

Chapter 5

(Un)Making Connections

In this chapter I am concerned with water. To be more precise, I am concerned with the restructuring, or indeed, the *'re-infrastructure'* of the water supply in the village of Amezray. Although this is a quite specific "ethnographic moment" (see Strathern 1999), I will approach it in a broader and more holistic way. In doing so, I want to obviate my thinking on what water is and what it means in this particular context (cf. Krause/Strang 2016; Krause 2018). The leading question is: What are the social practices, technological preconditions, and political forms of organization that underpin how people engage with water and how a water supply system is implemented? To answer this question, I draw mainly on ethnographic material while providing context by drawing on recent literature concerning the infrastructure of water.

My focus is on the village of Amezray where I and many of my main interlocutors, research partners and friends lived. Moreover, Amezray SMNID, the main association I was working with during my stay in the valley was equally based there. It just so happened that I was present when the association began working on a new water supply system. I ended up sitting in assemblies convened by the association in order to inform the community about the project, its goals, and scope. Friends of mine would also explain certain aspects of the project to me, and I equally witnessed the installation process of a new water connection and water meter in the house where I was living. I realized that I was looking at a new research focus for my dissertation project, led by the empirical occurrences of the particular locality in the High Atlas.

Despite my focus on Amezray, I will also be talking about the water situation of the neighbouring village of Agoudim. I include the latter case for two main reasons: First, Agoudim was the first village to develop a local and largely self-sustained water supply system. It had experienced a longer history of problems, conflicts, and expertise in implementing such a water system. Second, it was clear from the beginning that in order to implement the new water supply system in Amezray, those in charge would do well to heed the advice and expertise of those responsible in the neighbouring village. As such, I took the view that in order to fully understand the water supply system in the valley I had to combine the two cases.

This chapter thus proceeds as follows: First it will focus on the infrastructural side of water provision, examining practices of irrigation where people direct and redirect the flow of water for their everyday purposes. But water also has a structuring function with regard to spiritual practices and the mythological foundations of the valley. Here, water becomes more than an object of use or a commodity. Instead, it possesses special qualities of a social medium in that it washes around and connects cultural archives of thoughts and histories, socio-technical arrangements, and reservoirs of situated practices. The second section will deal with the fact that it is precisely the availability of and access to water as a common good—especially in the field of development cooperation—that makes water a political variable: it is a measure of progress, a claim, and a call for action. This will set the stage for the following main ethnographic section concerning the implementation of the water system—with all its granular organizational practices—in Amezray, which I analytically reformulate as the issue of making a public. The section revolves around different forms of connections, such as the connection to a new water supply, connections to another forms of (self-)organization and administration, and connections to a global flow of ideas as to what constitutes a *good* and successful life.

Water Infrastructure

Infrastructures, as Brian Larkin states it, “are built networks that facilitate the flow of goods, people, or ideas and allow for their exchange over space” (Larkin 2013: 328). What is more, they make up “matter that enables the movement of other matter” and are simultaneously “things and also the relation between things” (ibid.: 329). They are determined not only by their materiality and architecture, but also by their fundamental relationality. They are the condensation point of techno-political, socio-cultural as well as symbolic-semiotic processes. As a relational concept, then, the question is *when*—not *what*—an infrastructure is and how it “becomes infrastructure in relation to organized practices” (Star/Ruhleder 1996: 113).

Technologies and infrastructures of water raise questions of politics (see Conca/Weinthal 2018; Venkatesan et al. 2018; Rasmussen 2015) as well as questions of governance—particularly given that access to clean water and water scarcity are increasingly salient policy issues (Woodhouse/Muller 2017; Bakker 2010). Recently, literature drawing on political ecology, science and technology studies, and anthropology has shown that supposed natural infrastructures of rivers and their water flows are in fact also made and remade between contested social and political fields (Carse 2012, 2014; Barnes 2014). In Egypt, for instance, this means that the everyday practices and technologies concerning the Nile both guarantee water flows and mediate politics. Egyptian water appears as “embedded in and generated by multi-scaled social, cultural, economic and political relations” (Barnes 2014: 25). Water is embedded in a variety of relations and turning our attention to water infrastructure can thus help us understand those relations. Conversely, it is water’s material properties which enable infrastructural assemblages to function the way they are supposed to (Björkman 2015). Looking to the example of urban Mumbai, it is “pressure”, as Nikhil Anand (2011) claims, that ensures the correct functioning of a complex system of tubes and pipes in terms of providing drinking water.

The role of pipes and tubes can also be specified in this respect. A pipe or tube is not only part of a larger water supply system, for example,

but “is attached to techniques of regulation, audit, and administration” (Larkin 2013: 335). It is worth quoting Larkin a little further here: “[The pipe’s] material form is transposed from a hollow tube to digits on a budget and words on a page, and all these forms—as hollow tube, as number, as series of letters—are pipes” (ibid.; see also Jensen 2016). Simultaneously, water management does not merely become political at some particular point or with a certain event, but is rather itself constitutive of the political. Both Anand (2017) and von Schnitzler (2018) stress that water infrastructure hinges on its socio-political context and its particular historicity. In their examples, South-African apartheid is inscribed into today’s infrastructural arrangements while the first establishment of Mumbai’s water infrastructure—which is still used today—can also be said to have helped consolidate the British Empire’s colonial state. Thus, hierarchies, power relations and exclusion can be mapped out in water infrastructures.

For the High Atlas, pipes or water meters can hardly be called an expression of persistent colonial entanglements. It is primarily their prolonged absence that tells a story. However, from a historical perspective, similar processes for North Africa have been analyzed using the term *hydroimperialism*. This refers to the process by which “hydraulic knowledge, and water management practices both revealed and reproduced unequal power relations predicated upon an expansionist *mentalité*, whether political or economic in orientation” (Pritchard 2012: 592, original emphasis). As such, these practices “facilitated and realized France’s colonial project in the Maghreb” (ibid.: 593).

In summary, the focus on water and its infrastructure allows for an analytical approach to questions of politics and, more generally, to questions of the relationship between state, society and the individual. Infrastructural projects—including water supply systems in particular—constitute more than mere historically specific sites of materiality and political contestation. As tokens of modernity, they come with a certain promise and an orientation toward the future. Such a project is in itself a “sociotechnical imaginary” (Jasanoff/Kim 2015). This is intended as a critical reminder that the “materiality of technoscience [...] is surely implicated in the stability and instability of social arrange-

ments, but just as important are the belief systems out of which those materialities emerge and which give them value and meaning” (Jasanoff 2015: 22). Further, this suggests that infrastructural or technological arrangements—not unlike a water supply system I might add—serve “a doubly deictic function, pointing back at past cultural achievements and ahead to promising and attainable futures, or to futures to be shunned and avoided” (ibid.).

In the ethnographic material that I wish to unfold hereafter, the association that is responsible for the new water supply therefore becomes a promoter of the temporal properties of this infrastructural and socio-technical re-organization—whether it wants to, or not. Hence, I am adhering to the analysis of infrastructure’s temporality for this particular case in the High Atlas. I provide, thereby, a critical examination of what Akhil Gupta aptly refers to as “the role that infrastructure plays as an index of modernity and symbol of development” (Gupta 2018: 68). This temporal characteristic of infrastructure, representing “the possibility of being modern, of having a future” (Larkin 2013: 333) is accompanied by its poetics as well as its potential “[to mobilize] and affect the senses of desire, pride, and frustration, feelings which can be deeply political” (ibid.). The “promise of infrastructure” (Anand/Gupta/Appel 2018) can thus only be grasped within the political to which it is deeply linked. Governance and political rationality as well as fantasies and expectations around infrastructure are mutually referential.

An intriguing illustration of this can be found in a chapter of Mandana Limbert’s ethnography of an Omani town: “Changing water distribution practices, made possible by oil revenues and encouraged by discourses on development, have naturalized the introduction of pipes, electric coolers, and diesel and electric pumps as a necessary part of development” (Limbert 2010: 133)—and of Oman’s project of consolidating the nation state. In said chapter, Limbert describes three cases of *progress* concerning the organization of the water supply and the negotiation processes that arise from it. She investigates how specific technologies or infrastructure—in her example a water pump—become the past and only the reminiscence of an earlier way of everyday life. This affective infrastructure, then, enters the *landscapes of memory*, which

are cultivated and preserved by nostalgic practices, for instance by recording the sound of the old water pump.

The foregoing presentation of literature on water infrastructure was intended to provide the context in which I wish to unfold my ethnographic account. It should become clear thereby, what is entailed when I talk about the *re-infrastructure* of the water supply and the surrounding everyday, organizational practices in the High Atlas.

Liquidity of Everyday – Water as Social Medium

Generally speaking, access to water is not a pressing issue for the main settlements of the valley in the High Atlas. By virtue of the surrounding environment, it is taken as a given. The focus here is rather on the maintenance of water flows and the distribution of water. Water may mobilize an array of different everyday practices. Irrigation, for example, is like any water supply system in that it relies on various hydraulic technologies and involves particular socio-political arrangements. This is where specific organizational practices and material preconditions come into play that point beyond the respective manipulation of water flows necessary for functional water distribution. It would seem that water inherently has certain infrastructural aspects or qualities. Indeed, precisely because water is for the most part mediated through technology, infrastructural issues surrounding water are always a fundamental issue when it comes to water provision.

