

Managing cultural heritage components in a development project: community voices from the Juba-Rumbek Road Improvement Project in South Sudan

Khamati Shilabukha, Ph.D.

Institute of Anthropology, Gender and African Studies

University of Nairobi

dennis.shilabukha@uonbi.ac.ke

Charles Lwanga Muyembe

Charles and Barker Consulting Ltd

lwangamc@charlesandbarker.co.ke

Abstract

This paper presents the findings of a feasibility study for the Juba-Rumbek road improvement project in South Sudan. The study was conducted between March and June 2022. The overall objective of the feasibility study was to examine the feasibility of the road project. Specifically, the study aimed at analyzing the social and environmental impacts of the road project on the local communities and their livelihoods. The study also aimed at conducting resettlement action planning (RAP) and livelihood restoration. The study also identified and cultural heritage aspects that would be affected by the road project, which is the focus of this paper. The study employed a cross-sectional design, which was descriptive in nature. Heritage reputation theoretical framework was utilised to guide the study. The heritage sites identified along the road project include burial grounds, cattle camps, shrines and scared trees, among others. The study findings indicate that if implemented properly, infrastructure development can positively impact heritage sites and their conservation. The analysis highlights the

importance of preserving the heritage sites. The study concludes that the conservation of heritage sites in the face of development is a complex process. The findings may be of practical value to development partners who face the dilemma of implementing infrastructure projects, while at the same time mitigating the impacts of those initiatives on heritage sites.

Keywords: Culture, development, heritage, indigenous knowledge, infrastructure, local community, symbolism

Received: 29.January.2024

Accepted: 18.May.2024

doi: <https://dx.doi.org/10.4314/aa.v22i1.3>

Introduction

Over the past two decades, there has been an increasing academic and policy focus on the impact of infrastructure projects, such as road construction, installation of power lines and construction of dams on local ecosystems and the livelihoods of local communities (Reed et al., 2016). As part of avoiding, minimizing or mitigating negative impacts of such development initiatives, governments and other institutions have increasingly found it necessary to carry out feasibility studies of the projects (Guzman et al., 2018). In development parlance, a feasibility study is a comprehensive report that examines in detail the frames of analysis of a given project (Mesly, 2017).

As Mesly (2017) further posits, this includes assessment of the environmental and socio-economic impacts of the proposed projects on the local communities including impacts on livelihoods. Generally, feasibility studies are used as economic development decision-making tools (Mesly, 2017). As part of social and health

safeguards, feasibility studies also provide a framework for gender analysis as well as health and safety dimensions of the proposed development activities. Feasibility studies also include Resettlement Action Planning (RAP) in cases where households are likely to lose their land or dwellings to give way to the implementation of the project (Reed et al., 2016). Where threats to livelihoods are at expected, feasibility studies may include livelihood restoration frameworks (Ebbe, 2009; Guzman et al., 2018).

The focus of feasibility studies is ever evolving and has come to include the impact of proposed development projects on the cultural heritage of local communities (Guzman et al., 2018). In anthropology, cultural heritage is an expression of the ways of living developed by a community and passed on from generation to generation, including customs, practices, places, objects, artistic expressions and values (Salemink, 2021). Cultural heritage is often expressed as either intangible or tangible cultural heritage (ICOMOS, 2005).

Intangible aspects of cultural heritage include representations of the value systems, beliefs, traditions and lifestyles (Shilabukha, 2007). Tangible cultural heritage refers to physical spaces and artefacts produced, maintained and transmitted from one generation to another (UNESCO, 2003). Part of the value system are gender roles and their power relations within society (Agarwal, 2000). Tangible dimensions include cultural endowments such as traditional architecture, unique streetscapes, historic sites and shrines (Ebbe, 2009). Heritage is an essential part of culture as a whole because its aspects contain these visible and tangible traces from antiquity to the recent past (ICOMOS, 2005; Guzman et al., 2018).

