remaining 7% is undisclosed).

36 Clarke’s report has yet to be consulted. It is known that it defined irrigation rights because the section called Riwaj-i-Abpashi in the 1913 village revenue records of Thurgu makes reference to the former settlement summary; assuming the reader has access to these documents. However these documents were not found to be stored in the Record Room in Skardu, which makes the full comprehension of the Riwaj-i-Abpashi contained in the village revenue records impossible – for researchers and for contemporary revenue officials.
Table 7: Excerpt from a table in Singh’s 1913 Assessment Report discussing irrigation projects

<table>
<thead>
<tr>
<th>Serial number</th>
<th>Projects</th>
<th>Village</th>
<th>Remarks [square brackets added for explanation]</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td>Thangzur, 100 acres</td>
<td>Khapalu</td>
<td>The zamindars [farmers] are not willing to give the Ganchhe water for the area. The case has been decided and the Kuhl [irrigation channel] will be constructed soon.</td>
</tr>
<tr>
<td>17</td>
<td>Biari, 54 acres</td>
<td>Lunkha</td>
<td>Some powder, tools and a few poplars for troughs are required there.</td>
</tr>
<tr>
<td>18</td>
<td>Thango, 144 acres</td>
<td>Dau</td>
<td>Powder, poplars and rations of 60 men for 4 months are asked for to finish the water-cut left incomplete at present.</td>
</tr>
<tr>
<td>19</td>
<td>Remothang, 36 acres</td>
<td>Thogmus Kalun</td>
<td>Powder and tools for blasting a rock are required to complete the Kuhl.</td>
</tr>
<tr>
<td>20</td>
<td>Thang, 27 acres</td>
<td>Turtuk</td>
<td>Powder, tools and 15 poplars are asked for. The project is taken up by the zamindars.</td>
</tr>
<tr>
<td>21</td>
<td>Chhuthang, 45 acres</td>
<td>Chhuar</td>
<td>Four maunds [1 maund is ~40 kg] of powder, tools and 120 poplar trees are wanted by the people to make a Kuhl there.</td>
</tr>
</tbody>
</table>

Source: Singh, 1913a: 20

Below the table in his report, Thakar Singh writes that, “The Tahsildar should keep gun-powder and other materials for blasting rocks and give them to zamindars [farmers] whenever required. This will make the blasting of rocks easier, and water-cuts may be made to ensure greater supply of water, and waste lands may be reclaimed” (Singh, 1913a: 20, square bracket added). Several inferences can be made from the excerpt of Singh’s table (Table 5). In the first example, the Thangzur project to bring 100 acres under irrigation, the remark suggests that regardless of opposition to the project by a certain group of villagers, ‘the case has been decided’. This implies that a decision had been taken by one or more persons of authority that will most likely override the pre-existing water rights of a group of farmers. It seems an equally important inference that the labour costs for constructing the above mentioned kuhls (irrigation channels) were not requested by Singh. Only for the Thango project, which planned to bring 144 acres under irrigation, were rations requested for 60 men. The settlement officer Thakar Singh is revealed to have no authority, for he directs his suggestions towards H. Hashmatullah Khan, the wazir-i-wazarat [governor] of Ladakh. The governor’s response, added to Singh’s report as an appendix (Singh, 1913a: Appendix XII, xxi), highlights a conflict of interest between the governor and the settlement officer over the value of trees. Singh’s views on what constituted progress would have been largely defined by his training, which one imagines took place in mainland India (or Jammu or Srinagar?). As Baker shows for a district in the Western Himalaya, “the first regular settlement of Kangra promoted agricultural expansion and intensification (at the expense of forests), including the construction of new kuhls” (Baker, 2005: 116). Singh’s comments reveal his (government’s) preference for grain production over tree cover, a preference the governor’s response shows that he does not share (Singh, 1913a: Appendix XII, xxi).

Singh’s 1917 assessment report for Gilgit reveals that the Public Works Department (PWD) was developing irrigation channels, but that its investments were minimal. The PWD constructed an irrigation channel at a cost of 32,000 Pakistani rupees [exchange rate unknown for 1917], and sanctioned an annual grant of 1,500 Pakistani rupees for its maintenance (Singh, 1917: 35-36).
However Singh states his surprise at learning that a provision of just 800 Pakistani rupees is being made in the Revenue Budget for annual repairs to all the district’s other irrigation channels (ibid.: 41). Singh recommends a larger allocation of financial resources. He states “Great improvements in irrigation can be effected by a little more attention on the part of the Revenue Officers...” (Singh, 1917: 41). In the report for Gilgit, Singh lists 14 projects which he believes are feasible with “a fair outlay of capital”. In suggestions 1 and 2, Singh has in mind an increase in grain production and the establishment of a dairy for the benefit of troops stationed in Gilgit tehsil. In suggestion 7 he discusses the renovation of a kuhl shared by two communities. One of these communities “did not help the zamindars of Kani Das in repairing the kuhl, and the result was the total failure of Rabi crops...” (ibid.: 38). This reveals Singh’s poor understanding of water rights in irrigation. In suggestion 8, Singh reveals his (government’s) indifference and indignation towards the nomadic Bakarwals, and more generally, towards the interlinked and self-supporting livelihoods of the various social groups living side-by-side. He states: “A fine and extensive swardy plot of culturable waste land... grows grass luxuriantly. Bakarwals haunt the place in summer... They object to the land being turned into cultivation, but as it is considered desirable to prohibit these rude nomads from entering into the limits of the Gilgit District, their objections seem to carry no weight... it is hoped that the land will soon be brought under plough” (Singh, 1917: 39). Again, at the end of the section, Singh mentions his (and his government’s) desire to bring further grazing grounds under the plough.

**Public Works Department interventions in the early twenty-first century**

During field research in Skardu in 2013 a visit was made to the Directorate of Agriculture (Baltistan region), which focuses mainly on plant breeding. The Director of Agriculture, when interviewed, said that the Federal Government of Pakistan had established a Water Resources Department (WRD) for Baltistan Region five years ago, with its own Deputy Director, a Water Management Officer, and other staff. However the Water Resources Department has not been given charge of irrigation development work, which continues to be controlled by the Public Works Department. The PWD’s engineers complete irrigation projects, and then hand them over to villagers.