Directing Water's Flow

Infrastructure must be maintained. This is also true of irrigation, a specific form of water infrastructure that is central to life in the High Atlas, and which in many places is still characterized by *agropastoralism*. The flow of water must be secured and managed in order to properly irrigate fields and provide a basis for life. Throughout the whole valley, one of the most striking views are the green terraces on either side of the river which exist anywhere there is space to create them. To facilitate this

agricultural use, irrigation channels (*targa*) that redirect the flow of water through rivers are crucial. These channels often run through the villages, spanning considerable distances and opening up secondary channels that occasionally branch off from the main network. They are used both for the irrigation of farmland and as a general source for withdrawing water. The channels constitute common property rather than belonging to individual persons or single households. To be more precise, particular canals—or sections of canals—are collectively maintained by people with adjacent or connecting arable land.¹ The irrigation system is a delicate and complex arrangement for organizing and managing common resources and functions with the help of sophisticated technologies. There are, of course, certain rules and routines that regulate their utilization and maintenance.

This topic has been extensively covered in anthropological literature. As William Kelly reminds us, irrigation is “more than an act of hydraulic engineering. It requires institutional arrangements [...], is economically important [...], politically significant as a source of power and leverage [...]; and it is of considerable social consequence because it defines patterns of cooperation and conflict” (Kelly 1983: 880). In 1972, Clifford Geertz compared the so-called *traditional* irrigation systems of his main research areas: Bali and Morocco. The former he classified as *wet*, the latter as *dry*. His research in Morocco examined the plains on the foothills of the Middle Atlas, not too far from the major city of Fes. Geertz notes that in Morocco (and in contrast to Bali) there is no structured and collective utility. Instead, he identifies “individual rights” and “contractual obligations” (Geertz 1972: 34) as ordering principles in organizing irrigation. Indeed, he sees a “precise and elaborate system of customary property law” (*ibid*: 32) in place. Geertz postulated that the absence of intricate irrigation channels and of corporate social groupings and political structures to regulate and administer the management of irrigation may be explained by the specific location of his research. For the Algerian dessert—a location that Geertz might have classified as *dry*, too—Judith Scheele (2012, especially the first chapter) shows how in a

1 See also chapter three and four.

setting of increased interconnectivity nomadic actors indeed sophisticatedly and under considerable investment laid out irrigation systems in order to actively make oases and thus places or hubs of exchange and power. Further, recent ethnographies exemplify how the detailed study of irrigation systems provides critical insights into social practices and entangled politics of everyday life in mountainous regions. Such ethnographies show how these socio-material arrangements become a matter of contestation (Gelles 2000, for the Peruvian highlands), and how they function in demanding socio-economic change (Baker 2005, for the Western Himalaya).

Figure 12 & 13: Irrigation channels on different levels next to the river



To a significant extent, David Crawford's (2008) conclusions concerning the Central High Atlas are equally applicable to the valley in which my research was conducted. Crawford shows that the maintenance of irrigation channels is a practical—and indeed unavoidable—everyday activity. Yet it also shows that the way these activities are carried out is both particular to the region of the High Atlas Mountains and Berber culture. His research traces how with recourse to kinship ties

and long-standing ways of categorization working tasks are distributed and thereby inequalities challenged. He is thus able to convincingly argue for the continued importance and valuation of segmentary social logics for organizational purposes and for conceptions of fairness (Crawford 2008: 83-88, 102-111).

Back to the valley of my own research: A number of dwellings on the terraced slopes next to the river also have small gardens (*turtid*) where people grow herbs, tomatoes, and onions, or occasionally figs, peaches and almonds. Such gardens need to be watered manually. For this purpose, a water basin is often built on the premises, at a point of elevation above the house or garden. The basin collects rain water and water that is pumped up from the river or water channels. This necessitates an electric or gasoline-powered water pump and a system of hoses, tubes, and pipes of some description. The decision to implement such a small-scale watering system is typically taken by members of an individual household. This same household must then be able to deploy the necessary resources. Constructing a water basin requires the financial means to pay for workers and materials, and the craftsmanship to independently build and seal it. To fill a basin of this sort, an inflow is required. To this end, a pump shaft is installed in the immediate vicinity of a water channel, serving as a reservoir for the water basin next to the house.

During one of my daily walks through the village, I met Ayoub, the eldest member of his household, who was standing on a concrete shaft, about 1.5m deep. He was dressed in his blue overalls, with mud stains all over his back and arms, scooping mud out of the shaft with a shovel. There was an inlet from the water channel through which the pump shaft would usually fill continuously with flowing water, were it not blocked for maintenance, as was the case at that moment. The drained pit gave a view of the pump, which sends the water up the hillside into the water basin above the garden. To operate the pump, power cables were stretched over bushes and along a slope from the family's house. It was not particularly systematic but it worked well. Once Ayoub had finished shovelling, the shaft filled with water several times. Ayoub cleared the concrete wall of the remaining mud with a sponge as best as possible. His wife Aysha as-

sisted him by emptying the bucket with the scooped mud water and by opening or closing the water inlet from the channel to the shaft.

Ayoub repeated this process every four months or so, he said. Mud and sludge would build up otherwise and this could clog and damage the pump. The water flowing into the shaft via the inlet came from the river and was led through irrigation channels consisting of crevices dug directly into the soil. As such, the water always contained lesser or greater quantities of sediment, depending on the weather. The small gardens near the houses were only possible because of this delicate system, prone as it was to breakdowns or failures at different points. The effort behind these little feats of engineering was not visible at first sight, but the work involved soon became clear to me: such as, first the availability of needed materials for building, having access to spare parts, ensuring power supply for the pump, and securing the inflow of water through well-built and constantly looked-after channels. All for the flow of water.

The Spiritual and Mythical Relationship with Water

Irrigation in the High Atlas is intertwined both with segmentary logics and with everyday religious practices. To illustrate this, let us return to Ayoub's maintenance work for a moment. As Ayoub was servicing the pump shaft, his wife Aysha arrived holding a piece of cardboard with some white powder in it. Ayoub paused for a moment, still holding his shovel loaded with sludge. Aysha took some of the powder between the fingertips of her right hand and said something very quietly, almost inaudible. This was followed by a louder exclamation of "bismillah". She then began sprinkling the powder, first over the pump shaft, then Ayoub's shovel and the sludge which had been accumulating next the shaft. She Reached into the cardboard box again and with two swift movements spread the rest of the powder over the mud. She turned the cardboard over and tapped her fingers on the back to make sure she had removed the residue. When she saw my puzzled face, she began to laugh. She explained to me that the powder was a mixture of salt and flour, then still giggling, she said something else that I did not fully understand. I asked if it had something to do with her belief and blessing (*baraka*). She con-

firmed and thanked me for being aware of this belief and for using the word “baraka”. Meanwhile, Ayoub had already resumed work. He showed no intention of commenting on the situation nor explaining the proceedings any further. Before I knew it, the whole thing was over.

I shall not include a general discussion on the importance of water to religious life and practices (see, for instance, Bradley 2012). However, I do want to briefly touch on two further ethnographic accounts regarding the spiritual dimension of water. Firstly, it is said that spirits or demons (*jinn*, pl. *jnun*) may dwell near water, especially by night. On one evening, I accompanied Fatima to the irrigation channel in order to retrieve a goatskin, which had to be watered for further processing. Upon approaching the channel, Fatima suddenly said what sounded like a short prayer or a protective verse. When I asked her what she had said, she answered vaguely that she had tried to “avoid collisions.” I questioned her further and it became clear that this protective formula consisted in asking God to help her not to bump into any of the *jinn* that were likely to be next to the water.

Secondly, the ritual of washing before prayer is mandatory in Islam, and this is equally applicable in the High Atlas. Usually, a small pot for boiling water is used to do the washing. For the mountainous region, however, there is one notable variation in the practice, which is the use of a specific stone (*taymum*)—as is mentioned in the Quran—rather than washing with water. In the High Atlas region, the stone in question—the *taymum*—is quite common. It is round and smooth, about the size of a pomegranate, and thus cannot be completely enclosed in both hands.

Another spiritual dimension of water are the regular gatherings and types of communal celebrations called *barok*. Large baroks are held at least three times annually, though smaller ones can occur at other points in the year. The first happens in spring and the second in late summer around the time of the walnut harvest. The third usually takes place in autumn, once the season of heavy rainfalls and thunderstorms has passed. It is a time when the irrigation channels have to be cleaned and repaired due to clogging with mud and stone or other damage. The barok consists of a communal meal, at which a religious blessing is said by the Imam. During the gathering, new men are elected to take care of the irrigation

channels for the next year. Sometimes baroks can also be held sporadically, taking place either at the valley's water sources (*ighbola*) or next to the villages' water tanks (the significance of which we shall examine further along). Thus, the maintenance and commemoration of the irrigation systems and technologies of water distribution have a special value.

Water also plays a part in the founding myth of the valley: The founding father, Sidi Said Ahansal, had been sent by his former teacher to found his own lodge, accompanied by a donkey and a cat. He made his journey through the mountains but just as he was at today's village of Amezray, the cat jumped down from donkey on which it had been riding—this was the godly sign indicating that Sidi Said Ahansal was to found his settlement here. But he was not the first person in the region. The area had been already inhabited. At first, he and the inhabitants got along well together, until certain disputes arose that eventually led to serious conflict. With the help of Dadda Atta, Sidi Said ultimately decided to drive the hostile former inhabitants out of the valley. Since first reading Ernest Gellner's rendition of the story, it has been told to me in much the same way many times over:

The friction over land leads him to call Dadda Atta, ancestor of the Ait Atta, by telepathic means. He needs to call seven years seven months seven days and seven hours. When at last Ait Atta and his retinue arrive, the river is in spate, and the Ait Atta are obliged to wait three weeks. Then Sidi Said Ahansal with a wand causes the river to open, and the Ait Atta cross it, with dry feet! (Gellner 1969: 290-291)

As a sign of appreciation for Dadda Atta's help, Sidi Said granted him and his men seasonal use of the pastures. This provides the mythical foundation for the alliance and cooperative relationship that continues to link the *Ihansalen* and *Ait Atta* to this day. It is also a basis for the transhumance of the semi-nomadic and nomadic groups of the Ait Atta. For them, the privileged use of certain grazing lands (*agdal*, Ilahiane 1999) on the plateau during the summer months is fundamental. Traveling hundreds of kilometers and often with very sizeable flocks, they arrive in need sufficient pasture for the season.