Feasibility studies are also an important part of efforts to attract funding for development projects, particularly those involving infrastructure (Ebbe, 2009). With the

increasing importance of heritage sites in the development process, the implication has been the institutionalizing of conservation efforts and placing heritage at the focus of development planning for such projects (Guzman et al., 2018). Institutionalization should be imperative for the simple reason that the cultural landscape is inherently dynamic. Therefore, management of change should be the pillar of a development activity (Fairclough, 2008). In this context, there is need to proactively link conservation of heritage to the development planning process.

This may be the reason for the argument advanced by Denhez (1997) to the effect that the proactive role of development planning is best suited for combining the past with contemporary use to ensure the continued existence of heritage assets. That is why the World Bank is at the vanguard of increasingly recognizing the centrality of heritage as an important economic resource in both development and cultural realms (Ebbe, 2009). For the Bank, heritage sites are often an important focal point for development projects based on their role as cultural survival fulcrums (Ebbe, 2009). These sites also provide concentrations of heritage assets, infrastructure services, private sector activity, and human resources. Sometimes, they also offer survival hinges for some natural ecosystems (Shilabukha, 2015).

Therefore, improving the conservation and management of heritage is not only important for preserving its historic significance, but also for its potential to increase income-earning opportunities and landscape livability. To this effect, many of the World Bank's client countries have been successful in supporting cultural heritage activities within some large infrastructure projects (Ebbe, 2009). As a result, heritage studies such as Denhez (1997), Fairclough and Rippon (2002), Fairclough (2008) and Harrison (2013), among others, have been incorporated into indicator frameworks aimed at identifying and mitigating potential negative impacts of projects on cultural

heritage activity. This aspect recognizes that management of heritage and cultural resources and the identification and study of both material and intangible cultural resources is important as they relate to our ability to understand the relationships between the past and the present.

The foregoing suggests an increase and rising interest over the impact of development projects to livelihoods in general, which is a growing discourse and one equally importantly dimension regarding cultural heritage, namely, the place of heritage sites in the planning and implementation of infrastructure projects (Reed et., 2016). The increasing interest in the management of heritage and development and the concomitant discourse highlights the potential of integrated approaches and the socio-economic value of heritage conservation in the process of infrastructural development (Ebbe, 2009). While development projects are geared towards benefiting local communities, they are sometimes also disruptive, their implementation destroying the physical environment and the natural resource base in it. They also, in the process, alter the very livelihood sources for communities (Guzman, 2018). Development projects also tend to alter the gender dynamics of local communities, including gender roles and power dynamics. Most of these aspects are tied to cultural heritage, with the relevant ritual, cosmological and historical significance. Along the way, it has been observed that communities also lose cultural heritage sites, together with the attendant intangible assets associated with those sites (Ebbe, 2009).

Part of the advocacy for consideration of the analysis of the quality of the interactions between infrastructure development themes and heritage conservation, particularly in the developing world, is driven by beneficial relationships referenced and proven in best practices (Reed et al., 2016; Kiriyama, 2021). However, the process is also rife with conflict between development projects and heritage management (King,

2023). This is more so when the management of heritage is not considered important or necessary (Kiriamama, 2021). Hence, the conflicting relationships have continued to foster an understanding of development as a threat in the conservation of cultural heritage (ICOMOS, 2005; Turner, et al., 2012). This is because in most cases of development projects, heritage is not mentioned specifically as a point of focus (King, 2023). Therefore, the strength, coverage, and functionality of in-country measures for protecting heritage in the face of implanting development projects are required, especially in large-scale development projects

This imperative is driven by the fact that the presence of legal requirements for carrying out heritage impact assessments and ensuring their quality are neither universal nor uniform (King, 2023). In some countries, such as Botswana and South Africa, heritage protections are explicitly recognized as distinct from and complementary to environmental ones (King, 2023). In other countries, such as Uganda, no effort is explicitly made, therefore, legal instruments for environmental protection offer the best option for heritage management in the face of infrastructure development (Kiriamama, 2021). In both instances, there remains a pressing need for standardized measuring criteria to guide the quantitative and qualitative analysis of the interaction between development projects and heritage management. This should be explored within the sphere of infrastructural development, especially in developing countries (Tanguay et al., 2018; Gravagnuolo et al., 2017).

