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Case studies of cultural landscapes

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3



Bamiyan Valley, Afghanistan. © Sébastien Moriset

Sukur Cultural Landscape: defining earth architecture in a rocky environment

Dr Ishanlosen Odiava

Architect and lecturer at Abubakar Tafawa Balewa University, Nigeria
iodiava@yahoo.com

Introduction

The Sukur Cultural Landscape is located in north-eastern Nigeria, in the Mandara Mountains, which form a natural boundary between Nigeria and Cameroon, at over 1,000 m altitude. It consists of the entire village of Sukur and its surrounding landscape, covering over 700 hectares with a buffer zone of 1,178 hectares. Its landscape is characterized by the presence of iron-ore bearing rocks that played an important part in the economic history of Sukur. It was inscribed on the World Heritage List in 1999 as a graphic illustration of 'a form of land-use that marks a critical stage in human settlement and its relationship with its environment'.

This paper is written in the context of UNESCO's World Heritage Earthen Architecture Programme (WHEAP), and describes the condition of the earth architecture in Sukur. It establishes the physical and historical context of Sukur, as obtained from bibliographic sources, especially the works of Nicholas David. It then presents the major features of Sukur architecture with specific reference to the domestic architecture as defined by the average homestead and the residence of the chief of Sukur. I obtained the architectural data from fieldwork carried out in Sukur in 2006 and 2010, through interviews with local people and an architectural survey. This architecture is a result of various sociological interactions and technical productions over a long period of time. The legal protection of the site is presented as well as the various interventions that have taken place since inscription. The paper concludes with an examination of the challenges to architectural conservation, and offers some perspectives for the future.

Background

The main inhabitants of Sukur are known as the Sakun. There is an estimated population of 12,578 Sakuns.¹ Of this number, about 5,500 live in the village while the rest live in the plains at the foot of the Mandara Highlands. They have occupied this area for a period that has yet to be determined but which, given their independent language, must amount to several centuries.²

Oral history relates that the current ruling dynasty in Sukur is descended from immigrants from the Gudur region in present-day Cameroon (Barkindo, 1989, p. 42; Seignobos

and Lyebi-Mandjek, 2000). David and Sterner (2009, p. 10) dispute this claim and argue that mass immigration to Sukur from Gudur is more recent (nineteenth century). Like most other mountain communities of the Mandara Highlands, Sukur was on the periphery of the economy of the Mandara (Wandala) kingdom, but important as an iron-producing community engaged in indirect trade with its powerful neighbours, Bornu and Mandara (Barkindo, 1989; Denham, 1828; MacEachern, 1993). The indirect sociocultural and economic interactions of Sukur with its larger neighbours of Mandara and Bornu led to certain cultural borrowings (see David and Sterner, 2009).

In a zone of poor and fragile soils, the mountain populations of the Mandara Highlands have learned to manage effectively the complex human–nature interactions of their immediate environment (Riddell and Campbell, 1986). Evidence of this management is found in the dominant agricultural system of terracing that covers much of their mountainsides and considerable portions of the Sukur plateau. These terraces serve to control erosion, retain water in the soils, and thus create the enabling conditions for agricultural cultivation.

Known from the nineteenth century, thanks to the writings of Barth (1896), Sukur came under theoretical German control in 1901, following the division of African territories at the Berlin Conference in 1885 (Mohammadou, 1994, p. 47). Although visited around 1906 by the German administrator Strumpell, Sukur was never taxed by a colonial power before 1927. The Fulani chief, Hamman Yaji, obtained control of the area in which Sukur is located around 1920. After the First World War, the Mandara Highlands were repartitioned under French and British control. Following Nigerian independence in 1960, a plebiscite was held in British Cameroon and the northern section chose to remain under English control while the southern section chose to join Cameroon.