The WRD’s Water Management Officer, when interviewed, provided details of irrigation projects initiated from 2003-2004 to 2010-2011 under the ‘National Programme for Improvement of Watercourses’. Of 122 listed projects, 83 are completed, 28 incomplete (30-93% completed), whereas a further 11 projects are ‘ongoing’. Of the 122 projects, 27 are for Shigar valley. Three projects have been completed in Tisar Union Council, and one further up the Basha valley, in Basha Union Council. Of the three in Tisar UC, two were in Chutron (2006-2007 and 2007-2008) and one in Tisar village (2006-2007). The amount spent on these projects in 2006-2007 was 250,000 Pakistani rupees [~3,300 Euro], and in 2007-2008 287,500 Pakistani rupees [~3,500 Euro]. A ‘farmer share’ of 100,000 Pakistani rupees [~1,300 Euro] is listed for each of the projects, which implies that villagers are expected to contribute their free labour.

According to the Project Manager for the LG&RD, interviewed in Skardu, it is the elected Members of the Gilgit-Baltistan Legislative Assembly who decide upon and sanction PWD schemes; whereas the District Council and Union Council’s elected councillors decide upon and sanction LG&RD schemes. To villagers, however, this distinction may be less clear cut. Respondent DD in Thurgu

37 The actual result of these projects could not be verified during fieldwork, including whether or not villagers actually contributed 100,000 Pakistani rupees worth of voluntary labour to each of the projects.
thought that the MLA Raja Azam Khan, after winning the election in 2009, was responsible for the allocation of 40,000 Pakistani rupees (~350 Euro) from the Tisar Union Council’s fund to Thurgu’s villagers, which was paid to labourers for the repair of Hrkong Lungma. He may be correct in this instance, for since 2009 the Union Council’s councillors have no decision making authority.

Local Government & Rural Development (LG&RD) department interventions

The LG&RD department allocated 540,000 Pakistani rupees (~4,200 Euro) to Tisar Union Council for the financial year June 2012-June 2013, to be spent on 15 projects: a community centre, four water (irrigation) channels, a road, eight protective bunds (against river erosion), and a water tank (Table 8). An additional 90,000 Pakistani rupees (~700 Euro) was allocated for new carpet and water supply to the Chutron government-owned rest house, which provides a stop-over for government officials and for tourists. Interviewed villagers said that the total amount of funds sanctioned for their UC has not changed much in recent years, only that the Assistant Commissioner (AC) based in Shigar now holds the purse strings, whereas before it was a locally elected Chairman of the UC. For example, respondent BB, who was Thurgu’s councillor for the period 2002-2007, said that 50,000 Pakistani rupees used to be allocated to Thurgu each year. In one year it was spent to repair a part of Ghora Bloq pi hrkong, in another to construct a water tank for shepherds, and in the next to install a pipe to bring water from the tank to the shepherds’ hut.

Table 8: Tisar Union Council’s budget for June 2012-June 2013

<table>
<thead>
<tr>
<th>No.</th>
<th>Projects completed (June 2012-June 2013)</th>
<th>Category</th>
<th>Allocated amount (Pakistani rupees)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Community centre in Tisar</td>
<td>Facilities</td>
<td>40,000</td>
</tr>
<tr>
<td>2</td>
<td>Four water channels</td>
<td>Irrigation</td>
<td>160,000</td>
</tr>
<tr>
<td>3</td>
<td>Repair of link road</td>
<td>Connectivity</td>
<td>20,000</td>
</tr>
<tr>
<td>4</td>
<td>Eight protective bunds</td>
<td>Erosion control</td>
<td>280,000</td>
</tr>
<tr>
<td>5</td>
<td>Construction of water tank</td>
<td>Water supply</td>
<td>40,000</td>
</tr>
<tr>
<td>6</td>
<td>Water supply to government rest house</td>
<td>LG&amp;RD property (tourism)</td>
<td>40,000</td>
</tr>
<tr>
<td>7</td>
<td>Purchase of carpet for govt. rest house</td>
<td>LG&amp;RD property (tourism)</td>
<td>50,000</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>630,000</td>
</tr>
</tbody>
</table>

Source: Data obtained from LG&RD, Skardu office

Of the 2012-2013 budget for Tisar Union Council (Table 8), 160,000 Pakistani rupees (~1,200 Euro) is earmarked for the improvement of four water channels, two in Tisar, one in Chutron and one in Demal. Small amounts of 40,000-50,000 Pakistani rupees (~400 Euro) are annually provided for minor irrigation channel repair projects. This approach means that no substantial intervention can be made by the LG&RD, e.g. major renovation or the creation of a new irrigation system. It also means that an amount might be allocated for any given channel in the Union Council just once every ten years or so (for there are six revenue villages in the UC, and within each village there are multiple channels). Residents of the hamlet Zing Zing said that in 2012 they went to the Skardu LG&RD office with an application for 60,000 Pakistani rupees (~500 Euro) to repair 300 feet of stone wall along Maloni hrkong. This scale-jumping strategy allowed them to bypass local politics.

For Gilgit-Baltistan, Fazlur-Rahman has claimed that most rural development programmes initiated by the LG&RD department follow a sector-based development approach, with different line agencies looking after their own projects without sufficient coordination. Public participation has not been encouraged by the state authorities. In contrast to this, Fazlur-Rahman claims the development
strategy of the Aga Khan Rural Support Programme has been highly successful, representing ‘sustainable rural development’ (Fazlur-Rahman, 2007: 332-333).