While anthropological interest in infrastructure appears novel, the fact that anthropologists have always been interested in the nexus between development and culture makes their interest in infrastructure a matter of fact (Salemink, 2021; Rippa, 2023). A lot of anthropological work on development touching on culture has variously referenced the environment as a matter of concern (Barua, 2021; Carse and Lewis, 2017;

Shilabukha, 2015; Goldman et al., 2010; Swyngedouw, 1997). Anthropological interest is cogently associated with premise that culture is the focal point of adaptation, based on the environment in which that culture is operand (Shilabukha, 2000; Shilabukha, 2015). As such, the environment, and the resources found in it, provide the basis for cultural survival, based on cultural heritage (Shilabukha, 2015). Some environmental loci are designated as sacred for reasons of ritual, cosmological, historical or sentimental value and significance (Ruddle 2000; Shilabukha, 2015; Obiene et al. 2022). Such require conservation (Shilabukha 2015).

From these analyses, one can see a demonstration of the need to break down the boundaries between human infrastructure and the apparently non-human environments, as well as the usefulness of an infrastructural perspective for analyzing the current environmental crises (Degens et al., 2022). Building on these studies, further anthropological investigation is imperative in the realm of cultural heritage management within the purview of development initiatives, particularly those involving infrastructures like dams, power lines, railway lines and roads (Salemink, 2021).

This is because the United Nations Education, Science and Cultural Organisation's (UNESCO's) recommendations on the management of indigenous cultural heritage advocate development initiatives that are compatible with sustainable management of indigenous cultural sites such as shrines, sacred trees, sacred woodlands and forests, burial grounds and graves (Shilabukha, 2000). This is aptly encapsulated in what Ruddle (2000), refers to as dialogue, relationship and process. Heritage sites are important not only for their physical presence but also because they protect biodiversity, but even more importantly, because of their connection with intangible cultural heritage aspects (Majid-Cooke, 2003). Such biodiversity is the

reservoir of a rich body of indigenous knowledge (Shilabukha, 2015). Protection and conservation of these sites require robust and critical multi-disciplinary analyses, whose infusion into the planning and execution of modern development in general and infrastructural developments in particular is highly desirable (Hampton, 2005). Thus, the need for feasibility studies (Ebbe, 2009).

Therefore, the Juba–Terekeka–Rumbek Road project in South Sudan had to be subjected to a feasibility study, which had a component on heritage management. The road connects the cities of Juba and Rumbek, through Terekeka, Tindalo, Mingkaman and Yirol. The project envisaged improvement and rehabilitation to class II bitumen standard, with bridges, culverts, shoulders and drainage channels. The work has been going on since 2019 (Rippa, 2023). The road starts at Juba, the capital and largest city in South Sudan. It travels in a general northerly direction to the town of Terekeka, also located on the western bank of the White Nile, a distance of approximately 75 kilometers.

From there, the road travels in a general northwesterly direction, though the towns of Tindalo and Yirol, to end at Rumbek, a distance of 354 kilometers (Rippa, 2023). The overall objective of the feasibility study was to examine and analyse the feasibility of the road project from social, environmental, economic, financial and commercial perspectives. The study also aimed at analyzing the impact of the road project on the local communities and their livelihoods. In specific terms, the study aimed at examining the environmental and socio-economic effects of the proposed road improvement project. The study also aimed at identifying and mapping intangible and tangible heritage that could be negatively impacted by the project, which is the focus of this paper. These include shrines, monuments and livelihoods as well as indigenous food systems.

