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*Aman Iman:
Resilient Customs, Community Water Management, and Dry Futures in Anounizme, Morocco*



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Abstract:

This project explores how Anounizme, a village in southeastern Morocco, interacts with water. I was particularly curious about how traditional community management systems operate in the context of drought. I argue that the customary management system exhibits resiliency like it has in the face of Arabization, colonization, exploitative industry, and land privatization. It is capable of adapting to drought because it is more than a management system; it is a part of culture engrained as custom. Customs have porous boundaries, allowing a space for old aspects of culture to interact with both emerging aspects of culture and external pressures. I draw upon existing scholarship surrounding the commons, customs, *khettara*, and community resource management in the region. I turn to semi-structured interviews and participant observation in Anounizme to better understand this scholarship in the context of drought and desertification. This research takes unique relevance as there is little field-based research in the region, and it explores customs and community management in the framework of water scarcity.

Key words: water, commons, customs, *khettara*, *djemaa*, drought

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To the taxi drivers and Moroccans who talked to me about water, thank you for your interest and desire to help. And finally, I have endless gratitude for my host family in Rabat who welcomed me with open arms and helped me feel at peace in this new place.

Introduction:

The worlds in which I have had the privilege to live have always been at the mercy of water. I remember being drenched in the damp mossy forests of the Pacific Northwest, waiting for the rain to disappear as a child. In California, hot smokey days define October with a haze that settles over the horizon from wildfires raging through dry and rainless landscapes. Water has always filled the holes in my life. In moments of fear, I have found refuge by gushing rivers, peace in the rhythm of a pool, and possibility in expansive oceans.

Throughout my semester in Morocco, I have turned to Rabat's waves that sing songs with the sunset when I need a break from the bustling medina. Access to water in Rabat is seemingly abundant; something I attributed to successful environmental policy and resource management. From the Green Mosque Program that supported local transitions to renewable energy to the mega-solar project NOOR in Southeastern Morocco, I assumed Morocco's 2008 *Plan Maroc Vert* (Green Development Plan) was the key to 'sustainable' futures. Given the country's drought and broader nationalized environmental policy, I believed that water oversight came from the state. A casual conversation in the Marrakech water museum about rural water management came as a surprise to me. The museum focused on the role water played in peoples' religious lives as well as national development. In a small dark corner of the museum lies a small exhibit on *djemaa*, a local institution administrating customary law. It is here I learned that water was not managed by the state in rural villages. Instead, it was administered locally by *djemaa*. I wanted to learn more about how Morocco's current drought was impacting rural communities, and how they were managing increasing water scarcity.

In the context of the broader environmental policy discourse in Morocco, this research looks at the hyperlocal level of a village community to understand if customary systems like

djemaa have adapted through drought, and if so, how they may in the future. These systems have experienced a variety of external stressors like Arabization, French colonialism, extractive industry, and land privatization regimes. At its core though, this project is about how people engage with natural environments in periods of high stress.

Morocco has an imminently intensifying drought. How would these local communities manage an increasingly scarce resource? Beyond the tactful means of management, I was also curious if water's sacrality played a role in management processes. Do cultural and religious attitudes towards water shift considering drought? My original hypothesis was that increasing scarcity would lead to increased sacrality, putting social and economic stress on existing water management systems.

This study was conducted over two short weeks in Anounizme, a six-hundred-person village in the Tinghir province southeastern Morocco. I lived with Rachid, a young sociologist, and his mother, Soukaina, in their home. I spent most of my time sitting with Rachid's friends or his sister's kids, listening to chitter chatter even though I did not understand Tamazight, the local Amazigh (indigenous) language. While I learned a great deal from interviewing villagers, I learned just as much walking through the fields and irrigation system with Rachid in the early afternoons or sitting with Khadija, Rachid's 9-year-old niece, building cairns on a hill while her grandmother slept nearby. The stillness of field research challenged me the most; it made me present. Through this I learned that my understanding of this community's relationship with water can never be complete, for this landscape and village exists only through generations of intentional presence. Still, I came to know the outlines of peaks in the distance and the colors of the hills that shadowed the village as best as I could. I saw a flame in the landscape, unlike the ones I know at home. I loved the way the light would hit the red mountain. It made it warm.

Almost like a fire looking over the empty river and olive trees, but a fire that nurtured, not one that burned.

Literature Review:

I intend on using the literature review to contextualize this project with similar research in the field. Much of the research is localized though, so these sources provided overviews and themes rather than a discussion. I found that there is little water-focused community management research in southern Morocco. Most of the field research is on land ownership and customs. I also use this literature review to engage with the region's history, theories on the commons, and eventually customary law. This review goes across academic disciplines, something I found necessary when studying water, which can be studied with both a technical and social focus.

My initial interest in community water management emerged from a past interaction with Elinor Ostrom's work on common pool resources. In *Institutional Arrangements for Resolving the Commons Dilemma*, Ostrom studies two villages – one in Japan and one in Switzerland – to explore how governance of the commons adapt to ecological changes. The *commons dilemma* occurs when there is open access to a finite resource. In Hardin's famous *Tragedy of the Commons*, he argues resources must all be privatized because humans operate in their own self-interest and would exploit resources beyond a sustainable margin.¹ In contrast, Ostrom believes that communities can work together for sustainable management of communal resources. As for the rules that govern these resources, they come to be through a series of adaptations.²

In the villages studied, she found that “access to the commons depends on the inheritance of private land with associated rights to communal property.”³ This privatized and

¹ Hardin, “Tragedy of the Commons”.

² Ostrom, “Institutional Agreements for Solving the Commons Dilemma,” 262.

³ Ibid, 259.

community structure was like the one I would come to find in Anounizme. Ostrom ultimately concludes that “given the longevity of the locally designed rule system described, we suspect that it is possible for those involved in a commons dilemma to arrive at a set of rules that enables them to keep total use within the limits of sustainable yield.”⁴

Given that Anounizme is on Ait Atta land and culture plays a significant role in water management, it is necessary to include David Hart’s anthropological work on the Ait Atta in this literature review. *The Ait Atta of Southern Morocco*, written in 1984, is one of his many ethnographic works on the Ait Atta. His work is the first and some of the only thorough ethnographic research on the Ait Atta and is referenced extensively throughout the field. As higher education becomes more accessible to people in rural communities, Amazigh communities themselves have begun celebrating Hart’s work. People like Rachid have turned to sociology as a new way to interpret their culture.

I selected sections from the book, focusing predominantly on transhumance, socio-political structures, origins, religious observations, and resistance of the French protectorate and independent Moroccan state. I used this source to explore Ait Atta history in these realms, which was helpful to provide a baseline as I entered the field. Ait Atta culture is oral, and Ait Atta legends and origins are very important. Myth for the Ait Atta exists in sacred time, which is beyond or next to profane time, however, only profane time is relevant.⁵ Thus, the oral retelling of the origin story “Dadda ‘Atta and His Forty Grandsons” is important to Ait Atta culture and history. Stemming from this legend is the orality of the entire culture, notably in governing structures. For example, Hart found that customary law is rarely written. He finds rather that “it

⁴ Ostrom, “Institutional Agreements for Solving the Commons Dilemma,” 262.

⁵ Hart, “The Ait ‘Atta of Southern Morocco. Daily Life and Recent History,” 40.

is evident that these men knew their customary law by heart.”⁶ The strength of customary law eventually became a symbol of Ait Atta power, with the entire internal organization and conflict resolution structure being a form of resistance itself.⁷ Tense history between the Ait Atta and the centralized government resulted in local autonomy. It is within this local setting that customs govern. Additionally, Hart’s ethnographic work informed that the orality of tradition gave strength to customs and political organizational systems.