Archaeological investigation has shown that Sukur experienced a prosperous period as a result of its iron-producing industry well before the eighteenth century. It has been estimated that it produced between 32 and 76 tonnes of iron per year in the 1930s and 1940s (David, 2012, p. 150), certainly considerably less than at its nineteenth-century peak. This high production was assured through the active participation of the entire population, not just a restricted group, in the processing of iron ore (David, 2012, pp. 94–96). With the imposition of European rule in the northern Cameroons, new trade networks were established and there was a progressive decline in Sukur

iron production for several reasons. There was a population decline as a result of deaths from several recorded famines caused by drought. Hamman Yaji contributed to the economic instability of the mountain populations during this period through slave raids (Vaughan and Kirk-Greene, 1995). He has often been credited with sole responsibility for the slave trade in this area. However, the reality is that the Europeans who physically gained control of the area from 1902 – first the Germans, then the French and British – were complicit in the trade (David, 2013, p. 10). In addition to supplying the guns and munitions, there is recorded testimony by Hamman Yaji³ that he carried out slave raids with the French (see David, 2012, 2013). The duty of tax collection was also delegated to local leaders such as Hamman Yaji, and as long as the taxes were collected, a blind eye was often turned to whatever injustices were carried out.

The British arrested Hamman Yaji in 1927, and this reduced the threats to the mountain populations. Some of the mountain populations slowly began to relocate to the surrounding plains in order to take advantage of the conditions offered by the *pax Britannica* and the fertile soils of the plains. Colonization also brought the introduction of new commercial networks with Europe, and the introduction of cheap iron products from the mid-twentieth century (David and Sterner, 1995; Sterner, 2003). This latter development contributed in no small measure to the rapid decline of the Sukur iron industry. The last recorded smelts date to the 1960s (Sassoon, 1964; Smith and David, 1995).

The poor soils of the mountains make tree crops a precious commodity on the mountain. These trees, along with other plants in the area, are useful for economic, medicinal and building purposes. In recent times, Sukur men have diversified their economic activity to include mat weaving,

and they are known in the entire region for the quality of their mats. Thus during the dry season, between November and February, men are involved in this activity and the mats are sold in local markets or exported further afield. In addition to the export of mats, there is also seasonal migration to large urban centres to produce these mats in situ, as they are highly prized for the purposes of fencing compounds, creating lightweight walling and spatial screening. This seasonal economic migration is common in this region, which falls into the sudano-sahelian belt of West Africa (Rain, 1999).

The architecture of Sukur

The built heritage of Sukur can be divided principally into civil and domestic architecture. The main civil building is the residence of the chief, or *tlidi*.⁴

Ghai Tlidi (House of the *tlidi*)

The chief, or *tlidi*, of Sukur represents the spiritual and political power of the Sakun. He possesses certain titular rights: the right to communal work groups who tend his farmlands four times a year (planting, weeding, harvesting and threshing), the right to the leg of each cow sacrificed during major festivals, to take delivery of the best of charcoal production and to receive, in kind, taxes on iron production (Meek, 1931; Smith and David, 1995). Some of these rights have been eroded since colonial times and subsequently by the Nigerian state. However, certain tasks remain the responsibility of communal work parties: for example the maintenance of the *Ghai Tlidi*, the paved ways leading to the village, the gateways and royal burial grounds.

Figure 1: *Ghai Tlidi*. © I. Odiava



gender: pots of different types serve traditionally as markers for men and women's graves.

With the introduction of Christianity and Islam into Sukur, new building types have been raised for congregational worship. Principal amongst these is the church building which, together with an elementary school, dominates the principal market area in the middle of the village.

Domestic architecture

The domestic architecture of Sukur is characterized by clusters of homesteads located very close to one another so as to leave free the maximum area of valuable agricultural land. Each compound is surrounded by a drystone wall which serves primarily to define the family unit and offer a degree of privacy, and second as a security (and ultimately defensive) structure. The domestic space contains individual free-standing rooms, sub-basement bull isolation pens, granaries, animal pens and family altars. Threshing floors are often located close to residences.

