Multi-agentive transformations of rural livelihoods in Mountain ICCAs: The case of the decline of community-based management of natural resources in the Mesioui *agdals* (Morocco)

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Abstract

Numerous authors from various disciplines have underlined the importance of Indigenous Peoples' and Community Conserved Territories and Areas (ICCAs) for assuring the livelihoods of local populations whilst conserving the environment. The *agdal* is probably Morocco's best example of such an institution. Nevertheless they have always existed within the context of change and currently are experiencing major transitions. Detailed ethnographic studies of the socio-ecological drivers of these processes of change in *agdals* are scarce. Based on the particular case of the *agdal* of Yagur in the Mountain Mesioui tribal territory (High Atlas of Morocco), this article will analyse contemporary transformations. These dynamics are inherent to small-scale societies' ICCAs, even if they have most often been described as isolated, autarchic and mutable only under external pressure. From the case of the *agdal* of Yagur, we show how non-local processes are only part of the picture, and that the transformation of *agdal* forms are also related to key internal drivers, entailing a greater degree of agency by local actors than is usually given in the literature. At the same time, placing our analysis within a broader social anthropological framing, we provide a detailed actor-centred analysis that situates agents and local power relations within their institutional and cultural context while explaining how these same micropolitics of natural resource management articulate with and within wider global scales.

Keywords

Political Ecology · Agropastoralism · Ethnohistory · Morocco · Mediterranean Mountain

Introduction

By the 1950s common property regimes and the communal management of natural resources, often referred to as *the commons*, was already being challenged by numerous scholars (Alchian, 1950; Demsetz 1967). Yet it was Hardin's 'Tragedy of the *commons*' in particular (1968) that had the most impact, serving to justify strong top-down state management and privatisation. Much empirical and theoretical work has been done in recent decades to rectify this erroneous and damaging assumption (McCay and Acheson, 1987). As shown by others since, Hardin's assumption was based on the mistaken conflation of common-property with free open-access (Berkes *et al.*, 1989). As Ostrom has demonstrated (1990, p. 65), common-property can encourage relatively egalitarian access to natural resources while assuring their sustainable governance and use.

In the late 1990s and early 2000s, further discussions took place within the World Commission on Protected Areas (www.iucn.org/WCPA) of the IUCN (International Union for the Conservation of Nature) on the need for looking at Community Conserved Areas (CCAs) as a new approach to protected areas within the IUCN's Protected Area categorisation system. Around the same time WCPA brought a strong focus on CCAs at the 5th World Parks Congress held in 2003. The Congress issued 32 recommendations related to protected areas, including several regarding CCAs. Recommendation V.26 recognized that a considerable part of Earth's biodiversity survives in CCAs, and called for their recognition and promotion as a legitimate form of biodiversity conservation. Since these initial years, the IUCN has reiterated and nuanced its recognition and support of CCAs (Khotari et al. 2012: 34) which later became ICCAs (Indigenous peoples and local Communities Conserved Areas and territories).

Today the IUCN (International Union for the Conservation of Nature) and the CBD (Convention on Biological Diversity) encourage all countries to recognize and provide support for ICCAs, due to their importance for sound management of biodiversity and ecosystem services, minimizing environmental hazards, and mitigating climate change. This relatively new formulation of ICCAs, whose usage has increased over the last decade with the creation of the ICCA Consortium (http://www.iccaconsortium.org), includes a greater degree of identity, territoriality and heritage to the more general notion of the *commons* or CCAs. In fact, ICCAs typically concern indigenous peoples and local communities with important cultural and historical roots, often rather isolated and small, thus requiring special considerations that differentiates them from the management of other types of *commons* that may not have such attributes (e. g. the oceans or the atmosphere, neo-rural cooperatives, creative commons organizations, new urban collective orchards, the internet, etc.).

In this context, Borrini-Feyerabend (2010) asserts that ICCAs are central to community empowerment, livelihoods and socio-ecological resilience as well as ensuring the well-being of millions of people and the conservation of about one third of the global ecosystems (terrestrial and aquatic), and Corrigan and Granziera (2010) have highlighted the need to integrate ICCAs within comprehensive strategies for sustainable development. ICCAs should not, however, be regarded either as a universal panacea for conservation or development, for there are many cases where existing ICCAs have ended up transforming to unsuccessful forms of management (Ruiz-Mallen and Corbera, 2013). In explaining the failing drift of such ICCAs, authors have often pointed to 'external' forces (e. g. colonisation, postcolonisation, cultural globalization, global market expansion, etc.) as the main source of this problem (Auclair and AlIfriqui 2005, p. 71; Beyene, 2010, p. 485; Chuluun and Ojima, 2011, p. 368; Haller *et al.*, 2013, p. 4; Benmoussa, 2013). Nevertheless, little scholarly work has been done to understand how the internal dynamic webs of power relationships play out and are navigated within ICCAs by actors that are embedded within the tensions between pre-existing local sociocultural structures and collective agencies.

The *agdal* system is Morocco's primary traditional form of Berber (Amazigh) ICCA which as Gellner (1969) and Ilahiane (1999) have described have been well established in the High Atlas Mountains for several centuries at least. In fact, an even earlier origination (potentially millenary) may be established through the linguistic analysis of the *agdal* term (Auclair and AlIfriqui, 2005), especially when considering the extensive use of the root *gdl*, which ranges 2,000 km in the four cardinal directions; from Tunisia to the Moroccan Atlantic coasts of Essaouira and from the North of Algeria to the Ahaggar in the southern Sahara.

In agronomic terms the *agdal* can be defined as a collectively agreed prohibition on the extraction of a given (generally vegetative) natural resource within a delimited space, during a certain time frame. The aims of the *agdal* are: 1. maximizing annual production, and assuring the reproductive cycle of certain favoured plants, and hence, the continuity of the extractive activity; and 2. relatively equal access to natural resources through collective decision-making, as all users have same rights to the common pool. Hence, the *agdal* can be conceived as a collective agreement, reached through the tribal council or assembly (*jmaa*) comprising all male household heads in a given community, to seasonally restrict access to a given natural resource. But beyond being an agro-economic management tool, the *agdal* is also a cultural institution with deep historical roots around which pivots a whole system of religious and symbolic referents through which we may view mountain Berber culture and thus constitutes a "total social fact" as defined by Mauss (1990, p. 100).

There are many approaches within general social science that have endeavoured to solve the tension between structure and agency within social change, as for example Parssons (1968), Habermas (1999) and Giddens (1984). Nevertheless, perhaps Bourdieu has made the most advanced proposals in overcoming this tension through his concept of the 'habitus' (1991). Social transformations that have occurred in marginal socio-ecosystems such as the *agdals* may be understood through the habitus framework, as we discuss later. The replication of nature-culture relations inherent to *agdals* may be indeed viewed through the reproduction of the habitus; not in fixed sense, but a dynamic one as defined by this author.

Agdals and other types of similar institutions elsewhere in small-scale societies and marginal human-ecosystems, have generally been regarded as rather conservative (Berque 1978) in the sense that they tend to reproduce themselves, despite historical dynamic interactions with the wider world (Wolf, 1972; Netting, 2008). We argue, by contrast, that the collective habitus of these societies, structural and agential, has in fact been continuously reformulated through such interactions, in both explicit and implicit ways, through innovative paths to readdress the constant socio-ecological imbalances generated by the ever changing moment, be they political or environmental in origin (Gomez-Baggethun and Reyes-Garcia, 2013).