Karen Rignall’s 2021 publication, *The Elusive Common*, offers the most recent ethnographic work on the commons in southeastern Morocco. Her research is in the nearby Mgoun valley, focusing on how land and perceptions of the commons have changed over time. She discusses political pluralism in land regimes, rising capitalism, shifts in gender dynamics, and ‘new rurality’. While Rignall does not focus particularly on water, land and water politics overlap. Her findings and study on customary law is relevant. She argues that the commons have preserved and changed over time, and that the romanticization of a ‘traditional common’ is a limitation: “fuzzy boundaries complicate a romance of the commons that hinges as much on narratives of decline – the nostalgic need to recuperate a lost past – as a desire for a utopian alternative to the contemporary crisis of capitalism.”⁸

The first irrigation-specific research in the region came out of sociologist Clifford Geertz’s *The Wet and the Dry: Traditional Irrigation in Bali and Morocco* in 1972. In the piece, he takes a comparative approach that even he is critical of: he describes the traditional Moroccan system in opposition to Bali’s. He says the systems are distinctive from each other because water is property that is privately owned.⁹ His research was predominantly conducted near Fes in the

⁶ Hart, “The Ait ’Atta of Southern Morocco. Daily Life and Recent History,”10.

⁷ Ibid, 62.

⁸ Rignall, *An Elusive Common: Land, Politics, and Agrarian Rurality in a Moroccan Oasis*, 207.

⁹ Geertz, “The Wet and the Dry: Traditional Irrigation in Bali and Morocco,” 31.

Middle Atlas mountains. In his work, he isolates irrigation as a separate system without involving the broader socio-cultural context in which it operates.¹⁰ He argues that “there are rules; a very great many of them. But they are phrased in terms of individual rights, not collective necessities, as contractual, not civic, obligations.”¹¹ Property law controls the system, as it is a largely individual and private system. He says the complexity of the laws contrast with the simplicity of the technical system.¹² As such, he writes that the code of laws and customs create a framework for conflict rather than cohesion.

In their piece *Community water management. Is it still possible?* in the *Anuario Antropologico*, Ftaita responds to Geertz’s comparison by calling his comparison between the Balinese and Moroccan models of water management a failure. Ftaita looks to community management models in the region surrounding Marrakech, Morocco to make his broader claim that community water management is still possible because water infrastructure is a collective good with social negotiation.¹³ Djemaa’s social and political legitimacy is guaranteed by common law though, and Ftaita argues that growing individualism and the increased commodification of the resource is stressing traditional management methods. In 1992, the regional offices for agricultural development established a new law that created associations of agricultural water users (WUA).¹⁴ While the technical management of the resource may be the same, the social negotiation aspects of the systems are changing. He says:

“Growing individualism is on the verge of supplanting the founding principle of the oasis society, namely the community of interests. There are various reasons for this, not simply the fragility of the environment and weather conditions. Institutional changes, such as the modernization of irrigation techniques and a new mode of economic organization

¹⁰ Geertz, “The Wet and the Dry: Traditional Irrigation in Bali and Morocco,” 37.

¹¹ *Ibid*, 34.

¹² *Ibid*, 36.

¹³ Ftaita, “Community Water Management. Is It Still Possible? Anthropological Perspectives ,” 200.

¹⁴ *Ibid*, 198.

imposed by the modern state, aggravate the changes experienced by the oasis communities”¹⁵

This becomes an interesting addition to the field, as it is one of the first pieces to turn to future stressors on the management system, particularly stemming from the state and ‘development’ pressures. Ftaita’s findings are not based in a particular community or village, but rather a larger region and synthesis of other research in the field. His work provides an excellent overview and sets the stage for future work in the field, but as he points out, each village and region’s principles of water management “intertwine two legal codes (*sharia* and *orf*), thus offering different practices and rules from one region to another and even within a single geographical area.”¹⁶ This means each village is unique in nature and engages with this management in different ways.

In *Dynamique de la Propriété Collective et Espace Juridique Communautaire*, Moroccan Anthropologist Hassan Rachik engages with the current state of laws and rights in the commons of rural Morocco. He uses his research alongside other anthropologists to explore current stressors on community management systems. Rachik comments on Geertz’s piece saying that in his comparison, Geertz focused only on what the Moroccan system was not rather than what it is.¹⁷ Instead, Rachik understands the system as being communal with aspects of individual property ownership. He explains how changes in the political and economic national contexts trickle down to impact the operations of the collective. For example, shifts in economic contexts have caused youth to abandon the solidary economy in search of paid jobs.¹⁸ This can be put in conversation with Ftaita’s research of political stressors with WUAs. They both argue that external factors are impacting the ways collective management systems run. Many of the systems

¹⁵ Ftaita , “Community Water Management. Is It Still Possible? Anthropological Perspectives ,” 202.

¹⁶ Ibid, 197.

¹⁷ Rachik, “Dynamique de La Propriété Collective et Espace Juridique Communautaire,” 51.

¹⁸ Ibid, 22.

were developed to be insular, oftentimes a way to indirectly exclude outsiders.¹⁹ As mentioned by Ftaita and Rosen, these customary systems are intertwined with other aspects of culture:

“dans les communautés rurales, le droit, l'économie, le rituel, et d'autres systèmes culturels, sont liés à et affectés par la structure sociale. La dynamique récente de l'espace juridique communautaire concerne essentiellement ses fondements structurels traditionnels [In rural communities, the law, economics, ritual, and other cultural systems are linked to and affected by social structure. The recent dynamic in the legal community space concerns the essentiality of the fundamentals of the traditional structures]”.²⁰

Thus, Rachik argues that stressors in the economic and political realms will impact the customs of the community legal space.

Rachik looks at internal conflict within the system as a pressure point as well. He argues that many individuals and disadvantaged groups have contested the fundamentals of community laws in the name of equality and individual liberties.²¹ This stems from the djemaa: the customary administrative body overseeing land, water, and local conflict resolution. These customary laws also include inequitable inheritance rights for women.²² Access to larger national human rights discourses and general equity concerns have sparked conflict within communities. To that end, he says these disputes affect the viability of customary law.²³

I found very few field-based research pieces that were specific to a village or system. Former SIT student John Chappell returned to Morocco to turn his ISP into a thesis, using Ostrom's theory of the commons to contextualize his field research. His research provided an excellent overview of what a khattara may look like today.²⁴ He also argued that the institutional longevity of community management systems is under threat due to scarcity and the changing

¹⁹ Rachik, “Dynamique de La Propriété Collective et Espace Juridique Communautaire,” 27.

²⁰ Ibid, 78.

²¹ Ibid 48.

²² Eddouada, “Land Rights and Women's Rights in Morocco: Cooperation and Contestation among Rural and Urban Women Activists .”

²³ Rachik, “Dynamique de La Propriété Collective et Espace Juridique Communautaire,” 78.

²⁴ Chappell, “Sons of the Saqiya: Grassroots Water Politics in Southeastern Morocco,” 19.

economic climate where youth are migrating for work.²⁵ The village he studied was located near Merzouga, a tourist destination at the entrance of the Sahara.

Another example of field-based irrigation research in the Middle Atlas is Welch's *The Dry and the Drier: Cooperation and Conflict in Moroccan Irrigation*. Welch studies water scarcity as the stress factor on community management systems. He criticizes Geertz's work and argues that: "cooperation is as common a response (to water deficit) as conflict".²⁶ He tackles the blurred boundaries between the individual and community, saying: "the land is owned by individuals, but is virtually worthless without water. Irrigation rights are unavailable to farmers who fail to fulfill obligations to the collective."²⁷ This was the first piece that looked to water scarcity and drought as a stressor on community management systems and provides an overview of what that looks like for this specific community in the Middle Atlas.