Interestingly, the river always implies a certain recalcitrance and a certain force of which Sidi Said would avail to demonstrate his spiritual abilities and his sacred power. Yet the legend also refers to the very particular constellation of the local ecology and environment. It designates the area as favourable and—on occasion—volatile: favourable given the suitable conditions for an agropastoral lifestyle; volatile because of the floods that occur after the heavy rains of the winter months. The torrents (*aqqa*) that roll down the barren hills into the valley can have devastating effects. Access roads become impassable due to the stones, debris, and mud that come washing over the fields near the river resulting in diminished crop yield. Whole sections of irrigation channels are torn away and destroyed by the water.

What Gellner's account does not mention, however, is the true extent of Sidi Said's intimate relationship with the water of the valley. It was Said who created the springs next to the river. With the blessing of God (*baraka n-rbbi*) he prodded his stick into the ground and immediately began drawing water out of the soil. He repeated this movement seven times—the same onomatopoeic accompaniment which was equally made by the older man as he told me the story—"Tap. Tap. Tap. Tap. Tap. Tap. Tap". He created a new spring with every tap of his stick. The astonished people surrounding him began to shout: "Enough! Enough! That's enough!" ("*safi, baraka!*"). The springs were located in the immediate vicinity of Sidi Said's lodge, not far away from where his tomb is located today. Even nowadays, it is common to visit the springs on important religious holidays, life-cycle festivities such as weddings (*tamghra*) and circumcisions (*akhthan*), or as part of the pilgrimage to Sidi Said's tomb. These visits typically serve to commemorate saintly deeds, though they may also simply be motivated by a desire to seek refreshment in the cool and crystal-clear water.

Water thus has a specific mythical significance for the valley and is generally important for the High Atlas region as a whole. However, it also plays a socio-ecological role that is worth examining. The High Atlas can be considered one huge water storage facility for the neighbouring arid plains and is the main watershed for a significant part of the country. Many rivers have their source here and are fed by the precipitation-

rich autumn months and the snowfall in winter. There are no glaciers, however, as the snow and ice melts during summer months, temporary streams of meltwater form. At the same time, the High Atlas is a barrier and meteorological divide that blocks out the hotter and more arid conditions of the Sahara. The High Atlas thus constitutes a very complex but also sensitive hydrological system that is particularly vulnerable to the rapid shifts of climate change (Boudhar et al. 2009; Marchane et al. 2017; see also Schilling et al. 2012; Tekken/Kropp 2015).

In contrast to some parts of the High Atlas Mountains and other arid regions in Morocco, access to water in the valley is guaranteed. The river and springs even provide water beyond the immediate vicinity of the High Atlas itself. The villages in the area are spread out according to the availability of water, or as one member of the local association explained to a group of American students during an intercultural workshop: “In the High Atlas, if there’s a village, there’s a spring.” Not surprisingly, during Morocco’s time as a French protectorate, the French colonial army did choose *Zawiya Ahansal* for their administrative foothold in the mountains nor did they opt for the present-day municipal capital Azilal.

Moreover, the saints (*igurramen*) and descendants of Sidi Said equally had a special relationship with water as it formed part of their extraordinary position among the inhabitants of the valley. Indeed, they once had servants that would fetch water from the quasi-abundant sources, which would then be warmed over fires for hot showers or baths. Needless to say, they were under no particular onus to be economical in their usage. We can thus see that here, as elsewhere, hierarchy and power are integral to the historical relationship between local people and the surrounding ecological conditions, particularly when it comes to water.

“Dwla Makaynsh” – Water as Politics

The government agency *Office National de l'Électricité et de l'Eau potable* (The National Office for Electricity and Drinking Water, or ONEE) is responsible for water supplies throughout Morocco. Provision of water is not the exclusive purvey of the public agency, however, as Moroccans

predominantly get their water from wells, springs, irrigation channels, and rivers. It is also provided to some extent by water usage associations and by private individuals or organizations that sell water. This is especially the case in many of the mountainous areas in the Central High Atlas, which are not connected to the national water supply. In 2004, self-provision accounted for 38 percent of Morocco's water supply, that is, "households, businesses, and villages securing their own water supply from surface or ground water sources" (World Bank 2006: 21).

The prevailing sentiment as regards state services in the High Atlas was rather explicit: *dwla makaynsh*—as I repeatedly heard in the Moroccan Arabic dialect—"there's no state here" or "the state is absent". This is as true for the villages described in this section—Agoudim and Amezray—as it is throughout Morocco. For many local people, the same equally applies to the state's provision of (medical) care or its mandate as a welfare state in terms of education, labour conditions, and subsidies on food or animal feed, for example. Nor are these opinions anything new, given that state authorities have long considered the mountains of the High Atlas to be remote and quite simply beyond their sphere of influence (*bled as-siba*). Social mechanisms of self-governance and self-organization have always been important here. These long-standing dynamics are accompanied by quasi-cooperative approaches to self-administration, which go along in particular with the more recent infrastructural developments undertaken by the central government.

In Amezray, the association SMNID had begun an independent project in 2005 to supply the village with water. Although it was one of the first projects to emphasize the importance of the water supply, it was ultimately not implemented satisfactorily. The pipes were not laid carefully enough, which meant that the water at the tap was very hot, particularly in summer. The quality of the drinking water had suffered due to the long distances it was travelling, partially in pipes laid above ground. Additionally, the water tank that had been installed was often empty, providing insufficient water to local households. As a consequence, water taps were frequently dry. The water tank had to be replenished by way of a pump, which in turn, had to be fuelled and operated manually, requiring both physical labour and financial resources.

This was problematic because SMNID was funded by donations and worked on a non-profit basis. After all, SMNID issued no charges for the water used. Part of the project's funding was private and issued by French donors who had founded their own association to support activities in the area after having visited the valley as tourists. However, as far as the Moroccan state was concerned, the project was entirely independent, devoid of any governmental participation. Indeed, it was not until the project had gotten off the ground that contributions from state-run national agencies were made.² At the time of my arrival in the valley, many people attended to their own water supplies—as they had always done—rather than relying on tap water.

Let us now turn our attention to SMNID's motivations in establishing the project back in 2005. At a meeting shortly after the association was formed, the members concluded that one of the most basic needs of the village was drinking water. Up to that point, water from the river was used for washing clothes, for irrigation, and as drinking water. However, the river could flood and become muddy during the rainy season, rendering it unfit for drinking. The inhabitants of the village then had to walk at least thirty minutes to get water from more distant springs. The need for improvement in water provision was thus seen as an urgent point on the agenda of local living standards. Moreover, SMNID was convinced that by delivering tap water to houses, overall sanitation would be improved and families would be better equipped to deal with daily hygiene. Households would thus have the possibility of building toilets and bathrooms in their homes, which in 2005 were essentially non-existent. The hope was that a new water supply system would enhance irrigation and facilitate the installation of small gardens in front of people's houses, preferably with decorative plants. The water was not intended for agricultural purposes, however, and was not to act as a supplement to the irrigation channels. The usage rules—monitored by a specific committee—also precluded using the water for construction purposes, especially from May to October. Washing clothes was only permitted when

2 For a more detailed view of the association and their cooperation with official and other non-governmental actors, see chapter three.

absolutely necessary. All of the above restrictions speak to the scarcity of available water.

As mentioned above, the project fell short of its expectations. In spring 2017, however, it became clear that the failed project might be given a new lease of life. The precursor for this was the expansion of the valley's secondary-level boarding school, which necessitated the construction of an additional water reservoir and a new main supply line. With this expanded water supply infrastructure for the school provided by the government, SMNID was able to capitalize and make a fresh attempt to renew the water supply in the village, or to use a somewhat ambiguous phrase, to *modernize* the potable water service. Eventually they obtained the mandate to proceed.

In addition to the existing justifications for the water supply project, another factor had come into play. It was rumoured that water provision in the district town of Azilal might be handed over to the private supplier Amendis³, and the suspicion was that this arrangement would eventually be extended to the surrounding regions. There were concerns that the prices for the water supply would increase enormously if the private supplier was awarded the contract. SMNID thus argued that they themselves should assume responsibility for the administration of the local water supply. They claimed that they could supply drinking water more inexpensively and thus spare the village the high costs of privatization.

A History of Water Infrastructure

In the neighbouring village of Agoudim, a community-based association had been taking care of the village's potable water service for some time already. As such, their story offers a comparative and complementary perspective. On one afternoon in October 2018, I met with Abdullah—the

3 Amendis belongs to the Veolia Group, a French multinational corporation, and is a subsidiary of Veolia Maroc. In 2018, the Veolia Group supplied 95 million people with drinking water worldwide (see <https://www.veolia.com/en/veolia-group/profile>, last accessed, 09/08/2019). Amendis is especially active in the Northern part of Morocco around Tangier.

president of the association—to learn about their work. We walked along the main sites for Agoudim’s water supply to get as full a picture as possible of the infrastructure involved; the office, springs, pump house, and water reservoir. During the tour, Abdullah frequently alluded to the new project in Amezray. He said he had shared experiences and estimated that SMNID would introduce similar measures in Amezray, especially in terms of technical measures.