Even though the *agdal* system has long been in contact with wider regional influences, its presence is still widespread across North-West Africa, as can be counted in over a hundred thousand of examples concerning a myriad of natural resources such as algae, cereals, pastures, tree leaves, fruit trees, wood trees and water. Nevertheless, overall this cultural form of governance has become increasingly weak over the last century, as is occurring with other ICCAs under threat worldwide (Borrini-Feyerabend, 2010, pp. 8-9). Detailed ethnographic studies on these processes are still lacking. Dominguez has undertaken intensive field investigations over the last decade (Dominguez 2010), particularly among the Mesioua Berber community of the High Atlas of Marrakesh, Morocco, who manage the Yagur territory by means of the *agdal* institution.

The aims of the case of the Mesioui *agdals* presented here are:

1. To contribute to general conceptual understandings of the problematic nature-culture dynamics inherent to small-scale societies within ICCAs.
2. To challenge the idea that the *agdals* have been isolated and autarchic systems, mutable mainly only under the influence of external forces. In contrast to this perspective, the present paper will argue that this is a partial view and that in reality the transformation of *agdals* is the result of both 'external' and

important 'internal' factors, by presenting a view of local actors that concedes them a greater degree of agency than is usually given in the literature referring to such transformational processes.

3. To contribute to a broader socio-anthropological conceptual framework of natural resource management by providing a detailed actor-centred analysis that situates agents and local power relations within their institutional and cultural context while explaining how these same micropolitics articulate with and within wider global scales.

Regional setting

Despite varying territorial distributions throughout their history, the people of the Maghreb have generally mainly concentrated in its less arid regions. Analogies between the type of natural resource use, population density, topography and rainfall patterns are particularly striking in the Maghreb. For example, the number of inhabitants per km² between the dry rural south and the humid rural north can range from as much as 0 to 100 (Lacoste, 1995). The same is true for modes of natural resource exploitation, as in drier areas extensive pastoralism tends to be the norm whereas in more humid areas sedentary agropastoralists are more prevalent. Indeed, the spatial dispersal of resources (water, soil, vegetation) in the Maghreb in very large measure determines the distribution of human settlements, their density, their type of natural resource use, the way they move within ecosystems and their territorial appropriation (Floret *et al.*, 1986).

However, the spatial distribution and ecosystem use of populations is indeed also determined by politico-historical factors. For example, the arrival of the Arabs in the 7th century AD, with their religious, military, and economic practices revolutionized the ethno-cultural map and human ecology of the Maghreb in ways never seen before. Installing themselves throughout the Maghreb, the nomadic Arabs settled especially in the great fertile plains where they maintained an itinerant lifestyle similar to that which they practiced in the Levant and the Arabian Peninsula. The pastoralism they employed significantly altered the landscape through the establishment of variety of rich steppe species[1]. This pastoral form of exploitation of the plains typically involved a low population density. The indigenous Berbers, who generally practiced a form of agro-pastoralism, resisted the dominant Arab power and payment of taxes by concentrating in the mountains and difficult-to-access regions. Hence, this produced the densely populated mountain demographic distribution that can be still seen today, which sometimes reaches over 50 inhabitants per km². This is the case in many areas of the different ranges of

[1] For example, botanical studies by Schoenenberger (1994, p. 10), conducted in the Moroccan pre-Saharan High Atlas Draa valley over a period of 20 years, showed that one particular forage plant, Atriplex halimus, requires regular clipping or grazing to remain healthy.

the Atlas and the Rif, and is often referred to as the "Maghrebi demographic inversion" (Lacoste, 1995).

In Morocco, the arrival of modern French and Spanish colonialism did not affect its ethnic composition as much as the Arab invasions, yet it certainly changed the relations between Arabs and Berbers and their relation to the land. In 1930 after a long colonial process which started in 1912, two new laws were imposed in the parts of Morocco officially under French rule (including the area of study presented in this article). One legal system was created for the Berber areas, mainly rural and mountainous (Berber Dahir), and one for Arab areas, which were predominantly urban or lowland (Bellaoui 1989). Most historians agree that one of the goals of this legislation was the division of the Moroccan population to facilitate its domination; indeed it immediately provoked violent reactions from Moroccan nationalists (Lafuente, 1999). Following the arrival of dominant settlers in already highly populated areas, as different local informants pointed out, the High Atlas experienced further population growth due to modern medicine, improved diet, new productive methods, modern veterinary care, and economic development accentuating the pressure over local natural resources.

At the same time, colonial governors called for the intensive exploitation of arable land (often tribal collective lands) to make productive areas hitherto, in their opinion, underutilized. The peoples of these regions, usually the mountains and the surrounding areas, were subjected to the appropriation, often violent, of their land by the colonial regime or their new local collaborators, the major *caids* of the Atlas (Bellaoui, 1989). At the dawn of independence, most Europeans left the Maghreb and Morocco, although a small number stayed. The land left by the colonial settlers was recovered by the state or by wealthy Moroccan landowners who never resumed the traditional methods. Particularly the more accessible plains were rarely recovered by members of the communities that were dispossessed during the establishment of the Protectorate.

The group presented in detail here, the Mesioui, make up part of these mountain Berber populations whose land and body politic were relatively closely controlled by the colonial powers through the aforementioned *caids*. After that, once the Moroccan postcolonial state was installed, since the Mesioui have always been considered particularly rebellious (before, during and after colonisation) towards the central government, the *Makhzen*, a relative marginalization of the Mesioui has been sustained until our daysThe Mesioui are a 'tribal' group (*tqbilt*) of the High Atlas of central Morocco gravitating mainly around the Zat river basin which extends over nearly 1,000 km², with nearly 100,000 inhabitants. During Dominguez' extended fieldwork he focused on a section of the tribe named the 'Mountain Mesioui'. These constitute nearly 23,000 people, made up of five tribal factions across some

80 villages with a main administrative centre at Arbaa Tighdouine. Research was most intensively conducted among the Ait Ikis (Fig. 1), a sub-faction of the Mesioua tribe composed of about 700 people subsisting in a territory of approximately 20 km².

The Mesioui can be described as non-orthodox Sunni Muslims who maintain beliefs and religious practices resulting from a long interaction with pre-Muslim Berber cosmologies and successive waves of Arabized Islam. Today, the Mesioui continue to organize themselves around tribes, tribal sub-groups, villages, lineages and household, more-or-less according to 'segmentary' principles (Gellner, 1969, p. 36); although the application of the segmentary model to Moroccan tribes has been often been legitimately criticized (e. g. Kraus, 1998, p. 4).

The Mesioui speak Tachelhit, a Berber language of Southern Morocco. Practically all men and most of the younger women speak Arabic, which they learn through television, interactions with the administration, through social and professional relationships, and in schools, which first arrived in the area around the 1980s. At the end of that same decade, Bellaoui (1989) noted that about 75 per cent of local income was derived from the agro-pastoral sector, usually combined with seasonal labour migration or work in specialized local occupations such as building and smithing. Today, livestock reared consists mainly of cows, sheep, and goats, and agriculture is mainly focused on particular types of cereals such as barley, wheat, and maize adapted to the high altitudes, as well as certain fruits and vegetables that are cultivated in the irrigated bottom floors of the lower valleys.