I became increasingly curious about customary law during my time in Anounizme and carried the interest with me throughout the writing process. At this stage, I knew customary law and culture were heavily intertwined in Anounizme – and likely a reason the community had managed water well. Lawrence Rosen's *Law as Culture* was recommended by my advisor, Dr. Eddouada, as a broad introduction to customary law. This source confirmed some of what I learned in the field as being synonymous with generalized understandings of customary law. Rosen is an anthropologist and scholar of law and offers important inspection of the intersections between law and culture. I have been mindful to use this source as a supplement to my understanding, not an absolute truth of what customary law in Anounizme is: it is evident that each village and culture interacts with custom differently. Still, this source is valuable in that it

²⁵ Chappell, "Sons of the Saqiya: Grassroots Water Politics in Southeastern Morocco," 51.

²⁶ Welch, "The Dry and the Drier: Cooperation and Conflict in Moroccan Irrigation," 69.

²⁷ *Ibid*, 80.

gave me a perspective on what customary law *could be*, and why it may be as important as it appeared. In discussing culture, Rosen writes, “by successfully stitching together these seemingly unconnected realms (economic, kinship, political, legal), collective experience appears to the members of a culture to not only be logical and obvious but immanent and natural.”²⁸ Law is one of the categories binding cultures together, inherently intertwined with other aspects of collective existence. In customary law, “process takes precedence over rules,” and the customs are flexible given varying contexts.²⁹ He argues that as such, in customary systems, law and culture are bound together even tighter. Therefore, “the history of custom becomes part of the history of culture and not simply of law.”³⁰ Customary law is a vehicle for sustaining culture over time due to its adaptability to varied contexts. It is effective because law itself *is* culture – the “stitching together across categories of experience and the relationships that are connected to them”³¹

There is a lot of international literature on customary law, but Leon Buskens’ piece on customary law and heritage in Morocco came recommended due to its more localized focus. He sees customary law in the present as a recognition of cultural identity and local rights but argues that the “rediscovery of customary law has not led to a legal pluralism” and that rather it is an avenue into Amazigh culture and a political tool in specified arenas to claim property rights.³² He believes customary law is presented as an to access popular culture today, but this has been a process championed by political and academic elites.³³

²⁸ Rosen, *Law as Culture: An Invitation*, 4.

²⁹ *Ibid* 36.

³⁰ *Ibid* 37.

³¹ *Ibid* 67.

³² Buskens, “Berber Customs as Heritage: The Discovery and Rediscovery of Customary Law in Morocco ,” 94.

³³ *Ibid*, 95.

Methodology:

This research was conducted over two weeks in November in Anounizme, a village in southeastern Morocco. The village is home to 600 people. Situated between the towering Atlas Mountains and rugged Anti-Atlas, the village is in a semi-desertous climate. Most of the plants are small shrubs dispersed throughout the arid landscape. I had little to do with the site selection; Jamal Bahmad put me in contact with Rachid and Soukaina with whom I would stay. I was lucky to land in such a relevant and lovely place. The village is close to the largest silver mine on the African continent and is currently managing drier winters and changing landscapes. Because I knew little of the site before I arrived, I left my research open. I didn't know what to expect, so I focused primarily on general water-ethnography type questions.

I used triangulation through participant observation, semi-structured interviews, and academic literature on the subject to conduct my research. My literature review pulled from a variety of fields and authors. Some pieces were of well-known theories like Ostrom's commons theory while others consisted of past undergraduate theses. The academic literature research was continuous, beginning before I entered the field and adjusted throughout the month to supplement my learning in the field. As mentioned, the bulk of my literature review on customary law occurred after I left the field.

Verbal exchanges all occurred in Tamazight, which I did not know. I was fortunate to be welcomed by Rachid who spoke fluent French. The interviews were conducted in French and Tamazigh. They were translated by Rachid. I translated the transcriptions from French to English. While my questions were semi-structured, I asked most interviewees the following questions:

1. How long have you lived in Anounizme? What is your occupation and age?
2. How do you use water?

3. Where does your water come from?
4. Has there ever been a time when there was no water?
5. What will you do if there is no water?
6. What happens if someone mis-uses water?

I chose these because they were practical to answer and easy to translate. They were also entry points into water politics and water's role in culture. Additionally, I asked questions surrounding land ownership, something I found to be a contested subject in my literature review and previous research. When I interviewed elders and members of djemaa, I asked more technical questions about the customary institution. In my first few interviews, I used the term "sacred" when I asked about water. This proved to be largely ineffective. "Sacred" is not a term used in Tamazigh, and not a category used to describe things in Amazigh culture. Instead, I was advised to ask what things are important and what happens when they are mis-used. This shift in language helped generate responses that were more related to water's role in social culture and religion. Living with Rachid provided an ongoing casual conversation over the course of two weeks; I was fortunate to become habituated to asking questions I had as they arose. Most of the interviews with villagers occurred after we had shared a meal or tea. All of them were informed of my research and purpose, and I received verbal consent (translated through Rachid) to record our conversations. I have used pseudonyms to protect identities as many villagers have participated in activist protests against the state and exploitative practices in the nearby silver mine.

I primarily interviewed elderly members of djemaa and young men, except for Soukaina. This was mostly due to Rachid's access to participants and my interest in the djemaa system. In contrast, my participant observation occurred with women and youth as many of my afternoons were spent up on the hill drawing, drinking tea, and watching the sun escape the day over the horizon.

Regardless of if this research approach is ideal in theory, the short time frame to conduct the research, challenges with language, and my positionality as a white female American student were limitations. While I can have an understanding of what drought means for this community, I am not lost on how my identity can impact the perceptions of those I had the privilege to interview. I have also tried to be critical of the theories and terminologies that guided me to this topic in the first place. Words like ‘sustainability’, ‘the commons’, ‘neocolonialism’, or ‘environment’ are all common in my daily academic discourse but cannot be ‘applied’ to Anounizme. These categories oftentimes accompany westernized notions of linear development and environmental policy. An article on ecological and climate change timelines in GeoHealth warns against anticipating universal understandings of climate change timelines and impacts.³⁴ With this in mind, I have attempted to remain subjective in my research, honoring the experiences and fears shared with me as truths.

I do not know what to call this piece. No category seems to fit. It is not an ethnography or addition to commons theory. It is not isolated stories or abstracted ideas. It is not just about an irrigation system. I have come to find this is the only way I know how to think about it, spanning across disciplines, because the realities of drought and climate change cannot be isolated to economics or politics or anthropology. The way this village interacts with water permeates all aspects of life, so I figure it is fair to write about it as such.

Findings and Discussion

i. From Transhumance to Sedimentary Existence: Anounizme as a Site of ‘Symbolic Colonialism’

³⁴ Miara et al., “Climate Change Impacts Can Be Differentially Perceived Across Time Scales”, 9.

On my first night in Anounizme, Rachid and I walked up the hill behind his home to watch the moonrise. As the sun made its way to the horizon, the heat escaped the valley. We looked to the East where the Anti-Atlas poked up, the range's outline soft against the pastel blue remnants of the sunny day. The clouds rested high, turning various shades of gray, pink, and orange. The gravel below us was loose, our feet displacing small pieces of sedimentary rocks. These rocks have seen many desert sunsets, they have been present for all stages of the unraveling of the region's history. We stopped, the last of the gravel rustling and settling by our feet. Rachid pointed to the shepherd on the hill nearby, surrounded by grazing sheep and goats. "Families in the village pay this shepherd to take the sheep grazing every day in the nearby hills. When the sheep come back to the village, they all run to their homes. We used to be nomadic."³⁵ Thus began my Anounizme history lesson.

We had walked to the *chateau d'eau*, the potable water tower that sat above the village. Below lay mud and straw homes spread alongside a kilometer of road, clumped together in sections. *Les champs* (the fields) extended on between the road and the dried riverbed, a distinguished fluffy green among the red, brown, and clay of the village.

"Rachid: Do you see the hill across the river, over there to the right?"

Haley: Yes.

Rachid: That is the lion's mountain."