The typical Sukur residence is called *ghai* in the Sakun language, and comprises several free-standing rooms, traditionally of circular or square form (*ir tukukkul* or *ir adada*), built in stone and/or earth, and covered over with a thatch roof. Where stones are used in the construction, they are often visible on the external surfaces, while the internal surfaces are plastered in brown earth. Presently, there is an

increased use of adobe blocks to build rectangular buildings with at least two rooms each.¹⁰ It is also not unusual to have two closely related families, nuclear or extended, occupying the same residence.

The approach to the Sakun home is through a forecourt, *zhyali*, which serves for drying sorghum and other harvested crops, and for receiving visitors as well as other family social events. The rooms of the *ghai Sakun* are arranged around an interior courtyard, *tubaghai*, which is covered over by a thatch canopy (*madlaba*) supported on wooden posts. The canopy is also useful for drying crops. The homes of some Sakun traditional leaders are marked out by the presence of a stone lintel across the house entrance door.¹¹

Homestead construction begins before marriage, as part of the preparations for taking a first wife. A typical homestead consists of the following spaces:

- *Tcham* or living room/reception area, which corresponds to the *zaure* (a Hausa word describing the same space) referred to by Kirk-Greene (1960, p. 90) in his article on Sukur;
- *Ir-zir*, or female bedroom. The number of *ir-zir* in the homestead often corresponds directly to the number of women/wives in the home;
- *Gur*, the household head's bedroom, located next to the *tcham*, and close to the main entrance;
- *Ir-dada/ir-didaf*, kitchen;
- *Ir-banvu*, enclosed space for taking showers;



Figure 4: Left: a stone lintel over the entrance door of the residence of a Sakun leader. Right: the entrance of a typical Sakun residence with no lintel. © I. Odiaua

- There are two types of toilets in Sukur: the open toilet, in which defecation is carried out in the open air, called *butok*, and the pit latrine, *ir-vu*, which is increasingly replacing the open toilet and is located in a corner of the homestead.

In addition, the homestead may also contain some or all of the following spaces:

- *Dlama'yuk'u*, goat pen, often located close to the rooms of the women, *ir-zir*;
- *The dlamadla* is a sub-basement bullpen. This feature is also present in other Mandara mountain communities (Sterner, 2003, pp. 106–12). The *dlamadla* confines a single bull which is carefully reared for at least two years. It is located close to the *tcham* to which it is connected through a narrow opening, about 30 cm above the ground, through which the bull is fed and its pen cleaned;
- *Lindu* is a food store in which are stocked harvested crops such as beans and maize.

The *kindok*, or granary, is very important in the Sakun homestead. It is used for stocking sorghum, considered as the king of the crops in Sukur. It consists of two levels, raised on stone supports. The space defined by the floor of the

granary and the ground under it is used as a chicken pen. When a family has many chickens, a special hen pen, called *dlik*, is built for them.

Once the different elements of the compound have been defined, the compound is sealed all round, except for the main entrance, by a drystone wall.

Building techniques and the sociology of construction

The rocks, stones and earth of the surrounding landscape supply the primary building materials for Sakun architecture. The Sakun employ different combinations of stone and earth for construction: walls and partitions in dry stone, external building walls entirely in earth or in stone masonry laid in mortar, or earth walls with some loose stone dressing.

Like some other mountain communities to the east in Cameroon (Seignobos, 1982), the Sakun build vaulted earth ceilings, called *huruk*, over circular or square rooms. These often resemble overturned clay pots imposed upon the building walls. The construction of the *huruk* is delicate work, often carried out by specialists. Its walls, 5 cm thick, are