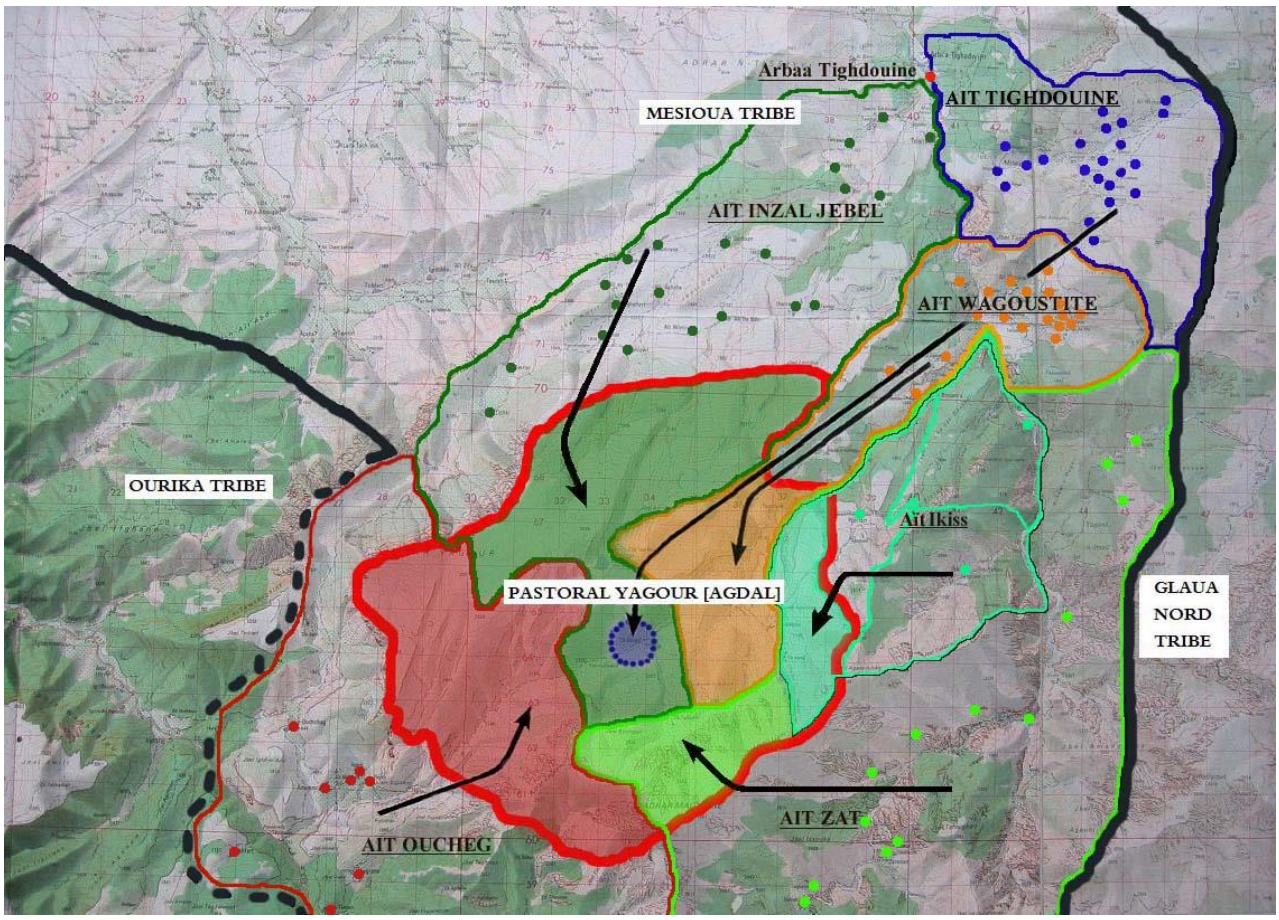

Figure 1: Mountain Mesioui tribal groups and villages using the pastoral territory of the Yagur.

The territory of the Mountain Mesioui comprises forest and non-forest pasture areas. The forested areas are especially found around the villages and used in winter, particularly for sheep and goats. Local inhabitants manage some of these forests through *agdal* prohibitions, closing access to the forage resources in them during the summer while grass is available in the higher lands and there is no need of fuel for heating. Beyond the forest areas, other large non-forest pastoral zones exist nearby. These comprise 'intermediary pasturelands' used mainly in spring and autumn (Dominguez *et al.*, 2012, pp. 282-4), both through free access by a given community of users, and also by others under *agdal* regulations. Finally, in the highest parts of the territory of the Mountain Mesioui we find the summer pastoral *agdal* areas. The geographically largest and most central tribal pastoral territory is the Yagur (Fig. 1). Herding in this territory is prohibited by an *agdal* imposed upon it from late winter to early summer, approximately between March and July, although this varies from year to year according mainly with the amount of annual rainfall. The aim of the *agdal* is to maximize grass production whose growth is most abundant at this time of the year, as well as to protect the flowering and reproductive cycle of pasture, hence assuring its continuity the following year. Nevertheless, it seems just as relevant

for the Yagur users, that the *agdal* also aims to assure relatively equal access to this rich pasture since they all decide together and by majority, on the rules of management of the resource.

This territory lies above 2,000 m around which the various tribal segments are territorially organized (Fig. 1). The antiquity of transhumant activity in these highland pastures can be deduced by the numerous rock carvings that can be found in the region. These carvings can date back to 2,500-3,500 BC (Rodrigue 1999), coinciding with the expansion of the Sahara as dated by Lernia (2006), which accentuated the sense of refuge of these mountain pastures. The abundant rock carvings are of herding animals, particularly bovines. These carvings, which in the Yagur number over 2000 (Horau and Ewague, 2008), reveal the existence of ancient transhumant societies based on pastoralism which eventually came to coexist closely with agriculture, although agriculture-related rock carvings are much scarcer and appear later in the historical record indicating the older presence of transhumant pastoralism (Sellier, 2004; Pascon, 1983; Bellaoui, 1989).

Material and methods

Dominguez conducted research over an extended stay in the Aït Ikis community of the 'Mountain Mesioui', totalling 12 months between 2004 and 2008, and included all the agro-pastoral seasons. He stayed in the homes of various users of the *agdals*, particularly that of the Yagur, who through informal conversation provided data on its past and present social uses and symbolic representations. This permitted him to understand the traditional ecological knowledge and technical practices related to the *agdal* as well as its historical evolutions. Participation in their daily lives further allowed him to observe the reactions to new practices and perspectives concerning the *agdals*, introduced to the region through different developments.

Free listing was also used to identify key changes and conflicts undergone or on going. Following the initial phase open interviews were conducted, especially on life histories, to gain understanding into the local collective memory of the past century. This aspect of the field research was undertaken at different villages around the *agdal* of Yagur and particularly Warzazat, the highest village of the Ait Ikis and nearest to the Yagur. When the conditions allowed it, focus groups were organized also. These were composed of no more than ten people at a time, and were generally four to six. These discussions were broad based since the nature-culture relations affected by the *agdal* changes

cut across many social categories. Nevertheless, special groups were made according to gender and generation in order to facilitate dialogue and communication within a society highly stratified within these two domains.