Anounizme, the name of the village, comes from the village's creation story. It is said that nomads would go to the mountain that hugged the river when it rained. They dug holes and ditches to store rainwater for their sheep to drink. Every night though, a lion would come and drink all the sheep's water. *Anoun* in Tamazigh, the local indigenous language, means rain. *Izme* means lion. Together *Anounizme* is lion rain.

³⁵ Rachid, November 1, 2022.

The village of Anounizme emerged from a land privatization scheme in the 1950s, shortly before Morocco reclaimed independence from the French colonial state. Land in Morocco has always been Amazigh land. Imazighen, meaning ‘free peoples’, are the indigenous inhabitants of North Africa. Anounizme sits on Ait Atta tribal land. The Ait Atta are a tribal ethnic subgroup of Amazigh people known for their resistance against French and Arab colonial states.³⁶ The Ait Atta practiced transhumance, moving from the cool Atlas mountains in the summers to the warm semi-desertous valleys in the winters. This nomadic lifestyle remained through Arabization and the beginning of the French protectorate, mostly due to the tribe’s rurality and resistance to both colonial forces.

A 1919 French Dahir labeled much of Ait Atta land as “collective”, leaving local tribes to manage land allocation and resources themselves under oversight from the Ministry of the Interior. This policy was a political ploy to semi-surveille the region while relieving the state from the responsibility of managing localized land conflicts.³⁷ It was also a political tool against the Arabs. The French colonial project codified custom as counter to Islamic law, even though many Ait Atta people followed Islam and saw their customary law to conform with Islamic law. Regardless of its intention, it codified land regimes and created a legal pluralism by confusing boundaries between the state, tribe, and village levels of land allocation.³⁸ It made land a site to be contested, taken, and shaped to serve various actors in the present and future. This was the first formal process of land classification and development in the region, which ultimately set the stage for future privatization and extraction practices. The Ait-Atta were the last tribe to resist

³⁶ Hart, *The Ait 'Atta of Southern Morocco. Daily Life and Recent History*, 8.

³⁷ Berriane, "Chapter 10 Development and Countermovements. Reflections on the Conflicts Arising from the Commodification of Collective Land in Morocco", 53.

³⁸ Rignall, “An Elusive Common: Land, Politics, and Agrarian Rurality in a Moroccan Oasis”, 42.

the French protectorate in 1934. Today, former French military surveillance posts sit dilapidated on hills throughout the valley.

As Morocco gained independence from the French, the state adopted a syncretic land system influenced by French, Islamic, and customary law.³⁹ In 1950, the state forced the tribe to formalize villages in the region as an effort to make the tribe sedentary. Rachid described this as “symbolic colonization,” which meant continued surveillance by the state.⁴⁰ The tribe allocated private land plots to families based on size, with families owning agricultural plots in communal fields for family consumption. The land surrounding the village remains collective tribal land. Many people settled in the villages because Amazigh culture is intertwined with land:

“La terre est non seulement une source de production de richesse mais aussi un abri, un lieu de sécurité, d'appartenance et un marqueur identitaire” (*“Land is not just a source of production and wealth but also a shelter, a place of security and belonging, and an identity marker.”*)⁴¹

The privatization of tribal land to create Anounizme was not as a choice but a negotiation between the state and Ait Atta culture. Land became the site of manifestation of centralized power. For the Ait Atta, this was a forced renegotiation to maintain land as a central aspect of culture.

I met Yassine, an elder and member of the village’s djemma, for tea while he waited for his sheep to return from grazing. He had a warm and welcoming energy when his granddaughters jumped into his arms, the type of energy that felt like family. When the sheep returned home, they waddled to drink from the mote. He was commanding, he knew his sheep and they knew him. He was nomadic before settling in the village 32 years before. He said: “Before I stopped being nomad, I had an old house over there. I decided to come here as a semi-nomad. I still have

³⁹ Balgley, “Morocco’s Fragmented Land Regime: An Analysis of Negotiating and Implementing Land Tenure Policies,” 4.

⁴⁰ Rachid, November 1, 2022.

⁴¹ Amharech and Mahdi, “Droits à La Terre, Territoire et Ressources Naturelles Amazigh Du Maroc.”

my sheep (...) It is not easy to stabilize and live in a zone where you do not have land. It's not easy, it's not in our culture."⁴² The privatization of land in the region left many nomads in a bind: by not stabilizing on private land, the tribe would possibly lose the land to the state. Stabilizing was not seen as a choice but a responsibility to maintain access to land, which is an integral part of their culture. While the land policies presented by the French and Arab states had the illusion of a hands-off approach that maintained land sovereignty for the tribe, the establishment of Anounizme coded surveillance by forcing the community out of transhumance into sedimentary existence.

ii. Water in Anounizme: Aman Iman

« Il y a un terme Amazigh, Aman Iman »

« C'est quoi ? »

« L'eau c'est la vie »⁴³

Large piles of red rocks encircle the base of a young father Hassan's future home. They were carried here from red mountain across the riverbed and within a few weeks, piles will line the walls. I sat on the edge while Rachid's uncle, a cement construction worker, mixed water into cement and rocks. Without water, the cement would not mix or mold to the rocks from red mountain to build the home. Together the land and water became the glue of home.

Water isn't just practical shelter though. It's cooking, washing, cleaning, drinking, eating, and irrigating.⁴⁴ It's filling beige cracks in the earth at the base of olive trees and turning their shadows green. It's tea. 'Water is life' is obvious; water is present in every aspect of being. When I introduced myself and my project to participants, the first thing they would say is "water is life" or, as Noussir would say, "c'est *kulchi* (it's everything)."⁴⁵

⁴² Yassine, November 5, 2022.

⁴³ Hakim, November 7, 2022.

⁴⁴ Achraf, November 6, 2022.

⁴⁵ Noussir, November 9, 2022.

I spent a lot of time with Rachid’s nephew Noussir. Families in Anounizme were large, but the two were just as much friends as they were family. I formally met Noussir on my third day in Anounizme, although he had come in for breakfast the morning before, chatting up a storm with Soukaina. We made our way to Noussir’s boutique, a small store off the main road with household and pantry items. Behind the register was a room, dark in contrast to the bright sun outside. Noussir was hunched over a pot of tea. He poured me a glass. As my eyes adjusted, I realized we were in a cave space with 4 other men. This was the musky room that was the center of Rachid’s social circle, with a game room attached. I would come to spend a lot of time in the cigarette-lined room with pool tables. It was a dark room full of light.

It was easy to connect with Noussir even though we didn’t speak each other’s languages. His charismatic nature and my giggled attempts to communicate with my expressions made for easy interactions. When I asked if we could do an interview, he was ready to share:

“Water is life, that’s it. It’s everything. If there is no water, there is no life, no source to work. Especially in Anounizme, if there is no water there is nothing to do here. If there is water, there are trees and vegetables and life rolls, it rolls.”⁴⁶

Many conversations about water started with this sentiment and turned into changes in the landscape. I knew Anounizme for what it was in the present: predominantly dry, and home to olive, fig, and almond trees. I could not envision fields covered in vegetables or snow-capped mountains, but green Anounizme was present in the oral retellings of the land. Precipitation was not foreign to the village. It’s been three years since it had snowed:

“Haley: How do you get your water? Where does it come from?

Noussir: There is a pump and the potable water castle that brings water to the home. If there is snow on the mountain, we have a lot of water.

Haley: When was the last time it snowed?

Noussir: In 2019, it’s been 3 years. If there is snow, then there is rain, so we have water.

Haley: Are you happy when you see snow?

Noussir: Yes. Do you like snow?

Haley: I like snow, yes.

⁴⁶ Noussir, November 9, 2022.

Noussir: The last time the snow fell it was my wedding. Four days of snow and rain parallel with my marriage. Everything was in the snow.

Haley: So your marriage and snow are together.