**Aga Khan Rural Support Programme interventions (in Shigar and Tisar Union Council)**

When the AKRSP began its work in the 1980s its focus was the direct integration of the village population into decision-making, planning and implementation processes via formation of village organisations (VOs), and entrustment of project maintenance/management on completion. In this way, it planned to fill what it coined “the institutional vacuum” left after the 1970s abolition of feudal rulers (Clemens, 2000: 5, Fazlur-Rahman, 2007: 335). This perspective is historically incorrect if applied to Baltistan however, for as stated by Raja Azam Khan in interview, and as confirmed by a review of literature, the rulers of Shigar and of Baltistan’s other former principalities lost their power to the Dogras in the 1840s, a power which was further eroded through the land revenue settlements undertaken in the early twentieth century. It was only in Hunza and Nagar where the rulers stayed in power till 1972, a point not properly considered by AKRSP (see Wood and Shakil, 2006: 372-380). Nevertheless, by its sixth regional programme year in 1990, 156.1% of Shigar subdivision’s 57 villages were covered by village organisations (i.e. half of villages had two VOs), and 58.3% of all households in Shigar (4,759 in the 1981 census) were members of VOs, with each VO having an average membership of 31 households (Clemens, 2000: 9).

Productive Physical Infrastructure (PPI) was AKRSP’s major programme, and irrigation projects (the construction and repair of irrigation channels in particular) were the major part of this programme. In 1990, in addition to irrigation channel projects which comprised about one-third of all projects, non-channel irrigation projects such as pipe and lift irrigation projects were implemented in Skardu valley and Shigar valley, and with increasing distance from the urban centre of Skardu there was a higher share of flood control and boundary wall construction projects (Clemens, 2000: 19-21). The programme in Baltistan was carried out through the local administration, which meant that the programme’s expansion was slow through the 1980s, initially centred at the Indus and Shigar rivers (ibid.: 25). Fazlur-Rahman (2007: 338-339) analyses the PPI projects completed by VOs up to 2000, and finds that of 802 projects initiated in Baltistan, 85% were completed by 2000. Of these 802 projects, 54% were for irrigation (including 388 feeder channel/pipe irrigation, 30 storage reservoir, and 14 lift irrigation projects), 26% for ‘other’ projects (i.e. 89 protective works, 78 boundary walls, 9 micro-hydrel schemes and 33 water supply/delivery), with the remaining 20% of projects covering transport, i.e. roads (143 projects), and community centres, bathrooms and sanitation (14 projects). After completion of PPI activities, many VOs went into periods of dormancy (Wood and Shakil, 2006: 384). For several years the AKRSP has recognised that the VO model exists only to serve a purpose (“you need a boat to cross the river, but you don’t need to carry it on your shoulders when you have to climb the mountain that is now ahead of you” (Khan, quoted in Hunzai, 2006: 458)).

AKRSP have not focused on agriculture and NRM [natural resources management] for the past ten years or so, according to the Deputy Regional Programme Manager (RPM), Skardu. The organisation has also stopped insisting that village organisations (VOs) save money. Another AKRSP member confirmed this, saying that VOs saved money only until 1997-1998, and that AKRSP no longer insists upon this. According to Wood and Shakil “The spread of the programme in Baltistan was very gradual... In more recent years, however, the fragmented sense of ownership among the Balti Shia communities became apparent when extreme religio-political forces denounced AKRSP and appealed to the communities to de-link themselves from AKRSP. AKRSP-Baltistan emerged intact
from this crisis in the late 1990s with great difficulty” (2006: 385). The following analysis should keep in mind that the Tisar Union Council is home to an Agha with a religio-political hold on the upper Shigar valley. AKRSP has undertaken a total of 30 projects in Tisar Union Council over the period 1986 to 2010, of which nine have been irrigation projects (eight irrigation channels, one storage reservoir). Running from 2009 to 2014, a project called SEED has focussed on the four Union Councils located in upper Shigar valley: in the Basha (Tisar and Basha UCs) and the Braldu (Dassu and ald u UCs). The project activities include water supply schemes, construction of irrigation channels and storage reservoirs, formation of Local Support Organisations (LSOs) etcetera.

Of SEED’s 15 irrigation channel sub-projects in the four Union Councils of upper Shigar, four are located in Tisar UC (Table 9). Of the four, two were complete (Hamasil and Thurgu) and two (in Tisar revenue village) ongoing in spring 2013. The ‘share of cost’ SEED has been able to provide for an irrigation channel project far exceeds the amounts made available from the LG&RD (e.g. in Thurgu 666,238 Pakistani rupees [~5,650 Euro] as compared to 40,000 Pakistani rupees [~350 Euro]). The ‘system of dialogues’ used during the interventions is explained in Khan and Hunzai (2000: 138).

An AKRSP/SEED staff member said that 70-75% of the community’s household representatives must be present for the 1st dialogue, and 75% must be in attendance and agree to the project during the 3rd dialogue; only then can a cheque be handed to the president of the concerned VO.

<table>
<thead>
<tr>
<th>Village / hamlet name</th>
<th>Date of 1st dialogue</th>
<th>Date of 2nd dialogue</th>
<th>Date of 3rd dialogue</th>
<th>Progress (mid May 2013)</th>
<th>Total cost (PRs)</th>
<th>SEED share of cost (PRs)</th>
<th>No. ha to be irrigated</th>
<th>Length of channel (feet)</th>
<th>No. household benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hamasil</td>
<td>29.05.11</td>
<td>02.06.11</td>
<td>22.06.11</td>
<td>100</td>
<td>1205,484</td>
<td>921,816</td>
<td>60</td>
<td>5000</td>
<td>80</td>
</tr>
<tr>
<td>Thurgu</td>
<td>10.05.12</td>
<td>16.05.12</td>
<td>02.08.12</td>
<td>100</td>
<td>888,346</td>
<td>666,288</td>
<td>15</td>
<td>4300</td>
<td>60</td>
</tr>
<tr>
<td>Arincho</td>
<td>21.03.13</td>
<td>30.03.13</td>
<td>15.04.13</td>
<td>20</td>
<td>886,076</td>
<td>615,841</td>
<td>15</td>
<td>4600</td>
<td>30</td>
</tr>
<tr>
<td>Qaimabad</td>
<td>21.03.13</td>
<td>30.03.13</td>
<td>15.04.13</td>
<td>25</td>
<td>625,027</td>
<td>488,848</td>
<td>48</td>
<td>1400</td>
<td>120</td>
</tr>
</tbody>
</table>

Source: Data provided by AKRSP, Skardu office, 17/05/2013
**Aga Khan Rural Support Programme interventions (in Thurgu village)**

Since 1996 AKRSP has undertaken four projects – including the SEED project mentioned above – in the revenue village Thurgu (Table 10). AKRSP’s work in upper Shigar valley’s Tisar UC began in 1986 however until 1995 the work was restricted to the revenue villages of Tisar, Chutron and Hamasil. According to Sheikh YY, there was initially resistance to AKRSP working in the area, due to the religious concerns of local mullahs. A *fatwa* was issued against AKRSP by the Agha in Chutron. However this resistance was overcome. The Superintendent of Police (SP) and Deputy Commissioner (DC) came by helicopter with AKRSP staff to convince the villagers that there was no religious agenda in AKRSP’s work. Local leaders and villagers only then agreed that the AKRSP’s projects were not *haram* because they served a useful purpose.