Theoretical framework

This study was guided by the heritage reputation framework. Heritage reputation framework is based on the premise that conservation and protection are significant issues in heritage studies, especially when linked to development (Monteiro et al., 2014). In a time when development and growth are increasingly impacting heritage, understanding the relationship between the surrounding heritage, especially the local communities and development planning, can play an important role in development planning, especially that of infrastructure projects (Ebbe, 2009). Thus, the application of heritage reputation provides a theoretical framework for integrating the heritage value and the causal framework regarding beliefs, attitudes, intentions and behaviors towards an object, in this case the heritage (Money and Hillenbrand, 2006). In this way, heritage reputation can be used to guide strategies for those planning infrastructure projects when formulating and implementing such projects (Money and Hillenbrand, 2006; Drury and McPherson, 2008).

As Tweed and Sutherland (2007) posit, heritage is an important part of societal and community well-being, and a major component of quality of life. As such, the ways in which dimensions of heritage value change over time and in different cultures have been broadly studied in academia (Carver, 1996; Darvill, 1995; Deeben et al., 1999; Dix, 1990; Frey, 1997; ICOMOS, 2000; Lipe 1983; Mason, 2002). From these studies, it is observable that heritage value is considered to be the intrinsic reason for heritage protection and conservation (De la Torre and Mason, 2002).

From Figure 1, we can deduce that value, conservation and protection are significant issues in heritage studies and analysis of the impact of development projects (Monteiro et al., 2014). In a time when development is heavily impacting heritage, more so

negatively, understanding the relationship between the planned development initiative and the surrounding heritage, especially the local communities, can play an important role in the planning and execution of projects. This is even more required in those projects that have huge environmental and social costs (Money and Hillenbrand, 2006; Guzman et al., 2017).

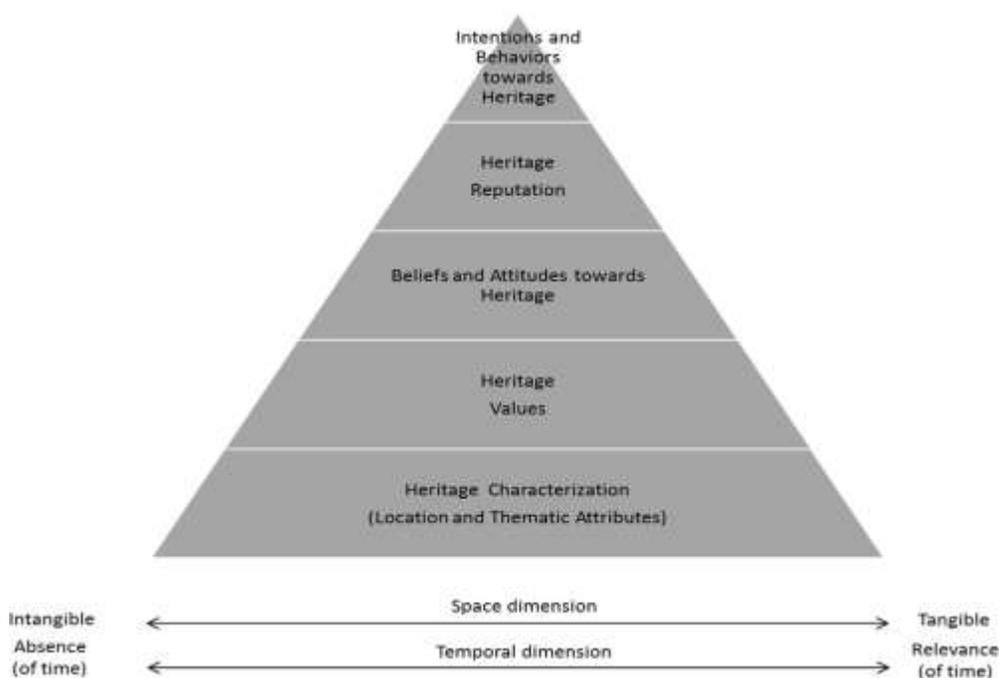


Figure 1: Heritage reputation framework (Adapted from Monteiro et al., 2014)

We must note that value is the intrinsic reason for heritage protection and conservation (Monteiro et al., 2014). According to De la Torre and Mason (2002), no society makes an effort to conserve what it does not value.