Noussir: I easily mark the last time it snowed because I've marked it with my marriage."⁴⁷

This was an endearing exchange; Noussir's memory of his wedding day is deeply intertwined with the snow on the mountain. He saw it as a gift for his marriage. Since the beginnings of the current drought in 2007, snow and rain have been rare. The village relies almost entirely on groundwater sources for drinking water and irrigation. The dry riverbed runs parallel to the khattara, with fields and crops separating the two. The river is rain fed and appeared to have been dry for some time, since small plants sprouted up between rocks. The land on the bank was crackling and dry.

Village elders retell stories of times when the water rushed through the river and the view from the hilltop was one of a sea of green. Amin, Noussir's father, moved here shortly after the village was created. Like Yassine, his parents stopped being nomads due to drought. They stabilized in Anounizme because of water:

"There was water, that's why they stabilized here. At the time, there was lots of rain and water on the mountain (...) Since 1982, there is not a big quantity of snow, not like before. So, in 1982 there was a change in the climate. That's why there is no more snow on the mountain. And since these years, people stopped basing their mode of life on agriculture because there is drought, there is no water. They look for other ways to live."⁴⁸

Amin was one of these people; he had been a merchant throughout the tribe's land for over forty years. This signified the first economic and cultural changes that occurred because of drought in the late twentieth century. Soukaina tells a similar oral history of a lush, agriculture centric village:

Haley: "Has the landscape in Anounizme changed since you arrived here 60 years ago to today?"

⁴⁷ Noussir, November 9, 2022.

⁴⁸ Amin, November 10, 2022.

Soukaina: There was agriculture, plants, grains. There was lots of rain, the landscape was green. There were lots of colors and flowers all over the landscape. The entire valley of Anounizme had trees and different fruits, different plants, and there was lots of rain. That was back then. But now there is nothing. Before, there was water above the ground, and there is agriculture in the summers and winters. We elaborated the earth, we had all the grains, trees, and water. There was lots of water everywhere. There were figs and fruit in the entire valley of Anounizme. That was back then. But now like everywhere, there is drought. All of this is no longer.⁴⁹

Today, the village relies on groundwater sources to irrigate agricultural fields and provide potable water to homes. The fields are full of trees, but the ground beneath them is crackling.



Close up image of soil in the fields. 3 November 2022.

iii. Water in Anounizme: The Technical

I. Potable Consumption

Household water usage in Anounizme is sourced from the *chateau d'eau* (water castle) that was constructed in 2004. The castle sits on top of the hill, and pumps water from a groundwater source nearby (this source is different from the one supplying water to irrigated fields). Rachid and Achraf, a thirty-two-year-old entrepreneur, explained the system to me. He said, “it costs less (than cities) to consume water”.⁵⁰ The Anounizme Association of Development (AAD) manages the potable water system, collecting money bi-monthly from village households. There is a fixed cost of 10 Moroccan dirham, paid every two months. Water consumption is measured in tons and meters squared.

⁴⁹ Soukaina, November 9, 2022.

⁵⁰ Achraf, November 6, 2022.

Water usage in m ²	Cost in Moroccan Dirham per meter squared
0 – 15	2 DH / m ²
15 – 30	3 DH / m ²
30 – 45	5 DH / m ²
45 +	7 DH / m ²

Most households are in the second consumption group of 15 to 30 meters cubed. The more a household consumes, the more they pay. The association uses income from potable water to finance other development projects in water management or education.



Chateau de L'eau on the hill top. 2 November 2022.

II. Irrigating with the Khattara

We spent an hour sitting in the fields while Abdel – a young villager – and his father irrigated their trees. There are dense cracks in the earth where grass used to grow abundantly. The two worked together, the father going further down the canal to prepare trees for irrigation while Abdel opened passageways for water to flow.

The water was transported to the plots from a nearby groundwater source through a system of canals called a *khattara*. A *khattara* is a traditional irrigation method that is communally owned and operated. It transfers water from a slightly higher elevation, so the actual canal sits at the same depth. Once the canal surfaces, it runs parallel to the fields in a *saqiya* (above ground canal).



Transition from Khettara to Saqiya.

In Anounizme, The khettara runs 2 kilometers from *lion's mountain* to the fields. The khettara's original groundwater sources are becoming obsolete due to limited rain and exploitation. As a solution, a solar pump system was built in 2014 by the AAD, funded by the German ambassador. The pump is now managed by the AAD and djemaa. It sits between the village and lion's mountain, about 1 km from each site. The pump uses solar energy to pump water from a nearby source into a reservoir. The water sits in the reserve so that when night falls and the panels stop producing energy, the irrigation system can continue to run. The reserve has the capacity of 300 m². This site was selected because there was water in a nearby water table and because it sits on collective tribal land. Like the khettara, the solar pump system is community capital.



Solar Panels and Reservoir. 10 November 2022.

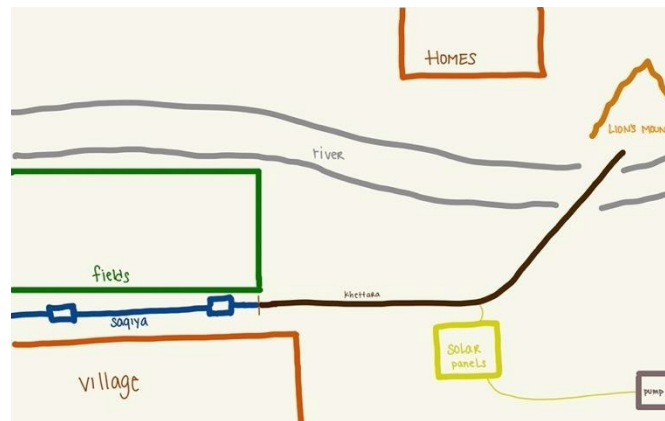
Since the canal is underground, it can be challenging to maintain. Along the canal's route on the surface are a series of holes that are 2 meters apart. They are for light and maintenance. If

something becomes stuck in the canal and water stops flowing, this is an easy way to figure out where the blockage is. Beginning at the hole closest to the fields, villagers work their way towards the source, peering through each hole. Once they find a hole where water is flowing, they know the blockage is between this one and the previous one.



Peering into the khattara. 6 November 2022.

Once the water reaches the saqiya, it enters another large reservoir. This reservoir can be used to collect water for more productive irrigation. Water flows at the highest rate closer to the top of the saqiya, and flow times reduce gradually from there. Users with land towards the end of the saqiya use the reservoir to increase productivity, letting the reservoir fill before opening it. This promotes faster flow times to the fields further along the canals and ultimately encourages better irrigation. There are two reservoirs along the saqiya: one at the top near where the kheterra becomes the saqiya, and one about halfway along the saqiya. Shortly after the first reservoir is a public canal entrance. This is space allocated for sheep, nomads, and laundry.



Bird's eye diagram of irrigation

The fields are like a giant non-symmetrical grid. There are sub-canals made of dirt and earth that run perpendicular to the saqiya. These sub-canals have a slight downslope so they can transport water from the saqiya to specific plots and trees. The sub-canals are managed by plot-owners. They are dug to reach specific plots and unlike the saqiya, made of mud rather than cement. The fields are like a giant agricultural maze with dead-ends and long passages. The villagers are the maze keepers determining when dead-ends open and close.

Due to drought, many villagers irrigate only tree roots. The trees sit at the middle of a small plot with the sides elevated so water does not escape the confines of the tree roots. This is the most productive use of water to keep the trees alive: “It is just the logical thing to do.”⁵¹



Plots after they have been irrigated. 3 November 2022.

⁵¹ Abdel and Rachid, November 3, 2022.

Along the sub-canal, Abdel and his father worked together with the dirt and a shovel to open and close canal passageways, granting water flow access to a certain plot before moving onto the next. The process began at the saqiya. They unstuffed the hole that connects the saqiya to the sub-canal, and water begins to rush down. Once it reaches their plots, they use a shovel to open the entrance to specific trees. Meanwhile, water is blocked from going further down the sub-canal with another mud blockage. When a 3 cm layer of water covers the plot near the tree root, the sub-canal is unblocked and the entrance to the plot is closed by dragging dirt back over to block the entrance. The entire process is repeated until all the trees have been irrigated.