**Table 10: AKRSP projects undertaken in Thurgu revenue village over the period 1996 to 2012**

<table>
<thead>
<tr>
<th>Date of 3rd dialogue</th>
<th>Project type</th>
<th>Kind</th>
<th>Village</th>
<th>No. households benefit</th>
<th>AKRSP share of cost (PRs)</th>
<th>Community share of cost (PRs)</th>
<th>Total cost (PRs)</th>
</tr>
</thead>
<tbody>
<tr>
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Source: Data provided by AKRSP, Skardu office, 17/05/2013

The 1996 project entailed the construction of Agha Khan pî hrokong, which draws water from the right side of Lungma (Photo 6). This channel was designed to supply water to a new plantation at the
northern most flank of the village, thus to colonise new land (Figure 3). The channel is 6,500 feet long (>2 km), and took 75 days of labour by 45 workers to complete (according to Sheikh YY). Every household in the village was given a plot of land measuring 75 feet by 24 feet. Several trees, grown to produce fuelwood, were planted there (safeda, bed, kikar). One villager said that the hrkong was last maintained (cleaned and repaired) three years ago. The hrkong is used only for the period up to mid-May, after which water from Ghora Bloq pi hrkong can be used for the plantation. In 2013, we were told, water had been brought to the plantation via Aga Khan pi hrkong twice. At the tail end of the hrkong the channel had collapsed. 17 years on from the project, little of the plantation remains. A resident of Ashormat pi Khor (a tiny hamlet of Thurgu located at the top of the village), said that six households repair the hrkong each year, and use it to irrigate their land (a total of 0.15 ha) at the plantation. A woman said that she used to have a plot there, but she gave it up. A man said that the plantation was irrigated for four years, but in the end it failed because people showed little interest. My host, respondent DD, said that the villagers had tended the plantation for just two years. During Zing Zing’s 1996 project, two zing were renovated (excavated, enlarged, and lined with cement). However the residents present during our visit to Zing Zing were too young to recall any details.

Photo 6: Aga Khan pi hrkong (left: from its source; right: at its tail end, where it has collapsed)

In 2012, after a lull in AKRSP projects in Thurgu revenue village for a period of over 13 years, AKRSP (under SEED) funded a project to renovate Ghora Bloq pi hrkong (called Ghorza pi hrka further down, see Figure 3). According to Sheikh YY, he and another villager (respondent FF, son of our host DD) went to AKRSP’s Skardu office with an application for the project. A 3,500 feet length of the hrkong was renovated, including the construction of a 250 feet RCC tunnel (Photo 7) which protects the channel at a vulnerable point where twice daily, herds of sheep and goats must cross it. Following guidelines issued by the AKRSP, the villagers formed a dehi tanzeem (village organisation) which comprises three committees: the project committee, having two managers (Sheikh YY, and FF); the audit committee, having three members; and the project leadership committee, having three members. The younger brother of FF referred to his elder brother as the project’s thikadar (contractor), mentioning that his brother would “pay the workers tomorrow”. He also mentioned that his brother is the thikadar for another project in Wazirpur village, in Gulabpur Union Council.
The connection between formal (party) politics, religious politics, and irrigation development projects can be seen clearly in the case of the 2012 project to renovate Ghora Bloq pi h rkong. Since 1994 political parties have been allowed to operate in Shigar valley, and since 1987 there have been two political leaders: Haji Mohammad Hussain, succeeded by his nephew Imran Nadeem in 1999, and Raja Azam Khan (Table 5). Villages are divided into factions by their affiliation to the two leaders, and Thurgu is no different. Roughly one-third (about 30 households) of Thurgu supports the relative of the valley’s former Raja (the MLA Raja Azam Khan), this faction led by Sheikh YY. The other two-thirds (50-55 households) support Imran Nadeem of the nambardar qaum of Kayu village, Gulabpur UC, led by Sheikh XX. It was Sheikh YY and respondent FF, both supporters of Raja Azam Khan, who went to the AKRSP office in 2012 with the proposal for the irrigation channel renovation project. Respondent FF went as far as to claim that “Raja Azam Khan brought the new AKRSP project”. Whether or not this is true is difficult to say, yet this is how the series of events was presented to the researcher. Respondent FF said that:

“The project’s total cost is 866,000 Pakistani rupees [~6,700 Euro], of which 666,000 Pakistani rupees [~5,200 Euro] have already been paid to us in three instalments. 70 households [not including the 10 households mentioned earlier, who have land before Dangjini cholong] stand to benefit from the project by increased water flow in the hrkong. Of the 70 households, 20 households are not shameel [in agreement], because it has been said that AKRSP is haram. So the labour of these 20 households has not been received. These 20 households belong, almost equally, to [the three main mohalla] Zhirkha Khor, Hongo pi Khor, and Ghorza pi Khor. The mullah Sheikh XX has declared the project haram. In the first [1996] project, Sheikh XX was project leader and his son the accountant. In the second [1998] project, to construct the road from Hyderabad to Thurgu, Sheikh YY took the project, but Sheikh XX did not complain because he has land in Hyderabad. In this [2012] project Sheikh YY and I (FF) are the project leaders; so for this reason Sheikh XX has said the project is haram. When the work started [in October 2012], Sheikh XX declared ‘Muslims should not take a project from AKRSP’, which led to the villagers splitting into two groups. He did not support the project because he did not get the contract, and so was not in control of the project”.