This is aptly captured in Figure 2, which condenses the heritage management cycle. It shows that protection and conservation are the consequence of the heritage

value. This is in tandem with what Thurley (2005, p. 23) refers to as the motto of “Making the Past Part of our Future”. In this motto, the value is highlighted and emphasizes the need to care for heritage. These two are consequences of value (Monteiro et al., 2014). Accordingly, by understanding, we will value the heritage, by valuing we will want to care for it, by caring for it, we will enjoy it and from enjoying it, comes thirst to understand and protect (Thurle, 2005).



Figure 2: Heritage Cycle (adapted from Thurley, 2005)

This model is about helping integrate development paradigms to align the development agenda to local people’s attachment and understanding of their historical and cultural heritage antecedents. This will lead to making management of local heritage part of the

development agenda. It will also enable and promote sustainable change (Thurley, 2005; Guzman et al., 2017). It is important to add gender analysis to the matrix because men and women are affected by development projects differently. More importantly, gender is an important social structure when considering heritage management because heritage is imbued with gender dimensions, which are particular to a given culture expressing and consuming that heritage.

From the perspective of heritage reputation framework, it is imperative to integrate the heritage value and the causal framework regarding beliefs, attitudes, intentions and behaviors in the development paradigm. The purpose is to appreciate the value of heritage sites (Monteiro et al., 2014; Guzman et al., 2017). Therefore, heritage reputation can be strategic for infrastructure development planners, especially when analyzing and implementing projects. Such integration will play a significant role in today's society, perhaps, because it can prove to be a more appropriate platform for modeling of the ever evolving human landscape.

Materials and methods

Ethical considerations

This article presents part of the findings of the feasibility study of the Juba – Rumbek Road improvement project. The feasibility study had other components including the environmental and socio-economic impact of the study, transport data, gender analysis of the project as well resettlement action planning (RAP). The study targeted those who are resident along the road corridor since they would be directly affected not just by the construction activities but also the socio-cultural changes that would be brought about

by the completion of the road project. For purposes of obtaining consent, the research team explained the objectives of the study to the participants, and those who voluntarily expressed willingness to be interviewed were issued consent forms for signing before participating in the study. The explanations included making the participants aware that the study would lead to dissemination through journal articles, and conference papers. This journal article is part of the efforts to disseminate the findings of the study for academic and policy review.

The study area

The research was conducted in both rural and urban areas situated along the road improvement project corridor, from Juba to Rumbek, from March through June of 2022.

Ethnographic context

The Juba – Rumbek road improvement project traverses the lands of three slightly similar but distinct communities namely, the Bari, Mundari and Dinka communities, all of which belong to the Nilotic language family (Udal, 1998; Delmet, 2013). A cultural history of the communities indicates that all were originally nomadic pastoralists, their livelihoods depending mainly on herding animals such as cattle, sheep and goats (Kuol, 2020). Nevertheless, past migratory trends, alongside contemporary occurrences of strife, displacement and shifts in the economic landscape have prompted a significant number of individuals in South Sudan to transit from their customary pastoral way of life towards adopting a hybridized, albeit predominantly native means of sustenance.

Data collection methods and analysis

This research utilized a blended methodology that gathered data from both qualitative and quantitative sources. The study employed both primary and secondary data collection approaches. Primary data was collected through a household survey, focus group discussions (FGDs), observation and informal interviews. The survey, which employed a standard semi-structured questionnaire, collected both qualitative and quantitative data on background characteristics and livelihoods. FGDs and informal interviews elicited information on livelihoods, heritage sites and their ritual significance as well as indigenous food systems.

Secondary data was collected through review of literature in book chapters, journal articles as well as print and online media. Literature review was carried out to obtain relevant secondary data and information from publications on the access to assets and resources related to cultural heritage in the context of infrastructural projects. Quantitative data from the survey questionnaire were analysed by computing descriptive statistics that summarized the socioeconomic status of the households and community. The findings are conveyed through a descriptive discourse. Qualitative data were transcribed and analysed through thematic and content analysis. These are presented through anecdotal quotes and narratives.