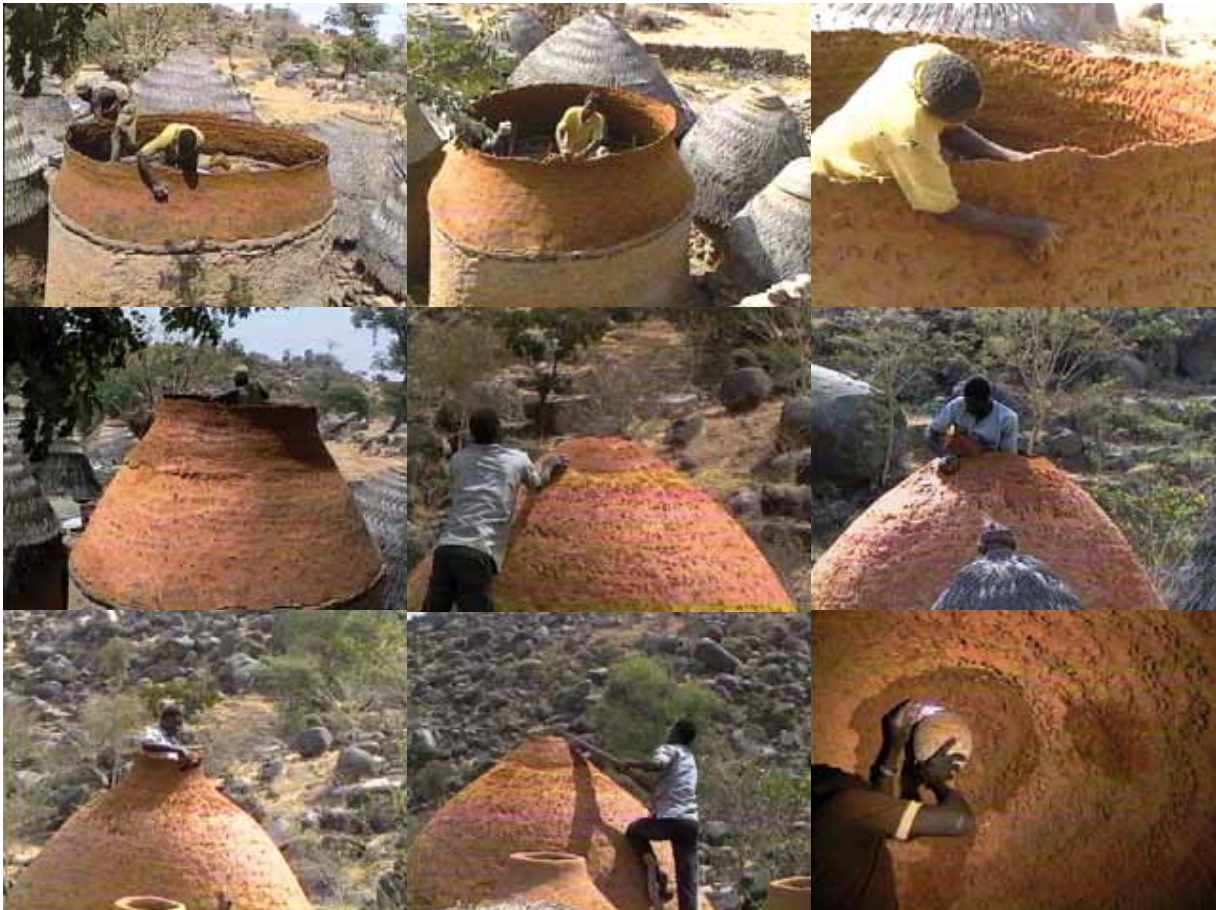


Figure 5: Construction of a Sakun vaulted ceiling, or *huruk*. © David, 2010

built of a red earth that is brought from afar (the local earth is brown in colour). Each new layer of earth is added to the preceding as a roll of plastic earth, in a manner reminiscent of a ceramic technique. Each successive layer is smoothed out with a small smooth stone in order to completely eliminate any visible joints. The vault is closed from within by a labourer holding up a ceramic jar, which serves as a mould upon which the second worker, on the exterior, places the last layer of earth to close up the ceiling. Once dry, the *huruk* can support the weight of a full-grown man. It is then covered with a thatch roof, laid upon a wooden framework. Inside the room, wooden shelves are often fixed into the junction between the walls and the *huruk*.