However Sheikh XX’s version of the story is that it is haram to accept money from non-Muslims. A Sheikh from a neighbouring village, who lives in Islamabad, supposedly wrote to a mujtahid42 in Iran asking him about AKRSP; and from there Sheikh XX received a response, that it is written in a book

42 A mujtahid is someone with extensive knowledge of Islamic law.
that one shouldn’t accept money from non-Muslims. However Sheikh YY disagreed with this, ‘AKRSP works in Afghanistan, Iraq, Iran, so their projects cannot be haram. He [Sheikh XX] wrote a wrong letter, so got a wrong response’. Sheikh YY stated that if a fatwa against AKRSP was to come from Iran, then he too would observe it.

A register provided to the project managers of the 2012 project, by AKRSP/SEED, is kept at the home of FF. At its beginning, it is hand-written that 65 families agree to the project, and if completed, the village will benefit in four ways: 1) easier access to irrigation, 2) saving time, 3) bare area converted to cultivated land, 4) further production and sale of excess harvest, plus replacement of traditional seeds with improved varieties. The register also states the rules for AKRSP projects, which include the responsibilities of AKRSP and of the project committee. In places it is slightly authoritarian, e.g. ‘whatever AKRSP says, the villagers should agree’. It states that the contractor should complete his work, loss or profit, and that if there is a dispute the project will be discontinued. Although it states that 65 families agree upon the project, only 51 people have signed [some of whom may easily be members of the same household]. The list is also unverifiable, e.g. it includes five Ali’s, four Hussain’s and four Hassan’s, without mentioning their fathers’ or wives’ names. Respondent FF explained that “PPP supporters did not come to work on the project, except for four or five households. MQM people came, and in some cases, three people from one household”. Perhaps this explains why there are 51 signatures even though only 30 households support the MQM party43. For September 2012 45 people are listed as having worked (28 worked for 21 days, 17 worked for 11 days), for October 47 people, and for November 28 people. FF said that although 60 households are ‘with the project’, only 45 turned up to work because the other 15 households have nobody available for labour work. When asked if any money would be left over from the project, or would be saved by the VO (as is written in the rules in the register), the project manager said that the 45 workers would divide any left-over money among themselves as a bonus; however if no money is left-over then the workers would have to continue to work without pay. It was later confirmed that no voluntary contribution was made during the project. This is contrary to the project records made available in the AKRSP office (e.g. Tables 9 and 10). One member of the project’s audit committee stated that money would be saved from the project. The case study highlights the complex relationship between an irrigation development project, struggles for personal gain, and politics (be it formal, local, and/or religious).

6. Discussion

To an extent this study confirms the idea that government agencies (e.g. PWD) operate largely in an engineering, top-down mode while non-government agencies (e.g. AKRSP), for a variety of reasons, work in an instrumental manner assuming that a one size fits all ‘participatory’ model can adequately engineer the necessary institutions for intervention projects to succeed. One hundred years ago, as revealed in Thakur Singh’s assessment reports for Gilgit and Skardu tehsils, the PWD on the behest of the government of the time, were keen to create irrigation channels to bring virgin land under the plough, in the process overriding certain communities’ pre-existing water rights and/or customary rights to use land for grazing. No second thought was given by administrators or

43 The members of any one household are not always supporters of the same political party; and people do switch parties. Respondent BB switched parties at the last election; however his wife did not. Other factions or tensions, obviously, exist within communities too. The younger son of DD, who guided us in the village, once stated that he can “only visit a few households in the village because he is a supporter of the Raja”.

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engineers to such behaviour, for agricultural expansion and intensification (partly to feed standing armies), and the sedentarisation of nomadic peoples was accepted as the path towards progress.  

Similar notions of progress can be detected in the goals of AKRSP’s irrigation interventions. For example, in Thurgu’s 2012 project register it is written that the project seeks to convert bare areas to cultivated land, to further production and sell excess harvest, and replace traditional seeds with improved varieties. While the NGO’s approach is nowadays rather laissez faire, it still contains traces of management framework thinking. For example, the project insists on institutional arrangements (largely existing on paper) which include management, audit, and leadership committees. Research from the Himalayas has shown that the mere formation of user groups is insufficient a condition for the taking of informed water-related decisions that can lead to sustainable irrigation practices (Manzardo, 2000, Saravanan, 2009, 2010). Coward (1990) advocates meetings with large and small groups of farmers to discuss existing rights and to determine commitment to their continuance or modifications. This may (or may not) take place during the AKRSP’s project procedure of first, second and third dialogues, but is unlikely to do so in government projects implemented by the PWD.

This study has attempted to illustrate the centrality of context, power relations, identities, norms and values to irrigation practices, and to irrigation development interventions. For example, most of the disputes surrounding water rights brought to the attention of Shigar’s tehsildar come from Alchori and Gulabpur, for it is in these Union Councils that water scarcity is most acutely felt. In 2013 villagers in Alchori UC deprived a newcomer from Ghanche to irrigation water for barren land he had recently converted to arable land, by arguing that he has no right to the water: he only has a right to a share of water attached to the older land that he purchased. The tehsildar’s observation explains why out of the 27 ‘improvement of water courses’ projects carried out by the PWD in Shigar valley between 2003 and 2011, nine were in Alchori UC and 10 in Gulabpur UC (leaving eight projects for the remaining eight Union Councils). Further research is needed to examine how and why irrigation development interventions target certain Union Councils, or certain villages within Union Councils. Are decisions made according to need or through political favouritism? During project implementation (by PWD, LG&RD, AKRSP) are pre-existing patterns of hydraulic property rights explicitly recognised and respected? Regardless of whether a one size fits all ‘participatory’ model is imposed upon project recipients, they should be.