Results

An example of governance through the tribal assembly (*the* jmaa)

From the lowest level of segmentation (household) to the highest (tribe), social activities and communal territory are managed through the traditional assembly, the *jmaa*, which is the core institution of local self-governance. The *jmaa* comprise all male household heads in the community, in whose absence the next oldest adult male in the family assumes this role. The *jmaa* was in charge and mainly still is among the Mountain Mesioui of organizing the life of the community in almost all its aspects; politically, economically, socially, morally and religiously. For example, different *agdal* prohibitions are enforced by persons elected by the *jmaa* and called to be the guardians, the *Ait Rbain*, who after denounce possible infractions, and the appropriate sanctions are imposed according to the severity of the transgression as decided by the *jmaa*.

Several factors come together to determine how a particular tribal faction or village organizes an *agdal* or system of *agdals* (with variations in dates, space limits, guards, sanctions, etc.) through its *jmaa*, which coordinates the movements of its different populations within the wider territory of the Mountain Mesioui. Among the factors taken into account by each deciding *jmaa* (a particular one is composed for each particular *agdal* by the direct users in each case), is the amount of pasture available to a given village, the location of the villages in relation to their pastures, the altitude of their lands, and the complementarity of these according to altitude gradient, steepness, soil types, and surface of cultivable land corresponding to each local topography. There are thus as many adaptive multi-*agdal* models as different groups of interest users.

Although many anthropologists writing during the colonial period (e. g. Montagne 1930) compare the Berber communities with 'republics' and highlight the 'democratic' nature of the *jmaa*, it is necessary to view this in the light of more recent critical analyses (Lafuente 1999, p. 42-53, p. 84-93; Hammoudi 1974, p. 156). We emphasize, based on Dominguez' observations that mediation only takes place between the leaders of households and not by individuals. Thus, women and the youth are excluded from direct representation. In addition, the most powerful men of the different communities

or tribal sub-factions are also sometimes able to partially influence the *jmaas*' own criteria for they always have methods of constraining some of the members of the assemblies. Nevertheless, and even if this governing body has been weakened by the presence of the state, which affects practically all contemporary tribal structures for the Mesioua tribe as for most other High Atlas groups and other tribal societies of the Maghreb, the *jmaa* institution is still a very active component of local governance. *De facto*, as described below, these *jmaa* continue to be largely representative and a relatively important tool for defending the interests of 'small' men and popular majorities.

To elucidate our analysis, we present a short detailed ethnographic account of a *jmaa* in operation, negotiating the local micro-politics of natural resource management. After the Friday prayers of August 19, 2005, a large number of men dressed in white, emerged slowly from the mosque in a cordial and peaceful manner. This apparent sense of fellowship between the faithful seemed to come from a strong nucleus of contained emotions; prayer in these cases is a ritual of relaxation and preparation for the discussion at the *jmaa*.

The four main topics covered on this day at the *jmaa* were 1. the payment that was to be made by the entire community to the forest guards in order to baksheesh them and continue to have access to firewood in the surrounding forests; 2. the payment of an *azain* (fine) by some members of the community to the *jmaa* for having graze within various areas of the community under *agdal* interdiction; 3. the lifting of one of the three active *agdals* at that time, to permit users to graze their cattle on the *agdal* n'udrar (*agdal* of the mountain) due to a particularly dry summer; and 4. the organization of a *twiza* party (village mutual aid) for the construction of a deposit that would provide water coming from the higher Yagur to the entire community through three fountains for the three main sub-villages. The first problem concerning the forest guards' payment was solved in in about one minute flat, with all parties unanimously finding agreement. It was the second point, however, that triggered the dispute.

In august the fruit *agdal* at the bottom of the neighbouring valley is opened approximately one day every two weeks in order allow access to community members to remove the ripe fruit from their trees for private consumption, mostly pomegranates, grapes, figs, prickly pears and plums, and avoid thus the rotting of precious fruit. Nevertheless, during the village assembly it was demanded that each of the family heads of those having been caught infringing the fruit *agdal* over the previous two weeks must pay the corresponding fine for this transgression. If this was not done, the *agdal* on the valley floor could not be lifted. These offenses are typically reported by the *agdal* guardians, the *Ait Rbain*, specifically chosen every year in a rotational basis by the *jmaa*, for the monitoring of each different type of *agdal*. For example, a number of shepherds or cattle breeders had been chosen to watch over the

362 pastoral *agdal* of the slopes of the neighbouring valley (*agdal* n'udrar), while several agriculturists had
363 been selected for monitoring the fruit *agdal* of the neighbouring valley floor, as well as for the cereal
364 *agdal* present in the community's higher and main pasture at that time in August. A small part of the
365 fines sometimes goes to the *Aït Rbain*, but mainly to the *jmaa* for the general management of public
366 affairs.
367
368 The household representatives of the offenders of the fruit *agdal* did not strongly object to the
369 fines except for one. This individual wanted to avoid paying the 10 Dirhams that was demanded (≈1 €,
370 about 0.1% of the average annual salary). This was based, he argued, on the fact that he had organized
371 the only festive wedding of the year for his daughter just a few days before and had invited everyone,
372 with the celebrations lasting three days and three nights. After an increasingly tense discussion where
373 many vehemently expressed their opinion, the man swore he never would pay the fine to demonstrate
374 the deep ingratitude and dishonour he felt from his community fellows. In such context, swearing
375 publically is a serious affair, particularly because one cannot after withdraw such a vow. In a spirit of
376 resolution, another household head who was related to the resistant *jmaa* member, declared somewhat
377 *in extremis*, that he would pay the disturbed offender's fine, and avoided further violence after almost
378 coming to blows with other members. This catharsis seemed to have thus fulfilled its role for the
379 offender was left with his honour more or less still intact and the *jmaa* received its payment, thus saving
380 also *its* honour and respect necessary to continue operating the different *agdals*.
381
382 The third point concerned the removal or retention of the pastoral *agdal* which was imposed,
383 not upon the fruit tree valley floor this time, but upon the neighbouring valley slopes, the *agdal* n'udrar.
384 This proposal by a few *jmaa* members, three in total, was due to the poor pasture conditions in the
385 Yagur caused by the drought of 2005's late summer, also because the expansion of cultivated land in
386 the Yagur was increasingly limiting grazing space available. Of these, three household representatives
387 who were in favour for the removal of the *agdal* n'udrar, one was the biggest cattle owner with more
388 than 300 heads, mostly goats, and the two others were relatively large livestock breeders, with 65 and
389 50 heads respectively (the mean livestock size of a flock being of around 15 heads). It seems that this
390 opening of access to the neighbouring valley's slopes specifically benefitted the goats, for this pasture
391 consisted of steep slopes and granite substrate with thin soils that this type of animal can access better
392 than others. This gives an example of the structure of the *jmaa* in relation to pressure groups. Lacking
393 sufficient influence, in this particular case the three protagonists lost the fight against the other 80
394 households (directly or indirectly present), and became the butt of jokes during for weeks after. Yet
395 only some two months earlier, the *jmaa* allowed foreigners to the community (from neighbouring

villages) to freely browse the entire valley slopes, and even the area of the valley floor at a time where there was still no fruit ripening.

