

SHORT REPORT

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Desert pastoralists: the Kel Tadrart Tuareg from south west Libya

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Abstract

The Kel Tadrart Tuareg, desert pastoralists from the Tadrart Acacus massif in Libya, were the subject of an ethnoarchaeological research carried out between 2003 and 2011. By means of a multi-pronged approach, a variety of topics were explored, ranging from the Kel Tadrart interactions with natural resources and the settlement pattern, to the layout of campsites and the processes of sites' abandonment. The study of the Kel Tadrart adaptation to an arid environment and patchy resources, along with the recording of material evidence, holds direct relevance to archaeologists, anthropologists, and stakeholders interested in sustainable dryland pastoralism.

Keywords: Kel Tadrart Tuareg; Sahara; Ethnoarchaeology; Pastoralism; Arid lands

Introduction

A programme of ethnoarchaeological research on the Kel Tadrart pastoral community was undertaken between 2003 and 2011. The Kel Tadrart Tuareg of the Tadrart Acacus mountains, in the south west corner of Libya, were the subject of a multi-pronged investigation aiming to understand the settlement pattern, the use of natural resources, and the processes of abandonment of settlements (Biagetti 2014a). Although originally designed to answer typical ethnoarchaeological research questions related to the study of mobile societies in arid lands, this work is also relevant in terms of our understanding of human adaptation to extremely arid environments. The models generally used to reconstruct past cultural trajectories in the Saharan region often emphasize the concept of 'optimality', represented by wet periods, and tend to link dry intervals with the abandonment of sites or regions. These models typically maintain that the reduced availability of natural resources due to climatic deterioration led to a decrease in population, both through demographic decline and actual movements of populations in the past (e.g. Kuper and Kröpelin 2006). Doubtlessly, the onset of arid conditions deeply affected and challenged early human groups, not differently than it does today. Yet, human responses to aridification might have not been linear,

and actually the history of central Sahara stands as a remarkable example of human adaptation to arid lands. In the last three millennia, during which time the climate has been substantially stable, there is increasing evidence of a number of communities that flourished in some areas of the desert. The most notable example is the Garamantian kingdom (c. 1,000 BCE to AD 700), a veritable state in the centre of the Sahara (to cite just the most recent: Mattingly 2013; Mori 2013, references therein), whose role in shaping Africa's past is still not fully acknowledged. The study of trans-Saharan medieval connections is another intriguing topic that has only recently begun to unveil its potential for refining our comprehension of past cultural trajectories in the whole African continent (e.g. Liverani 2005; Wilson 2012; Dowler and Galvin 2011). The resilience to an arid climate and the scarce resources of present-day Saharan people is clearly rooted in the past. Thus, an ethnoarchaeological approach is an effective tool to add time-depth to our understanding of the ways that a variety of communities have developed viable strategies to adapt to patchy resources in such drylands.

The study area

The Tadrart Acacus is a sandstone massif stretching north-south along the south west corner of Libya (Figure 1). The massif is very close to Tassili n'Ajjer plateau, located in Algeria, beyond the international border. It is surrounded

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Figure 1 The study area.

by flatlands and dune fields. Several wadis (dried river valleys) cut the Tadrart Acacus, offering a suitable location for human settlement. In spite of the arid climate, permanent vegetation allows domestic animal husbandry. Structural terraces rise on the top of rocky flanks bordering the Acacus valleys; these are reputedly unsuitable for human occupation with the exception of sporadic forays, since most of those higher morphologies are without pasture.

Methods

The ethnoarchaeological research programme started in 2003, with erratic interviews and surveys in Kel Tadrart campsites in the Tadrart Acacus. In 2004 and 2006, this unsystematic study of Kel Tadrart campsites continued,

although the majority of data was recorded in 2007 and 2009.

Additional information was recorded in 2010 to 2011, when the whole dataset was analysed. A geomorphological map (Marcolongo 1987) was adopted for the study of natural resources. Oral testimonies were collected by interviewing subjects, with the support of questionnaires.

Participant observation and digital mapping of the Kel Tadrart campsites (both inhabited and abandoned) were an important part of the fieldwork, along with the study of the natural resources available in the Tadrart Acacus. The Kel Tadrart are the sole inhabitants of the whole mountain. All the inhabited campsites (12) were surveyed, and almost all the household heads (normally the male elders) were interviewed (Table 1).

Table 1 Kel Tadrart occupation recorded in 2007, with age groups and stock

ID settlement	Child (0 to 11 years)	Youngster (11 to 17 years)	Young adult (18 to 25 years)	Adult (26 to 49 years)	Elder (>50 years)	Total	Sheep and goats	Camels
ALO_07/1	-	1	-	2	1	4	80	
IMH_07/1	-	-	1	1	1	3	80	
IMH_07/2	1	1	1	1	1	5	90	
EID_09/1	1	1	1	1	1	5	90	
IMH_07/4	3	-	-	1	1	5	70	
IMM_07/1	3	1	1	2	-	7	130	9
RAH_07/1	-	-	2	1	1	4	90	3
SUG_07/1	5	1	-	2	1	9	60	
SUG_07/2	2	-	-	2	-	4	40	
TES_07/1	-	-	2	-	2	4	110	5
TIB_07/1	1	1	2	1	1	6	130	4
TIH_07/1	4	-	-	2	2	8	230	
Total	20	6	10	16	12	64	1,200	21