Interventions should not erode local responsibilities and initiatives for sustaining irrigation systems, yet there is more than enough evidence to suggest that Thurgu’s 2012 intervention may well do this. Did the project honour existing water rights by not creating changes to the way the main system is operated and water distributed? Did it build upon or undermine existing social arrangements? These are the types of questions that agencies should consider before sanctioning projects and while projects are ongoing. The Riwaj-i-Abpashi can be considered an important guide to be consulted to understand a village’s water rights and irrigation customs (Coward, 1990). Yet interviews with AKRSP staff, and visits to the District Records Room in Skardu, made clear that very few – if any – non-locals inspect the Riwaj-i-Abpashi. The repair and improvement works to Ghora Bloq pi hrkong (Photo 8) will definitely have improved water access for some if not all command area farmers. Perhaps new turn-outs (Photo 8, right side) were created during the renovation work, whereas others were not? It

44 During field research there was insufficient time to establish the impact of present-day PWD interventions on the existing water rights of households and communities.
is almost certain that the villagers who labour on a project will have their interests at heart if any modifications are made, which is why projects should be truly participatory. Factions will always exist within villages. However in Thurgu’s 2012 project, modifications were unlikely to have been made for villagers are related to one another by ties that transcend party politics, and those not contributing labour would have kept a close eye on the process to ensure their water rights would not be weakened. As the project was completed only in spring 2013, its impact cannot be assessed.

Photo 8: Section of Ghora Bloq pi hrkong renovated under the SEED project

In the Shigar valley two land revenue settlements, which documented irrigation rights, took place in the early twentieth century (in 1902 and 1913). From the empirical work undertaken in Thurgu, it is difficult to state whether or not these recorded irrigation rights provide much of ‘the social glue’ (Coward, 1990) required for operating and sustaining irrigation systems in the present-day. Some rules have remained consistent over the century. For example, Ghora Bloq’s watchman continues to be selected on an annual basis, and is remunerated at the end of the season with 3 kg grain from each household. The fine for non-attendance of the annual maintenance of Ghora Bloq pi hrkong remains set at 1 kg ghee per household. The payments and fines appear to have remained adequate because the total amount increases over time with demographic growth and household subdivision. However some rules are being modified, due to the changes taking place in society. While the Riwaj-i-Abpashi states that the fine for non-attendance of the annual maintenance of the other irrigation systems within the village is 1 kg grain daily, nowadays there is disagreement. A relatively wealthy villager, respondent DD, said the fine is 1 kg barley for poorer households and 30 Pakistani rupees for the wealthier. Others claimed that a fine is no longer demanded from non-attendees. Therefore some changes are taking place to (both normative and organisational aspects of) the water rights systems that have for centuries regulated and mediated villagers access to water. The important difference between Coward’s research area (Himalayan foothills) and the Shigar valley (Karakorum/ trans-Himalaya) is that in the latter, villagers cannot allow their irrigation channels to fall into disrepair, for if they were to do so their villages would simply be uninhabitable. For this reason, the research findings in Thurgu do not appear to tally with those of Baker (from the Kangra valley, Himalayan foothills), which show that the codification of irrigation knowledge in the Riwaj-i-Abpashi (Baker, 2003) as well as increases in levels of nonfarm employment (Baker, 2005) have, for example, led to the decline in the authority of traditional water masters. Societal change, precipitated by multiple overlapping factors, is perhaps too complex to be captured in deterministic models.

The flow of people, goods and ideas across time and space are ubiquitous to the Shigar valley, as they are to most places in today’s world. Thurgu’s male villagers are highly spatially mobile (and by
contrast, the women are highly immobile). Not a few have ventured to Iran and Iraq, and many have travelled within Pakistan to Gilgit, Islamabad, the Punjab, Karachi, mainly for religious, educational or employment reasons. Migration patterns have been developed by villagers to complement their agricultural and pastoral livelihoods and associated commitments. Yet there is also likely to be time-space compaction (Allan, 1987) whereby activities are compressed into different schedules, livestock herd sizes reconsidered, cropping patterns altered, and so on. Besides being travellers themselves, men are also used to meeting people from other cultures and societies in their home valley. As porters up to the K2 base camp, many have served mountaineers from China, the USA, and Europe. Due to the presence of AKRSP and other NGOs within Shigar valley, people are used to international visitors.

These interactions between local and outside cultures and societies are not new, and are also not always interpersonal. Goods and ideologies have been exchanged for centuries. Kreutzmann (1988) suggests that prior to his death in 1824, a raja of Hunza returned from exile in neighbouring Badakhshshan with new techniques of irrigation system construction. When the PWD arrived in the late nineteenth century, its engineers would have studied the channels they came across, and while overseeing the construction or repair of channels would have introduced new technological innovations or concepts. Baltistan’s societal structure, including community and intra-household relations, has been influenced over the years by religious teachings from Iran and Iraq, by religions trends within Pakistan, by the governmental systems of the Jammu Dogra, British India and Pakistani (often Punjabi) elite, by international donor (best practice) trends via the AKRSP, as also by modern forms of communication (satellite TV, Skype, Facebook) and travel (flights encourage tourism).

Ideologies of what constitutes development are introduced to the region via the practices and discourses of both government and non-government agencies. Settle (2010: 29) notes that:

“the AKRSP has done a great deal for the people of the region, notably in reducing poverty. However, the AKRSP itself has had difficulties reaching the poorest. This may be due to the perpetuation of elite power through the VO [village organisation] system...there is an increasing gap between what the market provides and what is provided by the government, which has been sidelined in the development process and has failed to capacitate itself. While this gap is presently filled by the AKRSP, it is currently looking towards scaling back its operations and the poorer populations of the region may well not be able to afford to pay for the services that are not provided by government if and when donor funds are reduced. Moreover, it must be recognized that the AKRSP has contributed to the “decapacitation” of the Pakistani government by failing to address government capacity in establishing itself in substitution roles.”