The fourth and final issue of debate of this assembly was influenced by this third point, for if these three owners or any others were allowed to graze their animals in the neighbouring valley's slopes during the active prohibition of the pastoral *agdal* n'udrar, the rest of the households threatened to withdraw from the collective work (*twiza*) for the construction of the collective water basin that had started a fews days earlier, thus affecting the community at large. A number of the guardians of the *agdal* n'udrar (the *Ait Rbain*) also threatened to resign from their duty if this was allowed to happen. Hence, like a house of cards, removing the *agdal* n'udrar could bring down the entire group's key set of agreements. One of the final statements given by the *Ait Rbain* was as follows: "*If Mr X does not pay the fine corresponding to his family member's violation of the neighbouring fruit valley floor* agdal*, and the three opposing members of the* jmaa *do not respect the pastoral* agdal *n'udrar we will not monitor both* agdals *anymore and we are not going to work for the water basin*." The next day, everyone (men, women and children) set off at about seven in the morning to the neighbouring valley floor to pick the ripe fruit, and its *agdal* which prohibits the picking of fruit was restored at the end of the afternoon. At the same time, the day just after that, everyone got back together for the collective work (*twiza*) to build the new water basin.

Ethno-historical changes of the agdal *of Yagur*

As Lafuente describes (1968, p. 101), grazing conflicts have for long been frequent within Mesioui *agdals*, and the Yagur has always been a bone of contention between Mesioui factions, even involving other tribes from the neighbouring Ourika tribe, during which the Yagur changed ownership at least three times in the last two centuries. According to an elderly man from the Aït Ikis who remembered the stories told to him by his grandparents, the last battles in the Yagur happened during the nineteenth century:

> *Ghelliz, the big caid of the Ouriki tribe was present in the Yagur to receive tributes, gifts and services from the mountain Mesioui. He liked to draw up his tent camp in the centre of Yagur on the mountain pass today called Tizi n'Ghelliz (the mountain pass of Ghelliz). One day, he was waiting for the visit of two women from Ait Ikis, one from the Ait Laarbi family and the other from the Ait Abdellah family, that were to be sent to him as a gift from this community. When the two beautiful women covered by abundant jewellery approached the camp*

hidden in the folds of the Meltsene, upon arriving they insisted to see Ghelliz alone inside his tent. Ghelliz appreciated this offering. But the 'women' were in reality two men disguised. They had hidden sharp knives under their robes and once they entered the tent alone with Ghelliz, they stabbed him right in his heart! That's how they killed Ghelliz, and then the Mesioui attacked the Ouriki camp and they chased them to the limits of the Yagur and beyond.

Traditionally, the *agdal* prohibition in the Yagur was effectively legitimized and supported by long-held religious beliefs associated with the local Sufi saint, Sidi Boujmaa, and his descendants who were considered to be Sufi saints themselves (some partially are still). These saints, known generally as *Murabitin* or *Shorfa* (respectively plural of *Marabut* and *Sherif*), are considered to be descended from the Prophet himself and are still understood by many to be touched by the *baraka*, God's benediction. For centuries, this *baraka* was considered (and still is in many cases) to be disseminated to the non-saintly inhabitants of the Mesioui territory, the local majority, if they respected the stipulated rituals and showed due deference to the great saint's descendants. These male descendants of the saints formed a brotherhood and a space for Islamic teaching, reflection and divine illumination that are locally referred to as *zawiyat* and are often considered being as a Berber version of the Arab *madrasas*. This brotherhood was generally seen by local people as mediators between humans and Allah. This Sidi Boujmaa *zawiya* continues today, if in diminished form, to educate young Mesioui children, and to provide a space touched by *Baraka* for divine reflection. In the ethnographic literature, these saints and their descendants are generally identified as mystics or Sufis, and are shown to be in opposition to so-called orthodox Islam (Tozy, 1999, p. 31, p. 225).

As influential actors in indigenous societies, during the colonial era these saintly personages were closely monitored. The colonial administration tended to marginalize those saintly families that could present a threat and favoured those who could become their allies (Mateo, 2003). In fact, the French and Spanish governors were conscious of the fact that all the sultans of Morocco claimed saintly heritage, and it has further been demonstrated that this sanctimonious legitimation has always played a role for those seeking power in North Africa (Gellner, 1981). The postcolonial Moroccan state emerging in the aftermath of the independence of 1956 under the rule of king Mohamed V, and particularly during the convulsed period of his son Hassan II experienced the threat of many coups d'état. This state continued the colonial policy of maintaining alliances with friendly saintly lineages and excluding renegade saints suspected of treason. Nevertheless, even though the treatment given to the different religious brotherhoods of Morocco depended on their varying relations with the central administration, the emerging independent state, run by a newly Western educated elite, tended to view rural tribal society of which the saints were part as highly conservative, even primitive, and whose

presence hindered the strategic modernising goals of the new country. In this context, during in the 1960s the politico-cultural edifice that supported and sustained the rural saints of the Mesioui began a deep transformation that was consolidated during the 1970s and 1980s.

Indeed, in the Mesioui until the 1970s, the descendants of Sidi Boujmaa announced the end of the annual *agdal* prohibition every year at the weekly market. This would take place on the last Wednesday before the first big Friday prayer of *Smaym*, the Berber summer beginning on the 28th of July. This was the means by which local users of the Yagur opened up, symbolically and materially, the richest pastoral land of the Mesioui and thereby ritually protected themselves against the djinn (malevolent spirits). Some days later at the beginning of August, the Mountain Mesioui would honour Sidi Boujmaa at his grave (which is still believed by many to be a gateway to Allah), through ritual offerings of bags of grain, butter, couscous, and cattle sacrifices that would end in a great feast and meal (*maaruf*). All of it was given away to the saints' descendants, who in turn would redistribute the produce with all those present. These ceremonial feasts could be attended by over a thousand people at a time, including representatives from all over the Mesioui and beyond.

Symbolically, the most important feature of the ritual was its performance in the presence of the saint and though him, Allah. As all the tribal representatives were present and shared the food and ritual experience, the whole community thus received the saintly protection (the *baraka*). After meticulously following the ritual and thereby demonstrating their piety, Allah thus rewarded his celebrants. After the one day ritual the attendants would walk back home confident that they had left the old year behind, and were free to enter a safe and prosperous new summer season favoured by God's will.

The ritual further performed a redistributive function. In fact, the wealthy generally gave more to the saints with the intention of purchasing a greater portion of Allah's protection as well as social honour and prestige. The saint's descendants in turn redistributed an equal quantity of produce back to all the attendees, irrespective as to who gave more. At the same time, however, the redistribution at the village of Sidi Boujmaa always seemed to slightly favour the saints' descendants, who always obtained some net material benefit from the whole ritual process. Meanwhile, beyond the personal or collective gifts that they received during the ritual, they also received numerous gifts at other times of the year, as did many other saintly lineages throughout the different Atlas ranges of Morocco and beyond, in the hope that the donors would in turn receive the saintly *baraka*.