The Sakun building construction cycle falls in a specific period within the thirteen-month Sakun calendar.¹² Home construction is a family affair, and this allows for the transmission of building knowledge from father to son. However the external compound walls and the bullpen are built with the assistance of the extended family and neighbours, who are provided with food and drink by the host family for the duration of the work.

The construction of the bullpen, *dlamadla*, involves the direct participation of women, whose involvement is strictly according to assigned tasks. Men are responsible for the actual construction work while women are charged with collecting large stones from the surrounding countryside. The pit, in which the bull will be confined, is dug out to a depth of approximately 1.5 m. A stone retaining wall is then built to hold back the earth around the pit and serve as a foundation for the rest of the structure.

Individual families are also responsible for maintenance of their homes. Public spaces such as paved walkways, village gates and the royal graveyard are maintained through traditional *corvée*/communal labour practices. A system of family representation has been worked out for this, and a fine is imposed in the event of any default. Primarily the members of the *tlidi's* family and members of his immediate neighbourhood, as designated by the *tlidi* himself, maintain the *tlidi's* residence.

Figure 6: Construction of a sub-basement bullpen. © Michael Thomas



State of conservation

Legal protection

The legal protection of the Sukur Cultural Landscape World Heritage site is assured at three levels:

- By the Government of the Federal Republic of Nigeria, through the provisions of the constitution of the Federal Republic¹³ and National Commission for Museums and Monuments (NCMM) Decree 77 of 1979;
- By the Adamawa State Government, which declared it a state monument, under the enabling sections of federal legislation, in 1997;
- Customary Sakun law and traditions, which have been responsible for its management leading up to, and beyond, World Heritage inscription.

The day-to-day management of the site is carried out by the NCMM, in close partnership with the Sukur community. The management of the site is guided by a conservation management plan, approved by the Sukur management committee which was established in 2010. The management committee is made up of the following stakeholders (NCMM, 2011):

- National Commission for Museums and Monuments
- Nigerian Tourism Development Corporation
- Adamawa State Government through a representative each from:
 - Agency for Museums and Monuments
 - Adamawa State Ministry for Culture and Tourism
 - Adamawa State Ministry for Lands and Survey
 - Adamawa State Ministry for Environment
- Madagali Local Government Council
- Madagali-North Development Area Council
- the *Tlidi* of Sukur
- Sukur Development Association
- District Head of Sukur (who resides in the plains and is an administrative rather than traditional position)
- private sector representatives
- Sukur Youths Association.

Visitor management

As part of efforts to promote the Sukur Cultural Landscape as a tourist destination in Nigeria, the NCMM, along with various partners, has implemented various projects to enhance the visitor experience at the site.

To facilitate access to the site, the Adamawa state government constructed a road to link the nearest national highway to the foot of the Mandara Mountain on which the Sukur plateau is located. Souvenir shops, a ticket office and

an interpretation centre have also been provided along this road, but there are none in the village. Toilet facilities are also available at the foot of the mountain.

From the foot of the mountain, Sukur is presently only accessible by an hour's hike through the paved walkways leading up to the village. To facilitate the ascent up the hill, four resting points have been provided along the trail. Neither refreshment facilities nor litter bins are available along the trail. In the village itself, the state government has also built three guest rooms on the *patla* (ceremonial square) in front of the *tlidi's* residence to provide accommodation for visitors interested in more than a day visit.

A private Sakun developer has built a nine-room hotel at the foot of the mountain on which Sukur is located. An 18-room government hotel is presently under construction at the foot of the mountain, to increase accommodation for visitors.

General state of conservation

The earth architecture of the Sukur Cultural Landscape is in a good state of conservation as it continues to function as a primary residence for its inhabitants. This latter reality means that the continued conservation of the architecture is primarily dependent on the social continuity of Sakun society.