Settle’s work views the AKRSP strategy as being ideologically ‘entwined’ with the dominant, neoliberal discourse of development. Settle shows that AKRSP’s strategy has moved from broader rural development to individual projects, and that their social mobilisation strategy has come to focus on the larger, inter-village organisations, the LSOs (Local Support Organisations, formed under SEED in the Basha and Braldu), which will themselves deal with donors once the AKRSP ceases to act as a go-between. Settle is highly critical of the AKRSP model, questioning its replicability and naming accountability as its greatest limitation. Settle claims “the first decade of the AKRSP was a “golden age”, whereby staff and volunteers were idealistic and highly motivated. This has given way, to some degree at least, to nepotism and corruption whereby the AKRSP is no longer an NGO different to the
others, but another ‘gravy train’ busy reporting its own success in order to secure continued funding” (Settle, 2010: 25). The ‘decline of AKRSP’ was described in detail during field research by respondent WW, who worked as a social organiser for AKRSP through the period 1989 to 1993. WW’s testimony essentially confirms the above analysis of Thurgu’s 2012 irrigation project:

“Nowadays the social organisers do not follow the rules. The first rule was that social organisers must get 75% of signatures for any resolution. Nowadays they work like the government, just going for a key person. Actually the rule is that if people are not together, the project should be left for one year. What happens now is that if a person is disliked, they go to the AKRSP to get funds, bring a project and make people like them. But of course this furthers the problems. The problem with AKRSP is not the issue of Muslim versus non-Muslim, but of the style of work which leads to misunderstanding. When we used to work as social organisers, we would stay with the villagers all day into the night, sometimes till 2am, even with the villagers abusing us. Both then and now, the villagers do not know where the money comes from. Often they think it’s from His Highness the Agha Khan’s pocket. We had three principles, but now all are neglected: 1) to organise, to stay with the people, even to not accept food from them; 2) savings, all VOs had to save, but now there are not even VOs, just interest groups in each village; and 3) skills development, but there are no skills nowadays. Nowadays the trend is for big projects, like the USAID-funded Satpara Development Project.\(^{45}\)

Thus far, and due to the effects of a style of analysis and writing common in science, the reader must be imagining that government and non-government agencies come to villages to undertake irrigation projects. In some cases they do, for as stated by Coward (1990: 85) for India, but applicable to Pakistan because it inherited and pursued a similar political model post-independence, government intervention in irrigation is a politically driven process, with “Elected political leaders frequently seek[ing] to use irrigation development activities as a form of reward or inducement for their political constituencies”. However it is also (and often) the case that villagers (elected leaders, influential or aspiring persons) themselves network and build alliances to mobilise and bring to their village outside resources (financial, material, technical expertise). The analysis shows that the residents of Thurgu are divided into various, overlapping factions, which derive from individuals, households and other social units’ intertwined political, religious, and economic interests. The presence of such factions would lead one to suspect that collective action becomes more difficult as time progresses. For while the period 1962-1997 was remembered favourably by villagers, as a time when the leaders Haji Mehadi and Haji Hussain ran the affairs of Thurgu, in the present-day “the village elders do not take decisions; each individual makes his own decision” (Haji DD).

Yet regardless of their disagreements, water-users must continue to carry out multiple, overlapping tasks to sustain their irrigation systems. This study has shown that for a village like Thurgu, irrigation projects are few and far between. This is partly because of the village’s positionality with respect to its physical geographical location and the jurisdictional administrative units of the Pakistan government. Thurgu is located in the upper Shigar valley, on the less populated bank of a smaller valley. Within Skardu district Thurgu is located in the sub-division Shigar, in one of its four most peripheral Union Councils. Within Tisar UC, Thurgu is a peripheral village, for the main road runs

through the largest village Tisar, to Chutron (home to the Agha, the hot spring baths, the government rest-house, and to many government employees) and then further up the Basha valley. Thurgu’s location close to Chutron is in some ways a double-edged sword, for on the one hand it has proximity to powerful local actors, yet on the other hand some of these same actors may block rather than facilitate progress. The former UC Chairman, Sheikh ZZ, could not fathom why I chose to stay for one week in Thurgu village (he said of Thurgu’s people, “they know nothing”).

Cox’s notion of ‘spaces of dependence, spaces of engagement’ (1998) captures well the ways in which individuals (be they water-users of specific channels, leaders of a faction within a village, or formal political leaders) strive to secure the conditions for their continued existence, by drawing value (capital) towards their space of dependence. The residents of Zing Zing provide an example. Numbering only eight households, they must continue their upkeep of their (place-specific) irrigation infrastructure, for their farmland and harvest contribute greatly to their material well-being and sense of significance and belonging. The analysis shows that PWD interventions have been concentrated in Gulabpur and Alchori Union Councils, and the few that reached Tisar UC have been implemented in the villages of Tisar and Chutron. LG&RD funding, of lesser economic value, comes infrequently to any particular irrigation system. Zing Zing is probably deemed insignificant as a political constituency, thus its people cannot rely on political leaders. With the LG&RD funds no longer controlled by locally elected councillors, in 2012 several of Zing Zing’s men went directly to the Skardu office of the LG&RD (bypassing the Tisar and Shigar offices/officers) with an application for 60,000 Pakistani rupees to repair a stone wall. This scale-jumping strategy succeeded.

Similarly, Sheikh YY and respondent FF, prominent members of the less populous political faction within Thurgu, went to the Skardu AKRSP office with an application to renovate Ghora Bloq phrkong. Respondent FF said that their leader, the valley’s standing MLA Raja Azam Khan, “brought the project”, which may imply that he and Sheikh YY requested Raja Azam Khan to help them secure an irrigation sub-project within the AKRSP-led SEED project (or this may have been invented by FF?). Feeling threatened by the success of Sheikh YY in bringing the financial resources (a significant 666,000 Pakistani rupees) to Thurgu, Sheikh XX reacted in an attempt, one supposes, to re-assert and secure his space of dependence. Sheikh XX’s strategy involved international scale-jumping, whereby his associate supposedly wrote a letter to a mujtahid in Iran. Sheikh XX’s attempt to prove to Thurgu’s villagers that AKRSP funds should not be accepted appears almost foolish if one considers that he willingly accepted the organisation’s funds in 1996 (he and his son were project managers) and in 1998 (when a road was built connecting Hyderabad, Zing Zing, and Thurgu, in all of which he owns farmland). Yet perhaps sufficient time had passed for him to play that card? The analysis demonstrates that the relation between spaces of dependence and spaces of engagement is thoroughly contingent (Cox, 1998). It also shows that the construction of political alliances requires engagement with differently positioned individuals or organisations via networks of association. This is not only a politics of scale, but is also contingent on the intersectionalities of actors’ spatial mobility and social mobility, mediated by the materialities of place (Leitner et al., 2008).
7. Conclusion