One young Mesioui who emigrated to Marrakech at an early age, described the role of the *maaruf* as follows:

> *The* maaruf *is the one thing that brings people together ... to join the* taqbilts *[tribes or tribal factions] for if such a gathering were to be removed, all* taqbilts *would scatter, each* taqbilt *would have its own opinion without common agreement. For example, if you have five* taqbilts*, then they will have five different opinions. Therefore we have the* maaruf *in order to unite our opinions. So that's why we undertake the* maaruf*, to gather taqbilts and honour the dead [saints] ... we honour the saints, to unite out differences. If we were to stop the* maaruf*, if we forget to do the* maaruf*, then everyone will do what he wants, opinion will be divided, and thus the people will fall apart!*

A change in the religious beliefs linked to the saints and thus to the different *agdals* can be noted among the Mesioua tribe beginning in the 1960s and 70s. During this time, influences from outside the region began to penetrate the Mesioui. Increasingly locals came into contact with Imams, new Islamist movements, civil servants and NGO activists all trained in Moroccan urban or semi-urban centres or even abroad. Further to this, international tourism, public schools, radio stations and the arrival of mass media all played a role in devaluing the local cosmologies by viewing the prestige given to saints as archaic, futile, anti-Islamic and as hindering development, thereby matching the aforementioned vision of the ruling classes. These external influences combined to effectively displace the saints' central position within the local cosmology and thus their role in the management of traditional agro-pastoral systems, including *agdals*, was greatly diminished.

Research conducted up to 2010 (Dominguez *et al.* 2010, p. 358) confirmed that a change in the effectiveness of the *agdal* prohibition was directly linked to this diminishment of belief in the saints' *baraka* and protection. The degree to which the belief was still maintained varied according to age, gender, and socio-economic status. In this study, a sociocultural statistical analysis revealed that individuals who reported less attachment to traditional beliefs regarding local saints also tended to prefer newer practices of pasture management, and these were undertaken most commonly by the wealthier members of society. These methods entailed rearing a new variety of sheep, the Sardi, which has resulted in the acceleration of agricultural expansion over the traditionally pastured lands, and biological degradation due to monoculture practices. Furthermore, Dominguez *et al.* found that the portion of the population defined as more 'traditionalist' were on average 58.1 years old while the population we defined as less 'traditionalist' were on average 43.2 years old, revealing a significant difference between the generations. Nevertheless, we concur that the survey contained biases due the fact that it was conducted mainly among male household heads. In fact, according to Mahdi (1999),

Pellicer (2008) and Dominguez (2010), it is the female portion of the population that retain the greatest belief in the saints. Today, the role of women in the transmission and maintenance of these older beliefs is the most important, as they are now the main conduits of these systems of cultural representation. At the level of observed practice, it is also women who mostly continue to offer rituals and offerings to the saints, perhaps accompanied by their sons, daughters, grandsons and granddaughters.

Overall therefore, the *agdal* prohibitions in the Yagur territory have lost much of their religious content over the past five decades, which in any case link up with the previously described socio-symbolical transformations. Even where people still maintain beliefs regarding the *agdal*, they are less powerful that they were 50 years ago. At the same time, some still believe in divine punishment if *agdal* prohibitions are broken, although this is now usually attributed to Allah alone, without intermediation of the saints and associated spirits. For example, during an interview with a shepherd about the saints near the summit of the Metlsen, the highest peak of the Mesioua tribe, he described a significant reorientation of cultural references regarding the *agdal* whereby the mediating position of the saints between Allah and the people has now largely disappeared; indeed, much of local society today joke about the power of the old saints, even denouncing the such beliefs as 'illegal' or the saints as 'thieves'.

Importantly, the great majority no longer believe that the annual deactivation of the *agdal* has to be announced by the saint's descendants in order to receive their blessing. Thus, since the 1980s, the Yagur has opened to grazing much earlier than the date traditionally announced by the saints, sometimes by up to a month and a half, and this has come to depend solely on the authorization of the Yagur users' *jmaa* (Dominguez *et al.* 2010). Moreover, today it is more usually the local government-appointed official, the *caid*, who ultimately decides and announces the opening date. The resolution of such conflict is hindered without the presence of the saints as customary peace-making 'functionaries'. Indeed, since the saint sanctioned rule of the *agdal* was broken and the first big Friday prayer of *Smaym* around the 28th of July was abolished as opening date for the Yagur, violent altercations within the tribal *jmaa* appear to have increased, thereby enhancing the apparent legitimacy of the central authorities who perceive their own presence as vital for maintaining order and control. Thus, today the *caid* has supplanted the old role of the saints as arbitrators of local conflict. At the same time, some local farmers see in the new role of the *caid* a greater opportunity to negotiate a more convenient (earlier) opening date of the *agdal*, and some claim this is often in exchange for personal favours and again baksheesh.

A shepherd of Ait Ourir made the following statement in front of the camera (Dominguez 2008), revealing a common contemporary attitude toward the saints:

At that time [up to the 1970s] it was the descendants of Sidi Boujmaa, who announced the opening of the Yagur. But this is no longer the case, now is the tribe that dictates the opening. Previously, at the market the saints of Sidi Boujmaa would announce the opening of the Yagur, stating, "those wishing to transhume up to the Yagur may do so for it will now be open!" Until the 1960s and 70s it was they who opened it. But now with the advent of things like the bearded [sic] who consider all this as bidaa *(un-Islamic), there are no more Murabitin nor people who act as officiates of the saintly rites. The families of the saints themselves resigned from the case.*

The patron saint of the *agdal* no longer receives the collective honour and favour from all Mountain Mesioui villages as it used to be before. Today, only a small number pay collective tribute to Sidi Boujmaa in August and mainly only those belonging to the Ait Wagoustite faction within whose territory the village of Sidi Boujmaa remains. Moreover, this is generally not organized in the different village councils but during individual attendances. Today much of the pastureland that received the saints' protection has been turned into agricultural fields, just as the Sidi Boujmaa clan has become displaced in the local social hierarchy and cosmology. Nevertheless, as we will see below, this shift was not produced uniquely by the imposition of one ontological framework over the other, but also through the action and participation of local actors, each driven by personal interest and development opportunities.

Agro-economic drift of the agdal *of Yagur*

In this section, we shift the analysis to the agro-economic changes experienced in the Yagur over the past 100 years, especially during the last five decades. The data provided here comes from Dominguez' conversations with various members of the communities using the Yagur, and most particularly a few key informants from Aït Ikis, who explained *in situ*, the position, timing, and extent of different surfaces cultivated by farming lineages in the Yagur of the Ait Ikis over last 100 years. At the same time, to avoid dependence on just a few informants, we compared this information with data from members belonging to other communities using the Yagur. Through several surveys alongside participant observation, we managed to form a picture of the area of cultivated land in the Yagur through time.

In this manner we learned that while the socio-cultural and religious changes mentioned above started to occur in the 1960s through to the 80s, the Moroccan government developed national plans to improve the genetic stock of sheep kept by pastoralists. A new breed, the above mentioned Sardi sheep, was introduced and local herders incorporated it gradually into their own flocks, with the result that today the majority of sheep in the Yagur have been crossed with the Sardi and can be considered as mainly consisting of this breed. Compared to the older local variety (the Beldi), the Sardi is less suited to rangeland grazing and thus spends more time in pens, consumes more grain, but is more productive if well fed. Indeed, when the Sardi's diet is well supplemented with a grain diet, mainly barley, it can achieve nearly double the size of a traditional Beldi within a year (Bourbouze, 1981). Moreover, not only did the state facilitate the introduction of the Sardi, it simultaneously subsidized grain production in the Great Plains of Morocco which in great measure feed the Sardi today.