Abdullah worked two jobs. He was employed by the district government and paid by the state (*dwla*) as a flood and river commissioner, to which end he had a small office building of about six square meters next to the bridge at Suq. He was tasked with taking daily measurements of the water level, even during the feast of sacrifice (*eid al-kbir*), he said emphatically. A state institution had been monitoring and keeping records of the large rivers in the country since approximately 1982. Abdullah communicated with colleagues downstream in Tillegouit by radio—thus avoiding any dependence on the telephone network—as to whether everything was in order and what the (river) conditions were like. This monitoring was necessary because of the heavy rainfall in the mountains, which could lead to torrential floods that would gradually affect the river. Whilst there might be heavy rain in Agoudim, Abdullah explained, the sky could be bright and clear further downstream. If masses of water surged downstream, it would take people utterly by surprise and put both them and their property in danger within the space of only three to four hours. Tourists camping near the river were particularly at risk, Abdullah said, and younger tourists from bigger cities, in particular, tended to be short-sighted and careless, occasionally camping directly in the river bed.

Precipitation was also measured by a radar station in the office building, which was powered entirely by car batteries. In addition, colleagues or officials from Beni Mellal would come at least once a month to measure the velocity of the river and calculate how much water was passing through. The same inspectors would also check the quality of the water to ensure it was safe to drink. In response to my question about water quality and possible problems with pollution—especially because almost everyone now used synthetic washing powder when doing their laun-

dry at the river bank—Abdullah replied that despite this, impairments would only be minor (“*shwiya*”). He claimed, there would be no problems.⁴ Needless to say, water quality was crucial, not just where the river ran close to the springs, but all the way downstream.

Abdullah’s second job consisted of volunteer work for the water association of Agoudim. He was a founding member of the association as well as its president. When he was still at university, he had been approached by the local community and asked—recalling it, he made it sound like he had been almost urged—to establish a local association. The lack of tap water was unacceptable (“*hshuma*”) given the river and springs that were so close to Agoudim, he had been told. At that time, the government had not put any structures in place—physical or otherwise—for water provision. *Dwla makaynsh*. Abdullah had initially been approached because he was the first person from Agoudim to go to university. He had initially declined the request, intent on completing his studies. After some reflection, however, he decided otherwise. I joked that when problems arose in the past, the *igurramen* were asked for help, but it seemed this had changed. Indeed, taking care of this problem would almost make him an *agurram*. Abdullah laughed and agreed: “times have changed (*ibdl loqt*),” he told me, “*igurramen* are no longer important the way they used to be, other things are relevant today.” In times gone by, the *igurramen* were treated like kings, they would have had vast lands and great wealth, and many people in their service, Abdullah continued. They had no need for tap water, as their servants would simply walk to the river and fetch it for them. They were the only people in the valley who had the luxury of showering with water heated in a large pot (*mokrash*).

Quite accustomed to luxury and an extraordinary position in society, the *igurramen* were somewhat left behind by changing times. Neither they nor their children studied diligently at school and were conse-

4 My question had the background that on the one hand the argumentation of some NGO projects runs along the line of reducing water pollution by structural measures like wash places. On the other hand, the resumed work in a nearby mine was explicitly suspended with reference to a risk to water quality.

quently not among the first in the village to go to university. Abdullah's family, by contrast, were not of the sharific *holy* lineage. According to Abdullah, they were instead subject to the same hard work as all the other “formerly ordinary” people. One could thus claim that the *igurramen* underestimated the significance of education as an economic and socio-political resource that would offer a new generation of Moroccans a stable future. It is worth specifying that by *education* I mean the education system of the emerging Moroccan post-colonial nation state, along with the type of knowledge it produced. Other forms of knowledge—particularly regarding the more symbolic and religious aspects of life—were always within the *igurramen's* area of competence.⁵

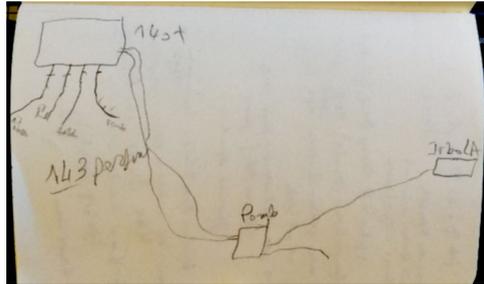
Our first stop on the water tour was the pump house. Built by the municipality in 2012, it was located upstream at the entrance to the village, close to the riverbed. The water reservoir (*chateau*) was the first installation to be built as part of the new project and was situated a few hundred meters away from the pump house on a hill above the highest-placed houses of the village. This was where the main pipes bringing fresh drinking water directly from the source to the chateau would lead. The construction of the chateau was funded and carried out by the state but it was initially set up in the absence of a pump house. In addition, the construction itself was of extremely poor quality. After a short time, the cement floor and the foundation of the chateau became porous and crumbly, causing the chateau—tasked with holding water—to leak and slowly release quite a lot of water directly back into the ground. To address the issue, members of the local community saw to repairs on the chateau. The association in Agoudim then took it upon themselves to build a pump house. At first, the pump operated with a generator, which could be acquired through state subsidies and powered with petrol. Given the lack of petrol stations in the valley however, this choice of fuel was somewhat impractical and it had to be sourced from the district town of Azilal. In practice, this meant giving fuel canisters and the appropriate fee to local minibus drivers when they left on their daily

5 This also resonates with some of the issues touched on in chapters four and six.

route in the morning. They would then return with a full canister in the evening. In addition, the pump had to be switched on and off manually. Running the pump and filling the water reservoir thus constituted quite a cumbersome process. Moreover, the price of fuel rendered the whole operation rather expensive. Abdullah complained that the government had clearly not thought the idea through. In 2015, the association took it upon themselves to switch to electrical power. They also integrated a floating level indicator (*flotteur*), which automatically switched the pump on or off depending on the water level of the chateau, thus reducing the amount of manual labour necessary for the overall operation. This equally entailed installing an electricity meter in order to connect the pump house to the power grid. The meter, in turn, was activated with a rechargeable prepaid card, as was then the case for most electricity meters throughout the valley. A power line was laid, running from the pump house to the chateau on the hill and thus enabling automatic operation with the new level indicator. The association envisioned setting up an office inside the small pump house in the near future as they had been operating theretofore either from the office building where Abdullah worked for the district government, or in private residences.

Under the pump house there was a smaller water tank which was equipped with another floater. The water was brought in from the source with pipes that ran either along the riverside or on the riverbed itself. It then collected in the first water tank at the pump house. When the pump house water tank would fill water would escape into a nearby irrigation channel (*targa*) through a drain pipe. The water from the tank was then pumped via a large pipe to the main water tank above Agoudim that had a capacity of 140 cubic metres (*ton*). From the main chateau, there were a total of four main lines: the first supplied the households in the section near the village exit towards Taghia; the second supplied the center of the village; the third supplied the entrance to the village from the Suq; and the fourth supplied the Suq and the public buildings in the administrative center. All in all, 143 households were connected to the water supply system.

Figure 14: The president's schematic drawing of Agoudim's water supply system



The beginning of the project was followed by increasingly serious problems such as burst pipes or broken water meters caused by excessively high water pressure. With the water tank elevated on a hill, there was a build-up of hydrostatic pressure and the water flowing downhill could thus reach pressures in excess of the maximum permissible operating pressure. As such, pressure regulators (*regulateurs*) had to be purchased and installed—one for each of the four main lines leaving the water tank. However, these were not paid for by the state despite considerable acquisition costs. Abdullah explained that in their plans for the promotion and development of the water supply, the state authorities had clearly only considered standards based on urban conditions: they had no notion whatever of conditions in the mountains.

The springs feeding the water supply of Agoudim were located outside the main village, some distance up the river. At several spots, the water bubbled up through the gravel and large stones on the surface of the ground. The source water then immediately merged with the river. At first glance, it was not clear just how many different springs were on the riverside and how many were in the middle of the river. One spring, in particular, was located on the far side of the river and had been surrounded by a concrete wall, which was designed to prevent contamination of the water supply. This is where the main water supply line—which initially ran inside a concrete water channel—began.

Abdullah and I crossed the river and started our journey back toward the village, walking on the old irrigation channels that ran alongside the water pipes. It was here, down at the springs, that Abdullah recounted the legend of Sidi Said Ahansal to me.

Water Infrastructure as National Development Policy

The case of Agoudim—described above—as well as that of Amezray—following below—resonate with more general lines of development politics in Morocco. A recent study by Sylvia Bergh (2017) suggests that infrastructural projects—and projects of water provision in particular—are a primary focus for community-based organizations in Morocco. Among the total of fifty organizations she surveyed, more than half were working on water-related projects such as potable water provision or—less frequently—irrigation. They often also received basic funding from other national or international NGOs and private donors (Bergh 2017: 175). Water-related projects continued to play a central part in future infrastructure projects:

Potable water provision dominates the agenda of future projects for about 20 associations—the sub-projects here range from digging wells, building water reservoirs, and installing or replacing pipes to connect the individual households to a network, to installing meters so as to be able to bill every user according to his or her consumption, and combinations thereof. Irrigation infrastructure works (both the building of irrigation water reservoirs and the cementing of irrigation canals) are a future priority for 16 associations. (Bergh 2017: 180)

The presence in Morocco of multiple CBOs involved in water provision and development-related projects attests to the centrality of these issues in national policy. In rural development programs as well as in local politics and governance, there has been an observable shift towards decentralization and participatory approaches (see chapter three). As a result, the consequences of those reforms and the policy of decentralization can also be observed in terms of the provisioning and management of wa-

ter supply as these increasingly involve expanded engagement on a local level (see also Hughes/Mullin 2018).