In addition to the regular maintenance carried out by the community, the NCMM has supported the community in several interventions since the site's inscription in 1999 (NCMM, 2011). These include:

- *Ghai Tlidi*: enclosure wall, initiation room, and brewery section, stable, boys' quarters, waiting room, bathroom, fumigation;
- two guest rooms built on the *patla* in front of the residence;
- community toilet;
- repair and reconstruction of selected iron-smelting furnaces that were central to Sukur's iron-producing economy.

Challenges to conservation

The conservation of the built environment in Sukur faces some challenges. The community's expectations for development, as a result of inscription, have not been fulfilled. The perception in the village is that the surrounding communities in the plains around the mountain have benefited more from Sukur's World Heritage status. This is evident in the provision of basic facilities such as the improvement in basic infrastructure associated with health, education and transportation in outlying communities.

The greatest challenge to providing basic infrastructure in Sukur is linked directly to the ease of access to the site. In an attempt to facilitate development in their community, the community took matters into their own hands in 2006 and attempted to construct a road from their village to the foot of the mountain, so that motorized vehicles could get to the village. Drawing on their communal traditions, all grown men in the community were mobilized, using very basic agricultural tools. This seemingly desperate action was linked to preventable mortality as a result of medical emergencies, as well as the economic exigencies of market supply. The result of this action challenged the integrity of the site and introduced unforeseen challenges linked to erosion. The action was stopped upon consultation with the NCMM, and it was jointly agreed that a better technical solution would be sought in response to an obvious need. Another attempt to construct a road was made by the community in 2010, this time after they notified the NCMM of their intent.

The lack of potable water on the site is also a challenge to the continued occupation of Sukur. Already, some families have relocated as a result of the water scarcity. In 2006, the Adamawa State government prospected for potential water sources at the site as part of planning to provide a reliable water supply. A water project has yet to fully be implemented, and it is likely that the lack of motorized access to the village will be a challenge to the transportation of the equipment necessary to implement such a project.

While the general state of conservation remains good, there are gradual changes to the architecture of Sukur. It is interesting to note that in spite of the difficulty of gaining access to the site, there is an increased use of industrial materials such as cement, steel reinforcement, galvanized iron roofing sheets and chemical paints.

Inevitable lifestyle changes and social conditions also influence effective conservation. As young Sakuns undertake the rigours of Western-style education, the social dynamics linked to architectural activity are in flux, and this increasingly affects the requisite social exchanges necessary for construction. Monetization of construction skills is thus increasing. With the difficulty of accessing the site, there is pressure to provide a suitable access route to the site that does not compromise its integrity. The current management plan has marked this out as a priority, and made provision to ensure the construction of an access route to the village within the current implementation cycle.

Past interventions on the site (Odiaua, 2012) by the NCMM have also highlighted the conservation issues that can arise when there is insufficient consultation with the population with respect to conservation decisions.

Finally, regional security concerns in north-eastern Nigeria have become an important factor that could ultimately affect the conservation of the site.

Conclusion and perspectives for the future

Sukur presents many opportunities for research into the lifestyle and evolution of mountain communities in the Mandaras.

The Sakun acknowledge the opportunities that World Heritage status offers them and are very willing conservation partners.

It is important that the NCMM establish a development framework for the site, identifying with the population an acceptable development trajectory which ensures that the integrity of the site is maintained. The author's experience at this site has shown that the Sakun have a very pragmatic approach to the conservation of their site, and once they are engaged in dialogue, conservation issues can easily be resolved. It is important that wide-ranging partnerships be forged, beyond intergovernmental connections, into research and private sectors, to adequately work out relevant solutions which are inextricably linked to sustainable conservation on the site. The sustainable conservation of earth architecture in the Sukur Cultural Landscape is closely tied to enhancement of the living conditions of its inhabitants.

In the face of inevitable change, traditional construction techniques need to be documented as a matter of urgency. This documentation can also facilitate the identification of home improvement techniques and the enhancement of the visitor experience.