Adoption of the new breed significantly changed the composition of the herds belonging to most people of the High Atlas, and the Mountain Mesioui were part of this shift. Through the use of new agricultural techniques (e.g. increased cereal production and the alimentary complementation of animals, the mechanization of harvesting, and the use of new fertilizers for the production of the grain to feed the new Sardi breed), the proportion of sheep increased significantly between 1960 to the present as compared with other locally raised animals (goats, cows, and mules). Also, the expansion of barley fields on the Yagur for the Sardi's fodder has been greatly facilitated by a recent influx of small threshing machines imported from Turkey at very low prices. Simultaneously, demand for red meat in the neighbouring Marrakech by the growing tourist economy (promoted ceaselessly by the Moroccan authorities), further encourages people to raise the more productive Sardi sheep, exacerbating the transformation to intensive livestock farming in the Yagur.

A major factor that affected local practices came in the form of economic migration, which largely enabled individuals to participate in the changes mentioned above. From the 1960s onwards individual Mountain Mesioui from all socio-economic classes began to emigrate internationally for work, mainly to the coalmines of northern France. This migration was usually temporary, and while some stayed in France for decades, many came back after just a few years. The returning migrant labourers reinvested their accumulated capital in new agro-pastoral activities and soon became the new local elite. They invested especially in new Sardi sheep and expanded private cereal cultivation inside the once communally-owned lands of the eastern regions of the Yagur. Using their savings, this new elite were able to effect over time the transformation of land use and land property patterns of the area by investing in local manpower to plough large extensions of land on the only remaining site accessible for agriculture, the Yagur's flat highlands.

638

639 After expanding monoculture of wheat and barley and losing much of the highly biodiverse
640 pastures typical for these areas (Alaoui *et al.* 2009), the local elite were followed in the 1980s by most of
641 the remaining local agro-pastoralists in this activity; particularly within the middle income classes who
642 were in a better position to invest the little they had in the new Sardi sheep, and in the ploughing of
643 new land that would feed them. These individuals were unable to migrate to France due to new
644 restrictions but were soon able to participate in the new land use exploitation practices begun by the
645 former migrants (Demay, 2004, p. 28). These agro-pastoralists derived their income mainly from the
646 local sale of their produce and from seasonal labour migration within Morocco, a pattern that became
647 increasingly standard from the 1980s onwards. In fact, income from seasonal labour migration slowly
648 became an extended practice and today many households are fully reliant upon it. This is because land
649 resources have become increasingly scarce following population growth, which we hypothesize to be
650 attributed mainly to the introduction of modern medicine, but also changes in alimentary provision and
651 increase in living standards in general. In some cases, human populations have even tripled, as with
652 some groups using the Yagur (Bouchtia, 2004). Today, as Morocco's economy increasingly globalizes,
653 remittances from migrant labour can comprise between 25% and 75% of household income
654 (Dominguez 2010). This has finally permitted many households at the lowest socio-economic rung to
655 accumulate enough capital to emulate the rest of the community in the expanding agriculture on the
656 Yagur and new forms of agricultural practice, thus completing the agricultural transition that began
657 about fifty years previously.
658

659 However, the transformation of land usage throughout the Yagur from pastoralism to intensive
660 agriculture did not occur without resistance. Indeed, the practices gave rise to frequent conflict in the
661 local assemblies between opponents and supporters of agricultural expansion in the Yagur. On one
662 hand, many of the supporters of the saintly traditions also explicitly supported the conservation of the
663 pastures challenged these new transformations to the ancient pastoral lands, while at same time the
664 partisans pushing for agricultural expansion, mainly those former migrants and the higher classes,
665 tended to diminish the importance of the saints based 'collective' philosophy that blocked their
666 'individual' agricultural projects. Meanwhile, the lower socio-economic classes saw in the appropriation
667 of collective land by the elite a sort of land grabbing of their own common resource. But even if these
668 clashes were very tense and continued over decades as the community as a whole was reformulating
669 itself, in the end, the *jmaa* was unable to curb this agricultural expansion. In fact, there was never any
670 clear majority to impose a long-term resistance to agricultural expansion in the Yagur, since in the end
671 practically everyone benefitted in one way or another from it, either through investment of labour on
672 their own behalf (elite and middle income groups), or by receiving wages as hired agricultural workers

673 (the middle and lower income groups). This is not to suggest that all have benefitted equally, for with
674 their subsistence base removed, the only choice for the poorer classes was to work for the new elite.
675 Indeed, during this time, the elite consolidated its influence in the *jmaa*, through which they were able
676 to lean on the many poorer farmers, who often owed favours and debts to the former, thereby
677 extending the influence their vote and thus furthering the agricultural transformation of the Yagur.
678
679 Results obtained in 2006 showed that the mainly mono-specific wheat and barley cultivated
680 surface area of Asagul (the main agricultural site of eastern Yagur) had more than doubled from the 15
681 ha estimated in 1960 to the more than 34 ha estimated in 2006 by one of Dominguez's key informants[2].
682 Hence, this illustrates the acceleration of agricultural expansion, to the detriment of highly biodiverse
683 pastures. In turn, such agricultural growth encouraged people to maintain a semi-sedentary way of life
684 on the land outside but immediately neighbouring the Yagur *agdal*. This not only facilitated further
685 agriculture expansion over prime pastoral areas within the Yagur, but also increased local disregard for
686 the *agdal* prohibition, since control over free-riders among the partially sedentarized populations on the
687 edges of the Yagur became more difficult to assure, particularly by others having their main habitat
688 further away as the Ait Wagoustite or the other Ait Zat.
689
690 ***Discussion***
691
692 Firstly, the brief historical ethnography presented in this article reveals the particular case of the
693 Mesioui *agdals* of the High Atlas of Marrakech and especially of the *agdal* of Yagur to be highly dynamic
694 over time. While several authors (Rodrigue 1999; Sellier 2004; Simoneau 1967) have discussed rock
695 carvings and how these highlighted historical changes of how the Yagur's use shifted over several
696 millennia, Gellner (1969) and Ilahiane (1999) have pointed to changes in the local cosmology involving
697 the instauration during the middle-ages of Muslim saint worship which facilitated the regulation of
698 pastoral collective property in the High Atlas mountains. In the meantime Lafuente (1968) contributed
699 by illustrating the shifts in how the territory of the Yagur was divided between factions over the last
700 two centuries. We have added to this historical sequence of socio-ecological transformations that was
701 missing in scholarly historiography, by describing through ethnographic examples and discussion how
702 such changes have continued over the last five decades. Our work thus emphasises and reinforces the
703 idea that dynamism and historicity applies also to small-scale socio-ecologic systems.
704
705 Secondly, as we explained in the introductory section, the main cause for failures of many
706 previously sustainable ICCAs worldwide has often been given as 'external' forces such as globalisation

[2] We cannot give the name of this key informant as well as that of any other, for respect and anonymity for our confidents. Nevertheless, we can say that this is a local middle-aged agro-pastoralist at the time of the survey (2006) and that full member of the community cultivating the Yagur.

and the market. Nevertheless, as we have seen, the current local governance regime in charge of the Mesioui *agdals* and particularly the Yagur's, has a long history of interaction with the wider world, ensuing the transformation of the previous mobile, communitarian, pastoralist socio-ecosystem into a predominantly sedentary, privatized, agricultural one. The literature that analyses the decline of the *agdals* gives central importance to the colonial and postcolonial detribalization process that took place during the 20th century as the primary destabilizing force (Gellner, 1969, pp. 19-21; Kraus, 1998, p. 7) and the Moroccan case is not exceptional in this respect (Auclair and AlIfriqui, 2005, p. 69).