Findings/Results

Gender and age of the respondents

Based on the field survey conducted in the course of this study, there were 300 respondents, the majority (73.3 percent) of whom were men. Women comprised 26.7 percent. With regards regard to age, almost a third (31.7 percent) of the respondents fell in the age bracket of 39-45 years, followed by 19.6 percent, who fell in the age brackets 39-45. A similar proportion fell in the 46-52 years' bracket. Only a few (4.2 percent) of the respondents were aged above 53 years. Based on the household survey interviews conducted, it was found that the men hold the primary decision-making authority within the Mundari, Bari and Dinka communities.

As per the survey, men generally, tend to dominate the public sphere whereas women are often relegated to the private domain of society, perpetuating stark gender inequalities. As household heads, men wield decision-making power, while women are expected to submit to their husbands' authority. Polygyny is prevalent. A man in these communities can marry up to four wives, provided he possesses the resources, either financial or material or both, necessary to pay the bride price and provide equal support for each of the wives. As per the survey participants, men in the community are involved in a range of activities that encompass tending to livestock, engaging in construction work, conducting business operations, operating personal and commercial vehicles as well as carrying out the butchering of large animals for both domestic and commercial purposes. Women are accountable for vending milk, selling fish, tending to offspring, executing the slaughtering of small-scale livestock such as poultry, goats and sheep, in addition to managing household affairs.

Livelihoods

Overview of livelihoods

The findings indicate that the interplay of demographic dynamics and urban developments, facilitated by the relative stability following the cessation of war, has resulted in a constant transition from pastoralism to sedentary agriculture for these communities. Despite this shift, they still maintain a modest number of livestock consisting of cattle, sheep and goats. Based on the results of FDGs conducted in Bori, a village between Juba and Terekeka, it appears that the community is gradually transitioning towards a more sedentary agricultural and commercial approach to sustenance due to their close proximity to the city of Juba.

We do not have enough land to keep large herds of livestock, especially cattle which require a lot of land for pasture. These large herds also require that you keep moving from one place to another in search of watering areas- A Bari elder in Bori, near Terekeka.

The Dinka and Mundari communities, who maintain their pastoralist lifestyle, are also impacted by the road improvement project, particularly in burgeoning urban regions like Terekeka, Mingkaman, Alwaklac, Yirol and Rumbek. Cattle herding is an important aspect of livelihood and, therefore, part of the cultural heritage among these communities. Members of these communities are engaging in various trades and services as a means of livelihood. For instance, in Yirol and Alwaklac, we observed different fish delicacies being sold in reed walled and iron or tin-roofed hotels. According to one of the chiefs who was interviewed in Yirol, the improved road is

expected to improve sales of these relishes as more human and motor vehicle traffic through the urban centres along the road.

Cattle raising and cultivation as aspects of cultural heritage

For those communities, cattle function as a means of sustenance, a medium of exchange and an indicator of social standing. From the interviews, it emerged that marriage, a topic of particular intrigue, involves the prospective groom presenting cattle to the bride's family. Additionally, husbands are permitted to take on as many wives as their means allow. Due to this prerequisite, the Mundari partake in age-old practice of cattle raids with the Dinka residing in Bor. The cattle raids occasionally spill over to other neighboring countries such as Kenya, Uganda and Ethiopia.

As agro-pastoralists, the Mundari also engage in cultivating sorghum and employing nets and spears to procure fish, mainly from River Nile. One of the most significant identity aspects of the Mundari is their visual body art. As a component of their visual arts, the Mundari engage in ritual scarification as a customary practice to signify the transition into adulthood for adolescent males. Our observation revealed that the typical Mundari scarification pattern consists of two sets of three parallel lines, each on either side of the forehead, extending in a downward slope and unconnected in the middle.