The sub-canal travelling away from the saqiya and the transition from saqiya to sub-canal. 3 November 2022.

iv. Water in Anounizme: Governing Khettara

After we spent the afternoon with Abdel while he irrigated his plots of land, Taofiq (Rachid's nephew), Rachid, and I prepared for their family's water hour. We walked to the river that marked the end of the fields. The river was dry, just loose grey rocks waiting to be painted by raindrops. Some stubbles of plants grew between the rocks ready to be swept away by a current. We navigated the side of the riverbed, then up a new sub-canal near the start of the khettara. Rachid proudly showed me where his family's almond and olive trees were. He owned land both at the top of the canal and the bottom. This spread of land was part of its distribution

when the system was built; water flows more heavily at the top, so many families own land along the system rather than in one place to make water access more equitable.

We sat on the big wall near the reserve waiting. 4:52 4:53.... Taofiq munched on some candy, while leaning his weight on the shovel, he waited. Rachid said “I cut the water five minutes before because that’s how long it takes to travel there and end his time exactly when mine starts”⁵². I felt like we were waiting on the blowhorn for the beginning of a race. At 4:56, Youssef grabbed the shovel, and built a makeshift mud wall in the center of the canal, stopping the water’s downward flow. He unstuffed the small hole that connected the sub-canal to the plots. Sacks, sticks, and mud came out as water flowed quickly down the earth-molded canal. We irrigated a few olive trees, but Rachid closed the reservoir so he could use the rest of the time to water trees that were further from the source.



First reservoir filling with water. 3 November 2022.

The practical side of irrigating is based on customs: established patterns of how something is done in the community, or, as a young interviewee put it, “the laws of the tribe.”⁵³ This young generation’s interpretations of customs affirm that they are effective in the present. They are not an archaic legal and governance system from the past, as they are often perceived

⁵² Rachid, November 3, 2022. Paraphrased for clarity.

⁵³ Hakim, November 7, 2022.

by the central state and western societies. As exemplified by the following example of the khettara, the community's use of custom to manage irrigation is highly effective and equitable.

Every member gets a designated amount of time to use the khettara on a circular rotation. Water is calculated by time rather than quantity, so, as fluctuations in water availability cause the khettara to run faster and slower, the entire community is impacted similarly. Everything occurs in respect of the ratio of time to land mass. The amount of time the user gets is determined by the family's number of plots. The rotations are every 10 days during the summer and every 20 during the winter. When I asked Rachid, he said his irrigation time changed every cycle. For example, one cycle he could have his five hours on a Tuesday at noon while the following time it is from midnight to five am. The khettara never stops running, meaning someone is always irrigating. I asked how people always knew their irrigation turn, and Rachid described it as a complex calculation that was completed decades ago. Now, he asks his neighbor whose family's time always falls before his when he is done. In this case, Abdel's family. The family after begins when Rachid tells him when his time is done, and thus the irrigation chain is sustained through trust and calculation.

The khettara maintenance occurs on the same cycle. On a walk to the solar pump one day, 8 men were mixing concrete to make slabs. There was a continuous blockage in the system they were working on fixing. Nayef, who I had met earlier that week, was the djemaa member overseeing the labor process. The men working were announced by djemaa on Friday after prayer outside of the mosque. Most male family representatives are present on Fridays, making it an effective location for djemaa to convene or make announcements. The labor and irrigation cycles are the same: everyone takes their turn on rotation. Today, families can outsource their labor responsibilities to a third party should they be able to pay. Should they not show up, they

are fined. This is the custom. Khettara and the fields are overseen by *amrar*, who is selected every March to surveille the customs.⁵⁴ Should someone misuse water or steal the fruit off someone else's tree, they pay a fine.

The whole irrigation system is administered by *djemaa*, a customary institution in the Ait Atta tribe. *Djemaa* is a collection of male elders, elected by male family representatives annually in March. There is a chief, and he selects his assistants. *Djemaa* does not meet on a schedule, but when necessary. Yassine is one of the members of *djemaa*. He explains the scope of the institution, “*djemaa* intervenes only if (the conflict) is on the frontier between private lands, legislation of the fields or khettara. These are the tribal things where *djemaa* intervenes”⁵⁵. Tribe members do not interpret *djemaa* as a political institution. The memory of the term *political* and what politics are emerges from colonial pasts. Politics are interpreted as an element of the centralized state. *Political* is dangerous. Instead, *djemaa* redefines governance not just as *political*, but the combination of history, culture, economics, and politics. Politics is rather the administration of customs. As such, *djemaa* is a cultural institution based in history, memory, culture, economics, and politics. It is a social institution, made of values and customs.⁵⁶ The meetings are all oral, reflecting the broader culture and history of oral tradition. Amin, another member of *djemaa*, expresses frustration that the meetings are not recorded, saying they should be documented to not be forgotten.⁵⁷

The Ait Atta tribe is large, with its own provincial leaders administrating customary law on the tribal level and smaller sub-divisions managing their own conflicts internally, all the way down to the village level. Over tea in the gorges of Tinghir, the provincial and tribal capital,

⁵⁴ Hakim, November 7, 2022.

⁵⁵ Yassine, November 5, 2022.

⁵⁶ Hakim, November 7, 2022.

⁵⁷ Amin, November 10, 2022.

Hakim, a young geologist, explained the Ait Atta governance structure.⁵⁸ We used dates shaken off the tree to visualize the various sub-divisions. Starting at the center is the village with its djemaa administering custom at the local level. The village is part of a larger ethnic subgroup of villages that have their own djemaa, comprised of representatives from each village. There are five ethnic subgroups of Ait Atta. There is an *amrar* elected on a rotating basis to surveille the villages of each subdivision's water and land use. The subdivisions all convene at the tribal level, where there is the large governing body. When conflicts arise, they are managed at the appropriate level. If they are not resolved, they move up until they reach the large tribal governance level. If the conflict cannot be solved, the Ministry of the Interior and Moroccan state become involved.⁵⁹

Because land allocation processes in southeastern Morocco have left tribal land to be managed internally with the oversight of the ministry of the interior, village djemaas rarely interact with the state. The current khettara system is co-managed by djemaa, the AAD, and the community. The customs and logistics of use and maintenance falls under djemaa, the association manages the financing of development projects, but the community does the work to manage the resource. The khettara system is community capital. It serves everyone in the commons and is maintained by the community as well. Adhering to the customs that govern community capital is a cultural responsibility.

v. Boundaries Between the Individual and the Communal

While one 'owns' their water hours, they do not own water. If a water turn is missed, it is the individual's problem; they cannot catch up until their turn during the following cycle.⁶⁰ The

⁵⁸ Rignall's *Elusive Common* provides an excellent and detailed account of this organization in a neighboring valley.

⁵⁹ Hakim, November 7, 2022.

⁶⁰ Yassine, November 5, 2022.

individual has a responsibility to the community, but they also exercise individual responsibility to themselves. The individual needs the community, but the community does not need the individual. There is an inequitable dependency. While the community *relies* on the individual to show up on their maintenance turn, the system could still function without them. On the contrary, the individual depends on community capital to access water. Thus, an individual's ability to operate in their own self-interest is bounded by the community customs and capital. Contrary to Geertz's claim that individual rights exceed collective necessities, Anounizme's system works because of the community's management of collective resources and capital.

What an individual does in their private lives, though, is just that: private. Noussir, Soukaina, Rachid, and I shared a conversation over couscous one night. We were discussing how the community had changed over the past few years. Everything used to be together because the whole tribe was family. People worked and celebrated together. Soukaina mentioned that this was changing as people began to work for money.⁶¹ The solidary economy was dying. Rachid and I continued the conversation over fruit later:

“Haley: Where does the money come from?”