On the one hand, the increasing activity of NGOs and CBOs are congruent with the general policy of decentralization. On the other hand, there have been very different repercussions beyond the policy level. As stated above, there is a widespread belief among local people that the state does not care and is, in effect, absent. As such, the delegation of the water supply to a CBO is not perceived as a positive outcome of successful government policy, but rather as evidence of state incapacity to adequately satisfy its public obligation. Of course, *absence of the state* means something very different today as compared, for example, with the 1960s when Gellner conducted his research here. For him, the absence of the state's organizational sphere was, so to speak, proof of a practical form of anarchy. Today, by contrast, it is undeniable that state institutions and security agencies in Morocco are present in even the most remote parts of the country. The state is largely responsible for structuring socio-political life—albeit to a lesser extent in the mountains than in the urban centers. Moreover, under the patronage of the King, multiple aid programs react to emergency situations distributing relief supplies such as blankets, oil, sugar, and milk to rural or mountainous regions—though never, it is worth highlighting, in the absence of appropriate media coverage. However, this clearly falls short of the structural foundations that ought to be supplied by a nation state with a welfare system.

Despite these diverse initiatives in local self-organization of water, certain examples of state-run provision do exist. For instance, a water truck would distribute drinking water to people and animals of the neighbouring *Ait Abdi* plateau where—in contrast to the settlements of the valley—access to water is a critical issue. Considering the presence of springs and a river, the distribution of water in the valley was a different matter. Here, distribution is not a prerequisite for access to water. It is, however, a political question, and self-government a local answer to it. Consequently, connecting the households in Amezray to a new water supply system is permeated by questions of politics and publicness. In the following I will describe how this new water distribution is put into place and which practices are part and parcel of bringing it into being.

Cooperative Self-Government – Water as Public

Discussions on water distribution for Amezray and the project to renew the water supply system began in summer 2017. In June, the first open meeting was held in the association center in order to inform the community. The assembly was advertised with notices displayed at the Suq and next to shops, for example. News then spread through word of mouth. The association board had already prepared an information sheet with preliminary guidelines and rules for the project while the association management presented the price policy on which they had agreed. The board members of the association sat at two tables pushed together in front of a crowd on white plastic chairs. In total, around sixty men attended, often the heads of households or the eldest sons.

All in all, the meeting focussed on whether Amezray SMNID should take over the central government's mandate to provide drinking water, a motion that required a majority to pass. First, the specific costs to the inhabitants of Amezray were explained. This was followed by a report concerning the legal circumscriptions and regulations for the project. In the ensuing general discussion, questions and objections were principally raised about the costs. The association management were eager to explain that the costs were comparatively low. They provided various calculations and projections as well quoting passages from provisional regulations, which were then discussed in detail. Discussions were generally conducted calmly and thoughtfully though certain points did lead to somewhat tumultuous exchanges as sceptics were asked to be reasonable. In response to objections over supposedly excessive costs, it was argued that water would still be available at the river if necessary. Customers, as such, would thus be in full control of their consumption and associated expenses. In the end, only five or so men were still reluctant to give their approval.

With majority support confirmed, the project quickly moved forward, and necessary materials such as tubes, connections, valves, water meters, cement, and iron lattice doors were soon purchased. Meanwhile, SMNID received the first official registrations for the new water supply to be provided as official documents, signed, stamped, and returned.

The registrations required formal approval by the local government authority, i.e. the local administrative office. Gradually, the supply lines were repaired or laid anew and the first households were connected. By the end of September, 34 households throughout Amezray had been connected to the new water supply, after which the number stagnated however. It appeared that a relatively large number of households were hesitant to make the necessary investment—particularly the cost for the initial set-up was considerable—despite the positive reception at the initial meeting.

The local association had now assumed responsibility for water distribution from the government. They were building reservoirs, laying pipes, and installing water meters and local households, as such, were now connected to *more-than-infrastructure*. For our purposes here, the guiding questions are thus: What politics are at stake in this infrastructure for water provision? What socio-technical arrangements are brought together to form this collective of a water supply system and: What are the material-semiotic consequences of re-infrastructure a common good?

I propose an interpretation of the events that takes water itself as the point of departure. Yet the re-infrastructure of water supply is not exclusively about water provision. It builds on existing conditions and existing infrastructure, reworking the relations toward and around these. This is also why I find the term *re-infrastructure* more suitable than *re-structuring* or *infrastructure*. In fact, the newly introduced supply system does bridge access to water in that it renews methods of water distribution.⁶ It does not, however, exploit the resource, nor does it produce the water, but rather transforms it. At the same time, the new water supply does produce something: it produces new subjects and a new promise for the manifestation of a future in the present, a promise of a coming change that will be effected through self-determination and self-governance. At the same time, it cannot be extricated from the conditions of

6 For instance, it partly built on pre-existing infrastructure such as the water reservoir.

its genesis, namely the neoliberal tendencies of national policy: decentralization of organization and the redistribution of responsibility.

In the following ethnographic description, I give an account of the related implementation work and organizing necessary for the new water supply system. I trace which technical capabilities were employed, which forms of bureaucratic management were enacted, and which processes of standardization were initiated.

Figure 15: Mustapha reading the water meters in Amezray



Reading Water Meters

We begin with Mustapha, the Amezray SMNID's main person in charge of the new water provision project on the ground. Mustapha was a friend with whom I spent a lot of time in the village who then also become my main interlocutor for the project. Before proceeding with a detailed description of his organizational tasks, however, we need to consider how Mustapha came to be the main organizational and technical contact per-

son. His role should be compared to that of Agoudim's water association, Abdullah, whom we encountered at the beginning of the chapter. Abdullah was able to carry out his association work on a voluntary basis given his income as commissioner of river affairs. How does Mustapha's story compare?

Mustapha is the oldest and only son of a rather important family. Indeed, his extended family is one of the biggest in the region. In contrast to other younger people that inhabit respected positions in the association, Mustapha did not attend university, nor did he look for work in Marrakech, Agadir, or further afield, choosing instead to remain in the area. The fact that he was engaged to be married at the time of writing likely played a part in this decision. Before his involvement with the water provision project, he had been working in a hotel at a recreational destination about a two-hour drive away. He was then asked if he wanted to work in the tutoring program of SMNID and ACF. He was first appointed as one of the tutors and was then made responsible for running the computer club. As such, his position was partly funded by the cooperation project between the University of Siegen and SMNID, that is, the project in which I was equally involved. Mustapha continued at this post after beginning work with the water project.

One day, I walked with Mustapha to Amezray's lower village, where he had to read the water meters and record the amount of water used per connected household. He carried a digital camera, a list of connected households, and a pen. The surnames on the customer list were not arranged in alphabetical order, but chronologically according to when they were connected. The list had grown to 84 households, thus comprising the majority of the village. Equipped with the knowledge of a man who had known the village and its inhabitants his whole life—with extended family ties to many of them indeed—Mustapha had devised a route by which all households could be surveyed in the shortest or most practical way. First, we went upstream, across the fields, to the most remote side of the village. From there we meandered through the narrow streets of the village to visit all relevant households, taking small detours to more exposed houses on the edge of the main settlement. The households a little further downstream, on the other side of the river, were not on

Mustapha's schedule for that particular day, nor were the households from the other part of the village, Amezray's upper village. Though this trajectory roughly corresponded to Mustapha's route, it was feasible that he had cut some households out so as to shorten the journey for my benefit. The distances, after all, were not insignificant. Indeed, in the hot midday sun, they were quite tiring. On occasion, I was unable to refuse Mustapha's request to simply wait for him as he ran along paths to the edge of the village or even up the slope to read the water meter of a somewhat more secluded house.

At one point, a schoolboy passed us as we were standing at a house below the main access road. After greeting the boy—who he of course knew—Mustapha asked him to do us a little favour. He showed the boy the water meter of the house we were standing in front of in some detail: the water inlet and the clock were set into the concrete of a box with a small steel door and padlock. Even with the doors closed, one could still see the water clock. Pen in hand, Mustapha showed the schoolboy which were the relevant numbers. He then told him to walk to a house above the road for us and read the meter there. Though still under construction, the house already had a water meter and a connection to the new water system. Water was important for the bricklayers working there—especially for mixing mortar and cement—a water connection saved them a great deal of time and effort. The boy ran away and proudly returned with a number a few minutes later. We thanked him and moved on.

Reading meters was not always quite so straightforward. The meters themselves had a small protective cap made of transparent plastic, which often had to be lifted out of the way, as dust or dirt would gather on them, or light would reflect off them making it difficult to see. The customers themselves were supposed to secure their meter boxes with a padlock, though some did not deem this necessary. As such, Mustapha needed to retrieve the respective keys to read the meters. Moreover, certain customers would cover their meters with plastic bags or other material to guard against dirt—or possibly prying eyes. This equally made accessing the numbers impossible on occasion. Mustapha's usual procedure was to slide through the steel grid of the door with his ballpoint pen and fold up the protective cap. If the meter was covered, some additional prepara-

tory work would be necessary. Mustapha attended to these tedious tasks with stoic patience and skill. He would poke through the grids with one hand or a pen until he reached the water meter and worked the cover to read the digits.

Because the water meters were often installed on house walls or at the entrance—in contrast to my own rented apartment for example—Mustapha could access them from the outside without the help or assistance of the customer. He needed neither to retrieve the key, ring the bell, or even make an appointment, all of which would make the undertaking more cumbersome and time-consuming, particularly because of the endless invitations to tea that he would be obliged to decline. Instead, Mustapha's method gave him a certain degree of autonomy. This does not imply, however, that he would do his work entirely in secret. From time to time, customers would see and approach him. I happened to accompany him at a point when most meters had been installed only a few days or weeks prior. Not surprisingly, many customers had not yet received their first bills and were both curious and a little nervous as to how much water they had used and, thus, how much they owed. The customers we met were almost exclusively women—proof of the gendered division of household activities—who would thus first exchange the usual greeting phrases and then ask: *rbbi, Mustapha, mshta?* The question that was at times expressed in an almost imploring tone translates loosely as: “please, Mustapha, how much does it cost?” Mustapha's response was always willing and friendly, revealing that—frequently contrary to expectations—it was not a huge sum that would plunge the household into debt.