Unlike the Mundari, who rely on cattle for both commercial profit and meat consumption, the Dinka group utilizes these animals as a conduit for cultural demonstrations, rituals, marriage negotiations, and milk feedings that cater to individuals of all ages. According to a male FGD in Rumbek:

Dinka have traditionally produced all the material resources needed to sustain their livelihood via a combination of horticulture (gardening) with pastoralism (nomadic herding), fishing and occasional hunting. Millet is the mainstay of the Dinka diet. Depending on the season, it is supplemented with cow milk, fish, meat, beans, tomatoes, or rice.

Therefore, cattle hold significant value as an integral aspect of cultural heritage. One of the elders in Rumbek informed the research team that migration and raiding patterns are components of the indigenous cultural and indigenous cognitive cartography. According to him, the Dinka and Mundari communities orchestrate their ceremonial domain in accordance with the dictates of culture for purposes of pastoralist endeavors. This is done to guarantee the continuation of raiding and nomadism in pursuit of sustenance and grazing lands. For this reason, the transfer of livestock for bride wealth is a long-held and respected customary practice. For these communities, the physical space serves as both the backdrop and a crucial factor in facilitating the production and reproduction of societal activities related to livestock husbandry. Distinct paths are taken based on the specific undertaking, be it migration or raiding. According to a male FGD at Terekeka:

A leader of every raiding or migrating group possesses special cultural knowledge of the cultural map, giving direction when these activities are undertaken, especially at night.

Cattle camps

According to the respondents, while elders and maternal relatives settle in villages, the young males and females venture to cattle encampments to tend to the livestock, adhering to the precipitation patterns of the rain. We observed that the cattle herds are

immensely vast, occasionally consisting of thousands in number. I remember on one occasion we had to wait for forty-five minutes to allow a large herd of cattle to cross the road on the outskirts of Yirol. The herd seemed to stretch into the horizon on both ends. This indicates why procuring adequate sustenance for extensive groups of livestock in dry regions requires continual migration. One elder in Mingkaman informed us that when the dry season sets in, encampments are established in proximity to the Nile. He added:

At this time of the year, it is the only place that is still sufficiently green to accommodate the appetite of their livestock.

The implication here is that the movement is not a matter of conjecture. It is planned and executed according to the dictates of the indigenous ecological knowledge, which is part of the cultural traditions. We can then deduce that cattle camps hold significant importance in relation to the livelihood of tending cattle. In the early morning, as we drove along the road, we could see smoke from burning cow dung rise over the backs of hundreds of animals sleeping tightly side by side, with children dotted between them, warming their hands in the smoke, their faces covered in white ash to fend off flies and mosquitoes. In South Sudan, cattle camps are not only a temporary sanctuary for groups on the move, but also part of cultural tradition heritage among the Bari, Mundari and Dinka communities. The camps are part of the elaborate cultural maps of migration routes. Their establishment follow certain rituals and ceremonies, giving them very powerful symbolic significance in the community's cultural heritage. The camp leaders play a very influential factor in people's everyday lives.



Figure 3: Cattle in a camp at Mingkaman (243.8 km from Rumbek)

There are several cattle camps along the road, with some of them just next to the road or straddling the road. These may require relocation, giving rise to misunderstandings. The first notable camp is situated near Cueicok, a distance of 12.5km from Rumbek, on the left side of the road. Another major one is at Pulkuish, 24.5 km from Rumbek, still on the left side of the road. Another cattle camp is located at Bhar Naam (26.9 km). At Maborlueth, 31 km from Rumbek, is another cattle camp. This is particularly significant because it is a conflict area. According to a community leader in the area, youth from different areas of Dinka land fight over the ownership of the camp. There are several graves around the spot, evidence of the prevalent violence. Another cattle camp is located at Atiet, 84.7 km from Rumbek and another one at 92.4 km, while the last major camp is at Mingkaman (Fig.3), which is 243.8 km from Rumbek towards Juba.