Rachid: From societal changes. There is a spirit of ‘if I work, give me money’. Before it was ‘help me with my work today and tomorrow I will help you’. There was solidarity like that. Now, it is changing because there is lots of consumption. Men, women, and children want money.”⁶²

He described how solidarity used to be in all aspects of life: marriage, death, the home, or the fields. These are all communal. He described solidarity existing only in the private sphere. An example of this would be families with neighboring plots choosing to irrigate certain plots on a schedule to ecologically benefit each other's trees. This is not a custom but rather solidarity. The *khattara*, however, is common and tribal. Although the solidary economy is diminishing in the

⁶¹ Soukaina, November 9.

⁶² Rachid, November 9.

private sphere, the customs that govern water remain unaffected. They exist separately as a set of social responsibilities when the entire community is concerned.

This led me to a broader question: If in the private sphere there is a movement away from solidary relationships towards individual capitalist mentalities, how is the communal sphere seemingly unimpacted? And further, how could it be if the communal sphere is contrived of the same individuals?

Rignall's research offers a new dimension to changing dynamics between the increased privatization and the commons. She found that in nearby Mgoun Valley, the process of individualized land ownership resulted in equity conversations, which engaged communal governance systems in a new way.⁶³ It is from this re-engagement of communal governance that "the new common" emerges. The "new common" challenges the notion that the private and communal exist on a binary.⁶⁴ It allows for the communal system to become engaged with the privatized one. Mutuality does not disappear but rather continues to exist in a new capacity.

I found this renegotiation of the traditional with present realities to be pertinent in Anounizme, extending beyond the commons to other aspects of culture.

vi. Traditional Customs in Present Culture

After we had finished munching on the dates used to delineate the tribal governmental structure, Rachid joined the conversation between Hakim and me. We had moved on to discussing customs:

"Rachid: You cannot change the culture of the people. Customs are flexible. They come out of culture. And the law, it is outside, it is vertical...

Hakim: The customs are horizontal, decisions come from the base.

(...)

⁶³ Rignall, *An Elusive Common: Land, Politics, and Agrarian Rurality in a Moroccan Oasis*, 126.

⁶⁴ *Ibid* 12.

Hakim: There is resistance. The customs resisted Arabization, they resist the Makhzan (Moroccan State), they resist colonialism.”⁶⁵
 Customs are flexible and malleable. They are receptive to change. Notably, they have adapted through Arabization in the seventh century, colonialism through the twentieth century, and are actively adapting and resisting to the neighboring mine’s extractive practices. Customs emerge from culture. Rachid and Hakim explained that djemaa operates on a horizontal axis that is locally driven, which is unlike the state that operates in a top-down structure.⁶⁶ I had been operating in the wrong framework: I was interpreting community water management customs as independent – rather than intertwined – with the village’s culture.

Raymond Williams’ *Dominant, Residual, and Emergent* offers a potential explanation to custom’s persistent role in village culture as a residual element:

“The residual, by definition, has been effectively formed in the past, but it is still active in the cultural process, not only and often not at all as an element of the past, but as an effective element of the present”⁶⁷.

Residual elements are always integrated into the dominant present culture. I would go further to say that customs are in a constant process of reiteration, always being incorporated in the dominant culture. This would make sense given the number of external stressors – colonialism, Arabization, capitalism – that have challenged and led to the culture of Amazigh resistance.

As for the customs governing water usage in Anounizme, they are based on a set of morals and responsibilities emerging from other aspects of Amazigh culture. Customary law, especially in the context of governing the khattara, is a vehicle for sustaining aspects of culture. Customs are receptive and adaptive to change though, which is what makes them so strong. While customs are traditional, they do not resist the present. When the water source at lion’s

⁶⁵ Rachid and Hakim, November 7, 2022.

⁶⁶ Ibid

⁶⁷ Williams, “Dominant, Residual, and Emergent ,” 122.

mountain ran dry, djemaa and the association worked together to fund the solar pump. This is an example of a new technology interacting with a traditional irrigation system.

vii. Adaptation of Ritual as Cultural Resiliency

On a late Sunday afternoon walk back from the solar pump, on the other side of the khattara, a group of women and children laughed, played, and ate by former building, now containing only a wall of mud brick that the young boys climbed. “Barok?, I asked Rachid. It was the ritual honoring Tlaghenja, the wife of Anzar (the rain god). Due to the village’s conservative culture, Rachid, a bachelor, could not comfortably approach women who were not in his family. He sent me over with Imran, his 15-year-old nephew, to help with some translation. Between the khattara and dried out riverbed, 12 women sat around a big bowl of bread and couscous, their warmth and happiness emanated from the blankets we sat on. We were immediately invited by smiles to sit and join them for tea. There were over four generations of women from the village present. I met two young sisters who go to school in Tinghir, they were my age. When they heard I was studying water, they were quick to say “How, there is no water here.” They told me they were 100% Amazigh as we chatted and giggled in the setting sun.

Tlaghenja is a ritual performed by women in the village. Women carry a wooden doll representing Tlaghenja and chant a prayer for rain. The march ends with a feast near the khattara or water source. This comes from the legend of Anzar. Anzar, the God of rain, fell in love with an Amazigh girl, but her community rejected their marriage. Anzar stopped the rain from falling so the rivers ran dry. Then, the girl went to the village and said she would sacrifice herself and marry him. They were married and the rain came back, flooding the valley with green. Now, ritual prayers for rain occur when the village is struggling with water or drought. But, instead of praying to Anzar (a pagan god), villagers pray to God. There is no predetermined schedule or

day for the ritual and its occurrence is intuitive. Women prepare the feast and those who want to be involved are.⁶⁸

Tlaghenja is an example of an aspect of Amazigh culture that has changed due to external stressors but has persisted. During Arabization in the seventh century, Islam became the dominant religion and an emergent part of Amazigh culture. Pagan gods like Anzar remained in stories passed down to future generations. I asked Hakim if this was against Islam, he said yes. This was because Islam is monotheistic, so people could only pray to God. I asked how villagers could both follow Islam and practice these rituals, and he said, “there are adaptations (...) it’s a way to continue Amazigh culture.”⁶⁹ The re-interpretation of ritual is exemplary of how Amazigh culture is both adaptive and resistant to change. Rachid described Islam to be a “cover”, the outside changes but the center stays the same. He says, “people believe in Islam, but they are more attached to their culture, even if their culture is paradox to Islam. They do both at the same time.”⁷⁰ Both Islam and Amazigh culture coexist together in this context, each accommodating the other. Amazigh culture is a culture of resistance and adaptation.

viii. Dry Futures

I read in the entryway of Rachid and Soukaina’s home during sunset one evening. Soukaina came in through the big wood door and was disappointed I was sitting on the concrete step without a seat cushion. She shook her head and laughed at me again; we shared this exchange often. She handed me a plastic shopping bag cushion stuffed with wool that was sewn together with floss. I sat with my back resting against the mud and straw home, the walls suddenly warm because the sun had gone down. The natural construction meant the home took

⁶⁸ Soukaina, November 9, 2022.

⁶⁹ Hakim, November 7, 2022.

⁷⁰ Rachid, November 9, 2022.

care of people: the earth warms when the air is cold and cold when the air is warm, free air conditioning and heating, as Rachid had told me. I watched the sky become mute with dusk, the walls surrounding me in the home reflected the lack of light and went from their warm brown to a pastel one. Soukaina was washing vegetables in the kitchen for tonight's couscous. Tea boiled on the burner. She came out with a bucket of wastewater and slowly poured it over a leafy herb garden that sat in the center of the entry room. It was open to the sky, and at the center of the room sat her herb garden, an infant pine tree at the center.