Only one reaction to Mustapha's presence was more common than the enquires into water costs: the invitation to tea. This bedrock of Moroccan hospitality, which is cultivated with particular gusto in the mountains, saw almost every customer we met—or indeed neighbours or people we encountered on the street—ask if we would not take a cup of tea. For this, they would typically make a fist with their thumb pointing upwards, then raise their elbow and rotate their fist and thumb downwards in a pouring gesture. If one accepts, of course, the offer of hospitality is fulfilled. After some time in Morocco, it became clear to me that even

though you could theoretically accept the person's invitation, one just does not always want to. The two occasions on which Mustapha and I did accept the offer were with close acquaintance or extended family.

Quality Management

In addition to reading the meters, Mustapha also monitored the quality of the recently laid pipes and newly connected and installed water meters at new customers' homes. To do this, he carried a digital camera with him, which he used to document defects or work requiring improvement. He was, so to speak, responsible for both quality management and maintenance. During his tours, he paid painstaking attention to whether the supply service standards set by the association were adhered to. At the same time, he was the contact person—whether by phone or in person—for emergencies, repairs, or complaints. Given that he lived in the area and took care of a lot of water provision issues, it would be no exaggeration to call him the *face of water provision*. Indeed, he was often called *bo aman* (roughly translated to “water man”). The extent and diversity of his responsibilities underlines SMNID's commitment to professionalism and customer satisfaction.

Mustapha did not work by himself. He reported any new information or problems directly to Mohamed, the president of the association, who was kept up to date of all new developments. Many decisions, however, were either made by Mustapha or had to be approved by him. As for the installation and maintenance of the water meters, this was carried out by Hamid, who was the only electrician and plumber (*blombi*) employed by the local authorities. The connection of many new households to the new water supply constituted a significant additional workload to his day-to-day business, given that he took care of all the villages in the valley. Both carrying out installations as well as procuring and organizing materials were time-consuming activities and additional unskilled workers or craftsmen were hired for some of the work. Specifically, this work involved the laying of supply lines, for example—for which many meters of soil often needed digging up—or the bricking in of the steel grid doors behind which the water meters were installed.

The deficiencies and various shortcomings—which Mohamed documented on our tour and explained to me—mainly concerned two areas. First was the water meter, which was located between the central supply pipe from the water chateau and the water pipes of each house. Some customers would use the water connection to operate several taps and washbasins in several rooms, others had only one single tap with washbasin, while others still had one central water station in front of or next to the house. For houses with multiple taps, the water meter was installed in a recess in the house wall as outlined above. If there was one water point, by contrast, the water meter was accommodated in a small free-standing, brick house. Both constructions were identical, in that the main pipe on one side and the pipe to the house on the other were set in a solid concrete foundation. The recess or niche in which the water meter was located would be covered with brick or concrete on the inside and was closed to the outside by a door made of a steel grid. The craftsmanship would vary from case to case and Mustapha occasionally had to make a complaint and request a rebuild.

This became necessary if, for example, the water pipes had not been properly set in concrete, if the inner lining of the niche had not been set with due care, or if the mortar frame had not been well plastered. If the door was smeared too much during plastering, this equally constituted grounds for complaint. While these were mainly aesthetic issues reflecting on poor craftsmanship, shortcomings concerning the pipes were more severe. Neglect here could directly compromise the association's reputation, not only because such problems would prove costly for customers, but because significant deficiencies could raise the question as to whether SMNID were up to the task. The effect on customer satisfaction of unexpected additional costs was further compounded by the establishment of a one-off connection fee to cover materials and labour, as well as the existing operational costs in monthly usage and consumption.

Mustapha also mentioned the financial conditions under which the work on the water installations had been effected, and which went some way to explaining the sub-optimal standards. The workers were not paid per hour but per task. This meant that for every pipe laid and for ev-

ery water meter connected there was a fixed rate of around 60 Dh. As such, it was not particularly important how long they took to do each job. Preparation and connection of the equipment were not carried out under identical conditions. Preparation involved digging ditches for the supply pipes or preparing the water meter recess including the concreted steel lattice door. Those works were mainly done by workers under the guidance of the district installer Hamid, while the connection of the equipment was carried out by Hamid alone. With the workers paid at a fixed rate, Mustapha continued, they would of course try to make as many connections per day as possible. In addition, the volume of orders—particularly at the beginning—favoured quick work that was often inaccurate. After some initial scepticism, the number of orders rose rapidly, and all those who had registered for a new supply system were to be connected as quickly as possible.

However, some households requiring connection were situated a little further away from the village center and/or the main supply lines. The amount of work required to connect them was thus higher. Longer trenches had to be dug, and partly in places that were more difficult to access. If workers wanted to retain the same rate of pay, they had to work more quickly still so as to cover these greater distances. Quick work rarely meant quality work, Mustapha concluded. As a result, shortcomings were more frequent and of greater consequence for these houses.

One household on our tour, above all others, exemplified this dynamic. As far as Mustapha was concerned, the shortcomings were serious. Not only was the recess for the water meter badly constructed, the pipes leading to the somewhat remote house were mostly exposed. This was veritably sub-standard. If the work had been done properly, the pipes would have been at least 30 cm underground, and covered with straw or manure (*ghobar*). Mustapha reminded me that exposed water pipes could easily suffer much greater wear and tear. The material could become porous due to the strong sunlight in summer or snow and ice in winter. Moreover, during cold weather, the pipes would freeze much more quickly.

While we were inspecting the deficiencies, a woman came up to us from the house. She pointed out to Mustapha that there was a leak where the water meter was connected to the main pipe. Mustapha talked to her about the work that had been done and documented the shortcomings with his camera. After we had said goodbye and set off to continue our rounds, Mustapha pulled out his mobile phone and immediately called the president of SMNID. When informed of the serious deficiencies, the president would confront the commissioned workers and arrange for rectification, Mustapha said.

At the end of our tour in the early afternoon, we had read and compiled the meter readings of around two thirds of all connected households, the others would be read the following day.

Documents and Papers as Media of Professionalization

Once all meters had been read, Mustapha could take the next step. He had to transfer all data to his database in order to both archive the meter readings and to calculate customer consumption based on the differences against the previous month. For this office work, Mustapha usually sat down in the association's multi-purpose building (*maqar*), where he could store and lock the documents securely, as well as availing of the necessary technology to prepare accounting. Above all, there was a printer.

For the accounting procedure, there were two central documents: the consumption notification (including invoice) and the receipt. On the consumption notification, customers would find the central information at the top: the number of the water meter, full customer name, and the billing month. Underneath this, there was a table showing in detail how the monthly invoice was composed. First, the amount of water consumed was quantified in cubic meters, followed by the total consumption since the beginning of the service, the new total consumption including the current month, plus the consumption of the current billing month (i.e. the difference between the old and new meter reading). The price for the current month was then also displayed. Further down, the operating costs and possible arrears or reminder fees were

listed if payment was overdue, as well as the invoice date and the total invoice amount.

Mustapha created these notifications of consumption for each customer on Microsoft Word. Although he would use a template for each customer in separate documents, he had to create an updated version every month and add the changing parameters manually. He had created an Excel spreadsheet, the master list so to speak, in which all connected households were listed with name, water meter number, connection date and monthly meter readings. However, this list was not used as a digital database with which an automated generation of invoice or serial letters could be carried out, as is the case for example with various accounting software. Once Mustapha had transferred all the meter readings to his Excel spreadsheet and then copied these new data into the respective individual customer invoice, he could print out everything. Two notifications of consumption for two separate customers were printed on one A4 page at a time after which each page would be cut in two to separate the notifications.

The second central document for billing was the receipt, i.e., a form that was later filled out by hand. Only the current billing month at the top was digitally edited in the text processing program. Furthermore, the receipt had to include the customer's first and last name, the number of the water meter, the amount paid and the date. For this purpose, corresponding fields were left blank on the form, which Mustapha would complete later in the billing process. Once he had printed out a receipt and invoice for each household—here three receipt templates would fit on one A4 page for printing—they were also separated and then stapled together into a small receipt booklet. The receipts consisted of two parts with identical information. While the left part of the receipt was detached and given to the customer upon receiving the payment, the right part would remain with the association and be archived. Mustapha prepared all receipts by manually writing down all necessary information twice on the receipt. Only the field for the date would remain empty. The part of the receipts that went to the customers differed from the part for the association in that it additionally contained association's official seal and the manager's signature. This meant that after all receipts had

been printed, stapled, and completed, they also had to be stamped and signed. With a total number of 84 households at the time of my stay, this was a considerable amount of work for a single person to accomplish. It was hardly surprising that reflections on how to reduce and partially automate the workload soon followed.

When I was with Mustapha at his office a few days later, he expressed an interest in finding a better digital solution for his office work. Amezray SMNID would soon adopt the accounting system of Agoudim's water association, he told me. The system was the result of several years of experience and had proven itself very useful. I was unable to determine if this had been planned for some time already or if mutual support between the two associations had been discussed in advance. I knew only there had been an exchange between the two associations as regards accounting procedures at the beginning of the project in Agoudim. I had been told that both associations would basically use the same accounting procedure. Amezray SMNID was thus able to benefit from the pioneering role and expertise of the Agoudim-based association. The relationship between the two associations had been very positive in general and Agoudim-based association had been glad to share its knowledge. Nonetheless, I was somewhat mystified as to why the more sophisticated digital system had not been adopted from the outset.