In fact, it would be accurate to consider that the tribal socio-cosmological system prior to colonization or state intervention was integral to the *agdal* decision-making in which saint worship played a fundamental role. Indeed, the saints were crucial in determining the opening of the *agdals*, and acted to prevent powerful users from achieving unequal access to resources through symbolic as well as embodied regulatory intervention. A unity of vision, reinforced during the *maaruf* further reinforced this position. *Hence*, this process of subjugating local institutions in order to better control indigenous populations (Davis, 2005, p. 212) resulted in empting *agdals, zawiyas* and the *jmaa* of much of their power and meaning. This process was maintained and reinforced throughout the postcolonial era by the newly independent state, which generally viewed tribalism and *Marabutism* as an anachronism, as both primitive but also a political threat due the capacity of the tribes and *Marabuts* to organise resistance. Hence, they pushed for their development through their integration within the growing national economy and political system. In the same manner, the agro-technological advances such as the development of the Sardi sheep breed contributed to transforming traditional use of the high *agdal* pastures, just like the national subsidization of wheat for human consumption enabled highland pastoralists to concentrate most of their agricultural efforts towards growing low quality cereal for Sardi feeding. Furthermore, the state's marginalization of the *old regime* including tribal assemblies, the *agdal* and the religious veneration of the saints, was compounded by the arrival of public services, administrators, radio, obligatory state schooling, the market economy, and later other forms of globalization, such as mass media, internet, NGOs, tourism, and the rise of a more orthodox Islam in the Maghreb countries, also linked to a global Salafism, which is intolerant towards the saints tradition.

Nevertheless, as we have demonstrated in this paper, the changes to the Mesioui human ecosystem of the *agdals* and most particularly of the Yagur, have come not just from without, in the form of relatively homogenous global processes such as market forces, global culture and the hegemony of the state (Chuluun and Ojima, 2011; Benmoussa, 2013), but also from within, revealing the agency of local actors playing out local power struggles, while entailing multiple interactions between the local and global scales. This was precisely what was illustrated in the Messioui case, which

showed how external religious influences undermined local saint worship as illegitimate, for without the saints' presence to regulate users and mediate conflict, local tensions increased, at the same time as they served the local indigenous economic interests of particular parties. Hence, the reformulation of the local cosmology, to which certain local actors also proactively contributed to further their interests, along with other broader forces of cultural globalization (education, media, migration), and the adoption of new agronomic technologies, have all been key drivers behind the decline of the old *agdal* pastoral system.

Thirdly and finally, this study contributes more broadly to the social anthropological theoretical framework and literature by approaching in its own particular manner how the micropolitics of local natural resource management is generated. This was achieved by providing a detailed actor-centred analysis situated within its institutional and cultural context through which global processes of change have been locally viewed and understood. From this study of Moroccan Atlas agro-ecosystems, we posit that this type of cultural system entails rules and structures that have developed over time, but also agential individual processes that contribute to determine frames of reference for action (Alexander, 1992).

Ecological anthropology has typically been criticized for overlooking individual decision-making, and favouring actor-based models that do not incorporate holism or systemic relationships (Acosta and Dominguez 2014). Nevertheless, this structure-agent tension can be resolved if we consider that Bourdieu's concept of the habitus was not merely a theory of social reproduction. In fact, Bourdieu (1991) also provides a theory of social transformation. The comportments of one's habitus may be conceptualised as being "issued forth and added in layers by the social world over time" (Holmes 2014, p. 184). As Holmes (*Ibid*) continues, thus one's habitus can change over time if one's position in a particular social world changes. This means that if one's habitus has grown within a particular social field or position within the *agdal* of Yagur for example, if one's field or position changes, transformation will occur through this discordance.

The experiences of emigration by certain Messioui, we argue, served to change their habitus through symbolic and pragmatic means, and upon returning with new social and financial capital, these individuals used their capital to transform local praxis. This has a knock-on effect, whereby the practice was emulated by others, resulting in the total transformation of agropastoral livelihoods in the Yagur, with a new elite, and completely altered land use practices governed by private rather than communal ownership. Regulation and governance had now shifted from the *jmaa* and the saints, to the *jmaa* and the state, which has provided more favourable conditions for 'big men' who may gain favours through

777 the *caid*. Thus, the emulation of the success of others is an important element to understanding the
778 establishment of behavioural patterns that link up individual decision-making to framing choice with a
779 wider social milieu. In the Yagur, the habitus of the lower classes has not changed as much as they have
780 not achieved significant social mobility, but they have managed to adapt it to the changes overall and
781 their own condition within it. In summary therefore, it is not only contingency or pre-established
782 structures that explain the collective organisation in the relation to the environment, but both, 1. the
783 pre-established or new structures and 2. actors' decisions situated within their ecological and
784 sociocultural contexts that explains the dialectic of socio-ecological change.
785
786
787 ***Conclusion***
788
789 Numerous authors approaching the subject from various disciplinary backgrounds have
790 underlined the importance of ICCAs in order to assure the livelihoods of local populations whilst
791 conserving the environment. For example, Ostrom (1990) and Berkes (1999) among others, have
792 shown how such communal systems encourage a relatively egalitarian access to natural resources while
793 augmenting the capacity of socio-ecological systems to adapt to changing conditions. In support of this,
794 Borrini-Feyerabend (2010) have asserted that ICCAs are central to ensuring the well-being of millions of
795 people and the conservation of about one third of the global terrestrial and aquatic ecosystems and
796 despite this, ICCAs continue to be strongly undermined worldwide (2010: 8-9). Our analysis of the
797 Mesioui *agdals* and the *agdal* of Yagour support this claim with new data, at the same time as our
798 analysis gives a concrete and nuanced explanation of some of the ways through which the decline of
799 ICCAs take place. By doing so, we have also called the attention upon the need for local populations,
800 regional-national institutions and international agencies to take full consciousness of the ways this
801 degradation of traditional ecosystems takes place, in order to face such situation and support these
802 ICCAs more actively for their relation to social equity and capacity for environmental conservation.
803
804 At the same time, as we have sought to show in this paper, the study of social action from the
805 perspective of the actor is essential to understanding how global processes are navigated through
806 everyday praxis, which anthropological analyses are well suited to do. Studies which lean toward the
807 perspective of the *homo economicus* model, of humans as motivated primarily by individual self-interest
808 are often explained by representing individuals as interpreting all social events in terms of risk/benefit
809 analyses and subsequently calculating their responses in relation to this (Van Denberg *et al.*, 2003).
810 More holistically-oriented social scientists, however, may view social interactions differently, whereby
811 changes in small societies are negotiated through their own cosmological understandings, which often

812 favour the continuity and regeneration of ecological knowledge and management strategies, and indeed
813 society as a whole as governed by tradition and cultural heritage (Descola, 1986). In contrast to both
814 approaches, in the present paper we have argued for a relatively intermediate position, one that
815 emphasises a dynamic rather than static interpretation of Bourdieu's 'habitus,' in order to better
816 understand the structural and multi-agentive transformations of traditional socio-ecological systems.
817
818
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820
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837
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