Soukaina doesn't waste water. This is mostly attributed to her relationship with God. She says, "water is the element in life that God has given us to live. So, if you hurt water, God will judge and punish you."⁷¹ For Soukaina, the way she uses water now will impact her in the afterlife. Thus, she uses water "d'une facon belle (in a pretty way)." Soukaina is always conserving water, either in response to drought or in consideration of her religion. Water is considered in a similar way to one's body. *L'eau c'est l'ame*, meaning water is soul, was oftentimes repeated to me as well. Water was to be treated as a soul: alive.

God and drought are intertwined for Soukaina: "Drought touches the whole world, not just us. It's God who wants to give us the drought. But also because of God there is rain, sun, and life."⁷² This sentiment is shared across the older population. God causes drought "because of the harms people do."⁷³ Amin offered another example of this that is intertwined with the state's involvement in NOOR, a large solar farm a few hours from the village. He alluded to corruption, saying the state collected information of villagers in the region to surveille potential petitions against NOOR's construction. He says the act of corruption caused God to punish the region

⁷¹ Soukaina, November 9, 2022.

⁷² Soukaina November 9, 2022.

⁷³ Amin, November 10, 2022.

with desertification. Amin worries the water table will be exploited in the coming years because of desertification. Should this occur, he says djemaa and the association plan to search for more groundwater sources to be extracted with another solar pump system.

NOOR is an example of how external sustainability agendas harm local communities. Water pollution has increased and promises of development have not been delivered, as pointed to by Amin. Additionally, most of the energy is being exported to Europe, keeping energy costs in nearby villages high and borderline unattainable.⁷⁴ These promises of sustainable development assumes that the region was not sustainable to begin with. This opens the door to exploitation and land grabbing for projects like NOOR in the name of sustainability. It also creates the assumption that sustainability means modern development and not traditional ecological practices. The need to make the region *sustainable* isn't grounded in the reality of the place but rather state and foreign pressures. As evidenced, water use practices like the khattara system have fostered close ties between land and people for centuries. This is another example of how colonial land regimes from the French continue to operate in new green development contexts. This adds to the conflicts between rural communities and the state, as seen through Amin's attitude towards NOOR.

Drought is not a new reality in Anounizme; it is not necessarily seen as a large challenge either. It is a reality that people adapt to daily, often subconsciously. Drought is discussed casually in the village, but not overwhelmingly so. It has become a fact of life. Anounizme had already lost agricultural fields on the other side of town due to drought. The area housed a few dry tree trunks but began to blend into the arid landscape. When asked "what happens if there is no water?", most people did not have a direct answer. Everyone notioned to using water in a

⁷⁴ Zakia, "Life in the Vicinity of Morocco's Noor Solar Energy Project."

conservative way.⁷⁵ There is no action plan for this event, and many people discuss it with an intention to adapt as necessary. Plans that do exist are short- and medium-term solutions. Most pumped groundwater sources become depleted in fifty years. Like Amin, members of djemaa discussed finding more water. Soukaina took a practical approach, saying first water was used for drinking, then the sheep, then household consumption, and finally in the fields. Every young person said they would leave the village in search of work in bigger cities.

Anounizme has been actively managing drought for decades. Irrigation techniques have adapted to water trees instead of fields, young people are thinking actively about conserving water, and administrative bodies introduced new solar technology for new groundwater access. The customs guiding water management have been unfazed by increased water scarcity. People are still guided by their irrigation hour, oftentimes staying up all night to irrigate their trees. While drought and desertification will undoubtedly impact the community in the long run, current solutions are all based on short term adaptability. If Amazigh customs and culture have withstood the external forces like Arabization, colonization, extractive industry, it is reasonable to assume that drought will not significantly change water management in the village. This is because water is managed through customs, and customs are a part of culture. They are adaptable and driven from the base. They are also a social responsibility that the community takes pride in. Customs are strong, and Amazigh culture is resilient.

This is a story of change and non-change interacting together. Rather than resist change, customs adapt to the emergent. This is what makes them a part of dominant culture. Customs have porous boundaries – the new enters a strong, pre-existing system to interact with the old.

⁷⁵ Achraf, November 6, 2022.

Drought enters through these perforations where internal negotiations occur. Change and non-change will continue to mold to each other in the dry future to come.

Concluding Thoughts

On my last night in Anounizme, the walk back from Aya's was crisp. It was cold out. Not cold like a chill, but a cold that sat lightly in the air. We walked home guided by streetlights, but they were not needed. The moon and stars shone bright, outlining the mountains that encircle the valley. A lone dog wandered around empty seats. The village slept.

It makes sense that an element that rushes through all aspects of life – that *is* life – cannot be isolated in its management. With customs being intertwined with culture, it follows that they would be the most effective management method for water. While I cannot draw totalizing conclusions, I do not believe drought will significantly change the way water is managed in Anounizme. My original hypothesis was wrong, scarcity and importance (sacrality) are not measured by quantity. They exist, and regardless of how much rain, scarcity, or money – water will be communal.

The separation of the private and the communal does not fundamentally change the way the communal operates, which confirms some of Ostrom's theories surrounding the commons. Hardin's tragedy of the commons is disproved by the mere existence of Anounizme. Anounizme also challenges Ftaita's belief that growing individualism will shift the way communities manage water. On the contrary, as mentalities began to shift towards capitalism in the private sphere, operation of the communal sphere remain largely unfazed. Djemaa is an effective administrator of custom when it comes to water management; they are not resistant to change and rather open to adaptation like the introduction of solar technology to complement traditional khattara technology. While customs will continue to adapt to future stressors, they will continue to guide

Anounizme's resource management and culture. Looking forward, water access in Anounizme will be stressed from a variety of angles, either through desertification, empty groundwater sources, or exploitative state practices. The villagers will continue their decade-long resistance to the nearby silver mine, which is actively exploiting groundwater resources in the region and lining the pockets of big corporations and elites.

Even though change is inevitable, customary governance as a system will continue to manage water resources. This is seen elsewhere in the culture by the muddled boundaries between the individual and the communal, Tlaghenja ritual adaptations to Islam, and use of new solar technology in the khattara system.

Although this was not a large portion of my research, I would like to draw attention to the significance of youth answers to the question "what will you do if there is no water?". Every young person expressed leaving their land and family in Anounizme to search for work. Morocco is not immune to the globalized reality of climate change induced mass migration to urban centers. Most impacted by rising global temperatures and drought will be those who contributed the least, like the village of Anounizme.

Limitations:

Language, time, and positionality were the greatest limitations to this work. First, I only had 12 days in Anounizme. I found that to be satisfactory given the scope of the project, but this limited my ability to integrate into the community and create space for more stories to be shared. Language was another limitation; it was challenging to only have linguistic communication with Rachid, Hakim, and Achraf. Even so, French was none of our first languages. My French is fluent but there were limitations in my vocabulary and communication and vice versa. This made it challenging to connect with people, since all my communication occurred through Rachid.

Rachid was simultaneously this field research's greatest strength and limitation. His positionality in the community as the director of the development association gave me access to elders and numerous people in leadership roles. However, due to conservative cultural norms, Rachid could not interact with women outside his family, which limited my access to conversations with women. Additionally, because of Rachid's vast knowledge on the subject, we oftentimes ended up engaging in three-way conversations in two languages rather than a translated interviewee/interviewer dynamic. Some excellent conversations emerged from those scenarios, but I remain curious of how his positionality may have impacted them. My positionality as a white female American student also influenced this research. My gender, race, and citizenship status came up in casual conversations throughout the village. As such, they certainly were not lost in the way my interviewees perceived me.

Finally, my time and relationship with Rachid in Anounizme was very professional. Unfortunately, after I left the field, I received unwanted harassment over text because of my gender. The situation has since been handled. This unfortunate reality has led me to engage with my positionality as a woman in field research even further. It will undoubtedly impact my future field-research endeavors.

Recommendations:

Any further research in the region should be conducted over a longer stretch of time and in Tamazigh. I foresee this work being part of a larger discourse on climate change and desertification impacts on rural communities.

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