Costs and Pricing

For new users of the water system, there was a one-off connection fee of 1,300 Dh, and here it is worth repeating that connection was completely voluntary. From the very beginning, SMNID strongly promoted the new project with a view to improving life for the entire community. Their vision was not initially shared by everyone. Above all, paying for something—and potentially paying quite a lot—that was previously free, did not strike everyone as an improvement. Association members were primarily tasked with allaying these fears during the introductory meetings, which was also reflected in the fact that many households initially refrained from connecting to the new water supply system. Indeed, the

remaining sceptics were only reconsidering connection once the association had launched a discount campaign for a specific period up until the end of Ramadan 2018, promising reduced connection costs. Those who had signed up straight away were either avid supporters of the project, financially rather comfortable, or themselves members of the association.

Figure 16: Paying water bills on the Suq



Monthly charges for water consumed were staggered. The association justified this by explaining that the aim was to reduce water consumption whilst raising awareness around potential wastage. There were four different price levels: if consumption was between one and six cubic meters, the cubic meter cost five Dh. From the seventh cubic meter up to and including the 12th, it then cost seven Dh. From the 13th cubic meter up to the 20th, it cost nine Dh, and from the 21st cubic meter up and above it cost 12 Dh per cubic meter, which was the maximum rate. To this were added the operating costs, which came to 12 Dh per month. I was assured on several occasions that this operating or working fee was

not a fee in the proper sense, particularly considering the fact that the association functioned as a non-profit with the express aim of serving the community. The fee served to create a reserve fund to deal with technical issues or repairs, as well as paying commissioned workers. Moreover, both income and expenditure would be clearly outlined at the annual general meeting.

The Accountability of Water Transactions

If a household or customer was unable to pay a monthly bill, a supplementary fee was incurred. At the end of the month, customers had 15 days to pay the outstanding invoice. After that, ten Dh would be charged. If the customer failed to pay in the course of the subsequent month, the fee would increase to 20 Dh for the second month. If the customer again failed to pay in the third month, the fee would then rise to 30 Dh. After three months of non-payment, the customer would be disconnected. Although strict regulations were in place, the payment date was not completely inflexible and exceptions could be made for late payment under certain circumstances.⁷ This can largely be explained by the fact that payment occurred in person: the consumption notices and invoices were handed over to the customer personally and payment occurred directly between Mustapha and the customers—typically the head of the household or one of his sons. In terms of payment, there were neither bank transfers nor any other means of technical mediation such as would confirm punctual payment (or a lack thereof) with computational precision.

Moreover, as Pascal Mulet has meticulously shown, taking on credit (*kredi*) was a common everyday practice in the High Atlas (Mulet 2018: 121-130). All small shop (*tahanut*) owners or vendors at the weekly Suq

7 Agoudim used the same penalty fee system. The Agoudim-based association's president, Abdullah, assured me that no one had ever been cut off for failure to pay. On the contrary, customers were generally grateful to have been spared trips to the river with donkeys and canisters, and were thus quite willing to promptly square their bills. It is worth pointing out, however, that each of the associations structured their pricing system somewhat differently.

use their own accounting systems in order to keep track of outstanding debts. For example, small weekday purchases at the shopkeepers are added together and paid in full on the Suq day, typically once a week though intervals can vary. Similar agreements are entirely conceivable in an attenuated form when it comes to settling water debts. On several occasions as I was walking around the Suq with Mustapha, we would encounter customers and Mustapha would ask about their monthly consumption or outstanding payment, I would overhear them responding that they had no money with them. Other times, they would simply take note of the information and then suggest paying the outstanding amount the next day or on the following Suq day.

To state the case explicitly, people do not appear to take advantage of the flexibility in the payment system to compensate for their ailing finances, either by delaying payment or seeking to avoid payment *tout court*. What is decisive for this rather relaxed and rational economic transaction is that it fundamentally occurs in the context of a social interaction. Indeed, ensuing attempts to standardize—or *bureaucratize*—the payment and billing process did not cause any radical change in how transactions, debt, and monetary exchanges were dealt with on an everyday basis.

Let us now turn our attention to a slightly more detailed examination of the billing and payment process. As should already have become apparent, Monday, Suq day, was the paradigmatic day on which those interactions took place. Not only is this the primary day for grocery shopping, it is also a day for transactions where economic, social, and political dynamics of daily life are explicitly negotiated.

On Suq day Mustapha would typically get ready early in the morning—unless, of course, last minute invoices took up more time than expected. Mustapha would wear a red shoulder bag with two compartments inside. One of the compartments held a small case which functioned as cash box. Behind it, in the other compartment, he carried the invoices and receipts—stapled together into small booklet or placed between the pages of a book. Once at the Suq, however, Mustapha would keep these invoices and receipts in his hands most of the time, only sporadically placing them back in the bag now and then. Throughout the

morning, Mustapha would walk around the Suq to meet customers (or their contact persons) and present them with their monthly accounts. Some customers were employed on Suq day themselves and Mustapha would find them at their stall or shop. Partly, however, he simply strolled back and forth until he would run into the next customer. He seemed certain that he would encounter the respective contact person sooner or later.

This was generally how it was when I accompanied him. We would take a path from Amezray that ends at the Suq shortly after a last slight ascent directly next to the first buildings higher up, walking for about 20 minutes all in all. No sooner would we pass the first stall belonging to a customer than people would begin to shout, “Oh, the water man!” (*awa bo aman*) and approach Mustapha to examine their bills. Soon a small group of mainly younger men would gather around Mustapha. While he was busy looking for the corresponding consumption notifications in his documents and distributing them to those around him, some of them were already pulling out banknotes, others were heading to their fathers or the heads of the household with the bills, returning shortly afterwards to make payment. Mustapha was required to do a great deal of multi-tasking at this juncture: he had to keep track of the bills given out, collect money, and hand out change at the same time. He would then fill out and sign the corresponding receipts and pass them on to the appropriate contact person. In addition, news and curiosities were exchanged, jokes were made and plans for, say, midday appointments for football matches were discussed. From time to time, he also had to attend to meetings with board members of the association or facilitate water-related documents in correspondence with the local municipality. Indeed, Mondays on the Suq would be so busy for Mustapha that he regularly had to skip lunch—widely considered the most important meal of the day.

The foregoing ethnographic accounts offer several starting points for further theorizing and analysis. In what follows, I focus on the repercussions of implementing/re-infrastructuring the water supply system in Amezray. I examine their impact on the community and their potential to both transform a socio-technical arrangement, while arguably also

transforming the people themselves and their way of living vis-à-vis official institutions and the state.

Water Supply as New Standard

Management procedures and bureaucratic practices were a central project of the new water supply system. These involved the implementation of standards, as well as the use of lists and documents. All of the above comprise situated interactions and practices of producing mutual accountability and displaying regularized responsibility. As Lawrence Busch reminds us:

Even as standards are technical rules, they are also compromises among diverse values, themselves drawn from different worlds or orders of worth. Standards are attempts to fix values, to embed them in particular products, processes, persons, practices, and organizations. Standards construct publics since they implicate various persons up and down the value chain, as well as those in networks that surround it. At the same time, standards determine how power and other social goods will be distributed among persons and things. But if standards are and must be about the distribution of social goods, then they are also about the means of governance. (Busch 2011: 268)

As such, it is reasonable to understand the implementation of the new water supply system in Amezray as an effort to set a new standard. Specifically, it is a standard concerning water that points well beyond its material and technical properties and that is related to ideas and values—as well as the management—of a common good. Here, standards become a site for the *civic*, of which Busch considers drinking water a part. To wit: “Civic standards do not take the viewpoint of buyer or seller but focus on creating and measuring the qualities of *public goods*” (Busch 2011: 253, italics in original). “[M]oreover, standards in the civic world are often, perhaps always, collective” (ibid.: 254).

This points beyond the mere hedged and local situation towards the broader scale of the political issues raised by our case, though I am not convinced of the accuracy of the term *the civic* for the High Atlas. It is

clear to me that in its situatedness, citizenship is multi-layered, contested and ambiguous (see for example Holston 2008). After all, what exactly is meant by *civic* or *citizenship* and how do they contribute to our understanding of the context?

For the High Atlas, I would argue that the water supply infrastructure does not produce the state. On the contrary, it rather consolidates a long-standing semi-autonomy that has frequently been ascribed to the region in historical analyses. I am also wary of the argument that the re-infrastucturing of the water supply produces citizens. However, it does put people into a renewed, managed relationship that revolves around issues of water. For this, the term *hydraulic publics*, conceptualized in a recent paper by Anand (2018), seems more suitable.

The Publicness of Water Politics

The term *hydraulic public*, as applied to the case of Amezray, speaks directly to the consequences of implementing the new water supply. In seeking to re-infrastucture water provision and the state's official mandate, SMNID brings about water as an *issue*. Water thus becomes a new type of concern affecting the community with a public soon forming around it. The circumstances differ, specifically, because drinking water had previously been the responsibility of individual households or extended families, tasked with fetching and storing their own water from the river. The association then assumed responsibility for provision, laying pipes, installing water meters, and acting as intermediaries and water mediators. The resulting water supply infrastructure necessarily comprises the human and non-human collective that produces it. Moreover, based on the delegated responsibilities and obligations, it involves coordination such as interactions and transactions between the community and the association, or between the association and government offices. These interactions are mediated and facilitated by documents, artefacts, and procedures. The hydraulic public of the High Atlas is distributed through these various practices. This public is less than the *Moroccan public sphere* or a *community of strangers*, but more than the individual household or extended family. To a significant

extent, people actually know one other, and community here generally entails face-to-face interactions. The same cannot be said for any such pertinent interaction with the state. For it is not the absence of water, but the absence of water distribution, the absence of tap water, that is taken as evidence of state negligence.