Findings

The Kel Tadrart settlement pattern(s): opportunism and permanence

This research has shown that the Kel Tadrart is a small yet dynamic community of desert pastoralists. They own flocks of sheep and goats and, in some cases, also camels. The latter are left roaming freely in the area, while the smallstock are kept in the settlement and driven every day to grasslands located within c. 10-km distance (Biagetti 2014b). The Kel Tadrart are well aware of the best grazing areas of the Tadrart Acacus, and it has been demonstrated that the settlements are generally located close to those areas where the regeneration of pastures after the rains is likely to occur faster and better (Biagetti 2014c). Water points play a role too, but whilst the water can be transported by donkey or car from wells or *gueltas* (Arabic: rock pools where rainwater collects), daily intake of fodder cannot be regularly gathered. Although mobility has proven to be an option for most of the households, this research has shown that the real degree of movement differs across the study area ranging from a quasi-sedentism to regular transhumance. Such movements always occur after the short and unpredictable rains that characterize this area. In particular cases (e.g. the birth of newborn animals), supplementary fresh fodder can be purchased at the market of Al Awaynat, a small oasis located near the Tadrart Acacus that can be conveniently reached by four-wheel-drive vehicles in a few hours, depending on the location of the settlements. This part of the research programme has thus revealed that an extremely opportunistic pattern of mobility is the rule among the Kel Tadrart (i) and that they gravitate around specific areas of the

mountains where the best pastures are likely to be found (ii).

The layout of sites

The study of pastoral campsites is a traditional ethno-archaeological topic. The physical settings of the Kel Tadrart settlements are quite similar: a flat low terrace protected northward by rocky flanks and set at a reasonable distance from a wadi to prevent occasional floods (Figure 2). Although characterized by a comparable layout, the Kel Tadrart sites featured an unexpected variability in domestic architecture (Biagetti 2014d). The study identified two types of huts used by the Kel Tadrart. The cylindrical dwelling made of plant material is the 'traditional' hut from the Fazzan region reported also by Italian authors of colonial age. Yet, stone huts are also used, although they should be considered as having been introduced relatively recently. Whilst the plant material structures generally have a standardized shape and size, the stone huts range from square to round, with variable inner surfaces. Light structures are traditionally associated with mobility, while heavier and substantial constructions are generally seen as the product of sedentary communities. In the Tadrart Acacus, rather than being a function of mobility, the adoption of plant material huts seems linked to an issue of self-identification with a shared prototype. No connections between the type of huts and the actual degree of mobility could be inferred. Rather, this choice has proven to be related to the wealth of the households, since plant material huts require more investment in terms of purchasing some structural parts (like the central post) in the market of Al Awaynat.



Figure 2 The Kel Tadrart campsite TES_07/1.

On the other hand, the structures for the livestock mainly comprise small cylindrical pens made of piled stones for the kid goats (or sheep) of around 1 or 2 m in diameter. Corrals have been recorded on very few occasions. The use of stone pens to contain young stock is a widespread feature in this area. In activity areas, dung is the most recognizable evidence of the Kel Tadrart presence at a given site.

The abandonment of sites and the formation of the archaeological record

The comparative study of both inhabited and abandoned campsites has thrown light on the processes by which archaeological landscape was created in the Tadrart Acacus. A phenomenon of 'delayed curation' (Tomka 1993) has been identified, insofar as the settlements, once abandoned, are repeatedly visited and materials collected (Biagetti 2014e). This explains why the quantity and quality of material that depends at deserted campsites varies according to the time elapsed since abandonment. All reusable items, even if very worn, are gradually picked up. The same applies to the structural elements of the huts, like the roof and the central pole, the sticks, and the vegetal materials in general, whilst the stones are always left behind. Indeed, some years after its abandonment, the settlement is still recognizable and visible, mainly due to the ubiquitous pens for kid goats, other stone structures (if present), and dung areas. If some elements of the settlements are virtually imperishable, long-term visibility may be reduced by the 'delayed curation' and natural decay, the latter due to the strong winds that tend to bury large items and heavy artifacts and disperse lighter ones.

Conclusions

The research in the Tadrart Acacus has adopted a multi-pronged approach including archaeological techniques, ethnographic tools, and historical perspectives, to identify the major elements of the Kel Tadrart adaptation to patchy natural resources and arid climate. Their 'success' lies in their resilience to climatic change that has occurred during the last few decades, as testified by their continuity in occupation. Their resilience, in turn, is enhanced by their ability to diversify their strategies to achieve food security, ranging from subsistence pastoralism to trade, to market pastoralism to wage work in the tourism industry, or even to temporary out-migration. This diversification leaves recognizable evidence on the ground, whose study, combined with oral interviews and ethnohistorical data, has allowed us to improve our understanding of the human-environment-landscape interaction among the Kel Tadrart. In spite of the major paradigmatic changes in the vision on pastoralism as a

rational and effective strategy over the last 20 years (e.g. Behnke et al. 1993), Saharan herders still hold low relevance in the academic, socio-political, and economic narratives. An ethnoarchaeological approach can promote new studies on these populations, whose sustainable strategies of food security deserve more attention from international organizations and stakeholders.

Competing interests

The author declares that he has no competing interests.

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