The political and contentious nature of water derives from its immeasurable relationship with life, and this can be seen nowhere more clearly than in desert landscapes such as those found in the Shigar valley, in the central Karakorum. This paper shows that the irrigation practices of water-users in a small village located far away from geographical and political centres are interconnected to and have been shaped by, in a myriad of ways, far-off places and bygone times. It also illustrates how present-day and past irrigation development interventions bring together village-based water-users and leaders, local bureaucrats and politicians, regional and national administrators and managers, ideologies drawn from the mainstream discourses of academic disciplines and from international policy making circles, and the finances of European and Canadian governments and their tax-payers as well as of the Government of Pakistan. The materiality of a place such as Thurgu village is self-evident as one walks through its roads, paths and fields. The village and its greenery are bordered above and to the sides by irrigation channels that must be checked and repaired on almost a daily basis. The channelling of spring water and snow melt water to the village and its fields and orchards is a part of daily life for the inhabitants. That the village’s materiality regulates and mediates social relationships is therefore self-evident. That it is embedded in broader sets of historically constituted social relationships becomes clear when contemporary water management practices are compared with those recorded one hundred years ago. Many of the rules have remained unaltered over the past century, some have been modified, and others are in the process of modification due to political and societal change in recent years and decades. The examination of how projects come to be implemented in certain villages, and how villagers seek to bring projects to their villages reveals the intersectionality of positionality (of people, channels, villages), mobility (spatial mobility to cover geographical space, social mobility to transcend wealth and status differentials), networks of association (e.g. kinship ties, political party affiliation, various government offices, religious networks) at different geographical locations and across nested (scalar) politically-delineated jurisdictions. The research, therefore, emphasises the spatial as well as the temporal nature of the sociopolitical relationships that surround irrigation management and development practices.
List of interviews, and currency conversion rates

### List of interviews

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<tr>
<td>17/05/2013</td>
<td>AKRSP’s Deputy RPM</td>
<td>Skardu</td>
</tr>
<tr>
<td>21/05/2013</td>
<td>AKRSP staff member</td>
<td>Skardu</td>
</tr>
<tr>
<td>03/05/2013 and 08/05/2013</td>
<td>Sheikh YY</td>
<td>Thurgu</td>
</tr>
<tr>
<td>05/05/2013</td>
<td>FF (also a son of DD)</td>
<td>Thurgu</td>
</tr>
<tr>
<td>05/05/2013</td>
<td>Audit committee member</td>
<td>Thurgu</td>
</tr>
<tr>
<td>20/05/2013</td>
<td>Shigar’s tehsildar</td>
<td>Shigar</td>
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### Currency Conversion rates (source: xe.com, accessed February 2014):

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<th>Date</th>
<th>Pakistani rupee to Euro</th>
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<td>28th June 2009</td>
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<td>30th December 2012</td>
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<td>30th June 2008</td>
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<td>4th July 2012</td>
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<td>3rd July 2007</td>
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<td>107</td>
<td>30th June 2004</td>
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Bibliography


AZHAR-HEWITT, F. 1998. All paths lead to the hot spring: Conviviality, the code of honor, and capitalism in a Karakorum village, Pakistan. Mountain Research and Development, 18, 265-272.


Information on the competence network Crossroads Asia

The competence network Crossroads Asia derives its name from the geographical area extending from eastern Iran to western China and from the Aral Sea to Northern India. The scholars collaborating in the competence network pursue a novel, ‘post-area studies’ approach, making thematic figurations and mobility the overarching perspectives of their research in Crossroads Asia. The concept of figuration implies that changes, minor or major, within one element of a constellation always affect the constellation as a whole; the network will test the value of this concept for understanding the complex structures framed by the cultural, political and socio-economic contexts in Crossroads Asia. Mobility is the other key concept for studying Crossroads Asia, which has always been a space of entangled interaction and communication, with human beings, ideas and commodities on the move across and beyond cultural, social and political borders. Figurations and mobility thus form the analytical frame of all three main thematic foci of our research: conflict, migration, and development.

- Five sub-projects in the working group “Conflict” will focus upon specific localized conflict-figurations and their relation to structural changes, from the interplay of global politics, the erosion of statehood, and globalization effects from above and below, to local struggles for autonomy, urban-rural dynamics and phenomena of diaspora. To gain a deeper understanding of the rationales and dynamics of conflict in Crossroads Asia, the sub-projects aim to analyze the logics of the genesis and transformation of conflictual figurations, and to investigate autochthonous conceptions of, and modes of dealing with conflicts. Particular attention will be given to the interdependence of conflict(s) and mobility.

- Six sub-projects in the working group “Migration” aim to map out trans-local figurations (networks and flows) within Crossroads Asia as well as figurations extending into both neighboring and distant areas (Arabian Peninsula, Russia, Europe, Australia, America). The main research question addresses how basic organizational and functional networks are structured, and how these structures affect what is on the move (people, commodities, ideas etc.). Conceptualizing empirical methods for mapping mobility and complex connectivities in trans-local spaces is a genuine desideratum. The aim of the working group is to refine the method of qualitative network analysis, which includes flows as well as their structures of operation, and to map mobility and explain mobility patterns.

- In the “Development”-working group four sub-projects are focusing on the effects of spatial movements (flows) and interwoven networks at the micro level with regard to processes of long-term social change, and with a special focus on locally perceived livelihood opportunities and their potential for implementation. The four sub-projects focus on two fundamental aspects: first, on structural changes in processes of transformation of patterns of allocation and distribution of resources, which are contested both at the household level and between individual and government agents; secondly, on forms of social mobility, which may create new opportunities, but may also cause the persistence of social inequality.

The competence network aims to mediate between the academic study of Crossroads Asia and efforts to meet the high demand for information on this area in politics and the public. Findings of the project will feed back into academic teaching, research outside the limits of the competence network, and public relations efforts. Further information on Crossroads Asia is available at www.crossroads-asia.de.
Publications in the Crossroads Asia Working Paper Series


Crossroads Asia Concept Papers