Let us take a look at the concept in a little more detail. For Anand, hydraulic publics are publics:

brought into being by the material and intimate political commitments to care about the enduring consequences of water distribution in Mumbai. Publics are situated and plural. They are formed around and by the materiality of the water network and its situated, regular, partial breakdowns in everyday life. Water infrastructures form and are formed by publics for whom water is a matter of life, and a matter for life. These publics emerge not only through associational relations between humans, but also through the various material infrastructures that are claimed, extended, and withdrawn through projects to govern the city. Publicness therefore is not just an effect of human sociality, a political form that associates in already formed material worlds: publics are constituted through the distributed materialities that structure the city's water infrastructure. As publics emerge through the situated materialities and designs of the hydraulic network, these more-than-human arrangements of the hydraulic network create enduring if unstable forms whose politics continue to matter after they have been constituted. (Anand 2016)

This understanding of publics differs from classical conceptualizations of a *public sphere*⁸, as neither “expansive and deterritorialized” nor “only organized and mobilized against the state and corporate capital” (Anand 2018: 169). Referring to the work of Nortje Marres, he understands this

8 For a discussion of the *public sphere* see Habermas (1962), Calhoun (1992), and Warner (2005). More recent discussions of the public sphere problematize the alleged stability of *public* and *private* see Cody (2011), or point to publicness *after* (Berlant 2011) or *beyond* (Morris 2013) the public sphere, see Hirschkind/Abreu/Caduff (2017).

form of publicness as closely related to questions of relevance. It is a public that “appears as a ‘community of the affected’” and that “is constituted, collected, and gathered by the shared consequences of water distribution” (Anand 2018: 169). Although Anand himself does not elaborate on the groundwork of Marres in detail, I consider this to be useful here for the further development of my analysis and for making a substantiated comparison.

The idea of the *affectedness* in Marres—an important feature of how a public becomes such—has a certain affinity with the Latourian notion of *matters of concern*. Latour argues that “we might be more connected to each other by our worries, our matters of concern, the *issues* we care for, than by any other set of values, opinions, attitudes or principles” (Latour 2005a: 4, my italics). It is—as Marres writes in an earlier paper—those issues that “spark a public into being” (Marres 2005). Drawing on a pragmatic perspective put forward by John Dewey, she goes on to state that

a very wide range of human actions may lead to the emergence of a public. Dewey posits that it includes all actions ‘whose consequences extend beyond those [...] directly concerned,’ ‘so that they may affect the welfare of many others.’ In that case, Dewey says, ‘the act acquires a public capacity.’ [Dewey 1991[1927]: 13] This we could say is Dewey’s definition of a public affair. When such an affair emerges, a public must get involved in politics if its effects on people’s lives are to be addressed. It is the emergence of an issue that sparks public involvement in politics. Dewey says it literally: ‘[T]he essence of *the consequences which call a public into being* is the fact that they expand beyond those directly engaged in producing them.’ [Dewey 1991[1927]: 27]. (Marres 2005: 214, original emphasis and quotations)

In *Material Participation* (2012) she develops this further, offering an empirical foundation with which to understand object-centered publicness. Consequently, a public consists both of subjects and discourse as well as technology and objects, or systems take part in such a public. She thereby emphasizes “the normative capacities of *things* to activate and mobilize publics” (ibid.: 35), while refining the notion of issue-publics insofar as she asserts that “to consider problems of relevance is to re-

sist the assumption that issues and issue communities are somehow objectively given” (ibid.: 54).

This perspective then makes it possible to account for the conditions, mechanisms, and interactions that bring forth an issue and its public. This is particularly useful in freeing us from the obligation to directly introduce grand concepts such as *state*, *citizens* and *public sphere*. The specific debates and connotations they entail could very well obscure empirical findings. Marres and Anand’s *public* displays an intention to follow ethnographic material and explicitly determine exactly what these concepts are supposed to designate *in situ*. It considers how such concepts are produced, negotiated, and maintained. As a public concern, water is accompanied by media circulation, political organization, and processes of claim-making.

Anand is interested especially “in kinds of semipublic spaces in which these claims are made and generated. As subjects make claims to water in the public-private offices of city councilors, they blur boundaries between domestic spaces and the political order that constitutes them” (Anand 2018: 157). This speaks to the critique of the *classic* conceptualization of the *public sphere* that has questioned the validity of the concept especially for Muslim majority countries (Salvatore/Eickelman 2004; Salvatore/LeVine 2005). It has also shown that different forms of publicness exist, comprising more intimate (Herzfeld 1997; Soysal 2010) or semi-public forms, for example (Cody 2011). It further resonates with the argument that a *public* is an achievement of the actors themselves, who are well able to carefully modulate—expand or contain—the degrees of publicness for different interests or contexts and on different scales (Zillinger 2017).

Focusing on hydraulic publics, as such, helps to localize the claims, contestations, and negotiations of the everyday politics around it. It points to how and through which practices the issues are shaped and put forward, and how they not only create publics but are remade as—and in—political disputes. In Anand’s account it is not hard to see how and why water and water infrastructure become, or always have been, political. They serve to address inequalities and contest the authority of state government. The distribution and infrastructure of

water represent the political. Yet, they also become *practically political* insofar as citizens claim their rights and protests are articulated by and through them.

The case of the High Atlas differs from that of Mumbai (Anand) on one crucial point however. Namely, the desire is not to oppose the state with certain demands or the invocation of specific rights. Considering the relationship between the state and the valley, or the CBO Amezray SMNID, to be more precise, political mobilization and expertise do not seem to lead to a direct confrontation with the state. Instead, they aim at self-administration. Political implications arise from the very delegation and coordination work of re-infrastructuring water. These activities become highly political as the provision of water is a common good and ideas of participation and progress are thus engendered in its distribution. Within these are questions of how precisely one imagines a good life in the future or how, indeed, one wants to live at all. As such, the re-infrastructuring of water taps into imaginaries and discourses that exceed the mere provision of water or the political negotiations and claims towards a common good. Ultimately, it is a matter of negotiating change and improvements in living conditions. So long as water quality of the springs and the river—and thus the village's existential livelihood—is not threatened by mining companies as it was in the past the (general access to) water is not contested. But as a centrally managed and distributed good, as a commodity and token of modernity, the new water-supplied-water contests the long-standing communal way of relating to and dealing with water. At the same time, it is a point of condensation for a number of very different arguments or interests connected with it, ranging from existential, pragmatic, economic, and identity-related issues.

Amezray SMNID received the mandate for water provision based on its past experience and community work and thus became an important actor, a node in a political network. It thus took responsibility for what was previously a government mandate. Of course, this cannot be an overtly subversive act given that it is still beholden to the rules of local and municipal administrations. It does not constitute a hydraulic *counter public* (Warner 2005). On a different scale, the outsourcing of

state services forms part of a national—if not global—policy scheme of decentralization and participation. What is more, it also means that the CBO—or rather the association's responsible personnel—is well able to expand their political influence and importance, thus consolidating their powerful positions in the local context. In this way, the policy of decentralization might even play into more clientelistic forms of cooperation (see Bergh 2017).⁹

How, then, can the ramifications of the new water supply system be summed up? What does the process of re-infrastructuring water in the village of Amezray produce? First of all, it brings together—and puts into relation—an array of different participants, materials, and discourses; on different scales that have become visible in the above description of their social and organizational practices. This produces an issue that people relate to and that is charged with ideas and values of improvement, progress and a better life. The water supply, thus, concerns and affects people. While they can still fetch water as they always did, their new water connections shift water provision out of the realm of the household or extended family toward a bureaucratic *modern institution*. In addition to tap water, such households thus receive the promise of becoming part of a different mode of existence—one, indeed, that is fit for the future. This, in any case, is the motive that drives the local association SMNID. They have dedicated themselves to the transformative potential of infrastructural development for the benefit of the entire community. Of course, this transition does not occur ad hoc, nor does everyone have an equal part from the outset, despite ambitions for such.

The new water supply produces exclusions or at least makes distinctions and hierarchies apparent. On the one hand, it produces a consolidation of influence and socio-political status for (members of) the association. On the other hand, it marks those arbitrarily or involuntarily left

9 Here it would be interesting to examine in more detail precisely how the the rather recent organizational forms and political structure of CBOs relate to the arguably specific characteristics Moroccan of hierarchy and authority (Waterbury 1970; Hammoudi 1997).

out, and in socially and economically weak positions (who is *not* connecting to the water supply, and why). The new water provision demarcates the line between administrators and customers. A shift can also be observed from water use to water *consumption*. It becomes differently measured, calculated, and—to a certain extent—commodified (see Ballestero 2015), despite the fact SMNID functions as a non-profit. As a result, improvement and work come at a price: self-reliance is superseded by new forms of marketesque entanglement and dependency. Pipes, meters, and taps, as well as the necessary bureaucratization and payment system all promise participation in a contemporary and *modern* lifestyle. At the same time, a new biopolitical link between people and water has been established.

Conclusion

The foregoing chapter described the process of re-infrastructuring the water supply of Amezray. It took as starting point both the historically grown connections of the particular region of the High Atlas Mountains to water and the conviction that scrutinizing water and its surrounding infrastructural arrangements provides insights into broader aspects of social life. Based on the ethnographic material presented—namely a detailed description of the social and organizational practices that constitute the water supply—the chapter discussed the re-infrastructuring of potable water not only as a transformation of the community's relationship to water, but of the politics of water in relation to the state.

Those implicated in the system are brought together as a hydraulic public. They thus have the potential to become different kinds of subjects. Where previously households had been self-sufficient in their acquisition of water, they have become customers and, thus, *modernized*. The local association, thereby, produces its own intermediary position as a civil society actor. As a hinge joint of civil society, the local association has framed the newly created public concerns within their own organizational practices, and thus succeeded in institutionalizing them. Connecting households to a new water supply system is therefore also,

as it were, a connection to the promise of a *good life*, whereby one is ostensibly well positioned for the future. Moreover, the new form of water provision represents a local mode of self-organization, one that establishes a connection to the nation-state via new forms of representation and legitimation.