Finally, long-term site planning will have to be carried out with a strong consideration of conservation and spatial planning based on traditional systems, with a view to ensuring the proper integration of all systems.

Notes

- 1 Estimate obtained from Simon Warda, a Sakun, who participated in a census exercise in 2008.
- 2 This long-term occupation is also supported by archaeological evidence. The dates of remains have been estimated to about the late seventeenth century. David (2012, p. 39) presents results of radiocarbon dating from a 1992 excavation in Sukur.
- 3 Hamman Yaji kept a diary from September 1912 to August 1927; a scribe took down his dictation in Arabic and Fulani. In addition to Vaughan and Kirk-Greene's 1995 edited book, a translation of the diary is also available online at: <http://sukur.info/Mont/HammanYaji%20DIARY.pdf>
- 4 Also Xidi, Hidi, Llidi in other literature. The spelling of Sakun words used in this article is based on the transcription of the Sakun language by Michael Thomas, a linguist from the University of Colorado, who has carried out extensive research on the Sakun language, along with his Sakun research assistant, Hala Luka John.
- 5 Smith and David's 1995 article, 'The production of space and the house of Xidi Sukur', presents a spatial and ethnographic analysis of the *Ghai Tlidi*.

- 6 Smith and David (1995, p. 456) cite a portion of Struppell's 1922 description of features in the *Ghai Tlidi*, including a stone granary.
- 7 'On Monday the 5th of Banjaru Sakitindu I sent my soldiers to Sukur and they destroyed the house of the Arnado and took a horse and 7 slave-girls and burnt their houses.' Translation of diary of Hamman Yaji, D. H. Madagali 1912–1927 (by Assistant District Officer L. N. Reed). <http://sukur.info/Mont/HammanYaji%20DIARY.pdf>
- 8 The history of Sukur chiefs is representative of how many Nigerian traditional institutions have been affected by political interference from the Nigerian state. This follows closely the pattern set by British colonial administration which interfered with traditional leadership, deposing and installing according to perceived loyalties of incumbent leaders to the British Crown (see Dugate's account of the British takeover in Kano: 1985, pp. 171–86). In the past forty years, there have been two such recorded incidents. In 1983, the reigning *Tlidi*, Zirangkwadé, was deposed by the state government in favour of the Gezik Kanakakaw, who was in turn deposed following a change of government in 1984. Following the death of Zirangkwadé in 1991, Kanakakaw was reinstated in 1992 and remained in office till his death on 28 October 2011. His son, Luka Gizik, has since succeeded him. See also <http://sukur.info/Soc/Hidis.htm> for more information on the Sukur *Tlidis*.
- 9 It is said that at a period during his reign, Matlay had up to fifteen wives all living with him in the *Ghai Tlidi* (<http://sukur.info/Soc/Hidis.htm>).
- 10 On my last visit to Sukur in December 2010, I observed ongoing construction of an L-shaped, three-roomed block. The implication of this for the roof form is that there will definitely be a shift from the traditional roofing system.
- 11 According to Professor Nicholas David (email communication, April 2012), this privilege is limited to male household heads of the Dur clan, and, theoretically at least, of three closely allied clans.
- 12 David (2010). The Sakun calendar is determined by rain cycles and is not a lunar calendar. It contains thirteen months: the building period could last from the twelfth month (Te Hen Dle = February to early March) to the first month (Tiya Zung = April).
- 13 21. The State shall:
- (a) protect, preserve and promote the Nigerian cultures which enhance human dignity and are consistent with the fundamental objectives as provided in this Chapter; and
- (b) encourage development of technological and scientific studies which enhance cultural values.
- . 2009. La chefferie de Gudur (Monts Mandara, Cameroun): une hypothèse minimaliste. H. Tourneux and N. Woin (eds), *Migrations et mobilité dans le bassin du lac Tchad*. Marseille, s.n. Actes du 13^{ème} Colloque Méga-Tchad 2005. pp. 175–195.
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