From a cursory glance, the famous cattle camps appear to be desolate places. However, closer scrutiny reveals a sense of majesty and reverence. We observed smoke

from hundreds of bonfires. The smoke appeared to cover the immensity of a vast, humid and hot land. As the smoke billowed into the skies, it formed an ethereal cloudy mist. Amidst that smoke, were strong men and cows with giant horns and the iconographic totemic poll with the head of a cow fastened on it, could be seen (Fig. 2). The respondents intimated that the camps are a necessity because of the semi-nomadic life of the Mundari, Bari and Dinka communities. The nomadic life is conditioned by the amount of pasture that exists for cattle. Their food and economic sustenance depends on these animals, which are also a marker of social status and the possibility of getting married and starting a family, since the bride wealth is fixed in units of cattle. The cattle camps are also a learning space for the young boys from the communities. In these camps, we were told, the elders teach the younger generations the culture of the community until they are mature enough to pass the rite to become adults. Male members of the community usually live in the cattle camps, although some women accompany them to carry out some tasks. Older people, pregnant women and the rest of society often live in villages away the camps.

The findings also indicate that the camps are the embodiment of the authority of spiritual (spear) masters, who are the leaders of the camps. According to one elder, who was interviewed in Alwaklac:

The spear masters lead the community in defending their camp when it is under attack. It is at the camps where the community routinely conducts census of their cattle after a day of grazing. Thus, among the communities, there is a running common thread of a strong belief in the underlying spiritual dimension to the camps' survival and prosperity. The belief confers significant power on the spiritual masters in whom this authority is bestowed and rests.



Figure 4: The icon emblem, Source: SOUTH SUDAN, Kingdom of smoke and cows: Mundari cattle camps

From FGDs, it emerged that the camps have immense significance in regard to cultural heritage. They are part of the value calibration in the semi-pastoralist communities of Bari, Mundari and Dinka. Apart from the seeming immediacy to survival in the cattle camps, these camps have a deep historical perspective on life that both traces back and projects forward multiple generations. All those in the camps, who are connected to this thread, have a profound commitment to intergenerational equity and prosperity, though it manifests in often perverse and violent ways, including huge loss of young lives, when cattle raiding occurs. The camps are testimony to the cultural stewardship of the lingering traditions tied to the pastoralist livelihood among these communities, leaving a legacy to future generations. Due to the construction of a new road, these established routes would experience disruptions. Thus, it is imperative that the planning and implementation of road design takes into account the crucial cattle crossing points along the road to accommodate this crucial component of cultural heritage.

Indigenous food systems

As part of the analysis of the cultural heritage of the project, it is important to underscore the fact that indigenous food systems are remarkable reservoirs of unique cultural knowledge grounded in historical legacy and spirituality. This historical legacy and spirituality acknowledges the inextricable link of people with their sustainably managed resources. These sustainable food systems can provide essential understanding about sustainable diets and their importance to many of the Sustainable Development Goals. Unique practices of land and plant and animal management are affected by development projects and South Sudan is not an exception. Apart from the livelihoods, other aspects of food systems include what is considered the staples, recipes, relishes and delicacies, which carry not only practical nutritional values but also cultural and symbolic meanings that are imbued with gender and age meanings.

From interviews, it emerged that the consumption of vegetables was very limited among most of the communities in South Sudan in the past, including the communities in the road project area. According to one lady trader interviewed at Terekeka, they mainly relied on meat and fish which was eaten with *posho* (millet or maize flour). According to her, consumption of meat is related to their livelihood of pastoralism while fish consumption is linked to their proximity to River Nile. People also used to rely on subsistence staples such as sorghum and wild vegetables such as *Abelmoschus* and *Corchorus*. One elder intimated that the adverse effects of meat consumption are mitigated by the consumption of special herbs.

There are several nutrition and wellbeing projects along the road which are devoted to vegetable farming. Notable among them is the Alight team, which is implemented by the American Refugee committee. Through kitchen garden trainings,

the team teaches about nutrient-rich vegetable gardens. They train a group of women how to cultivate vegetables in their compounds. There is also Turning the Table with a kitchen garden by UNICEF. The projects focus on indigenous vegetables eaten by local communities.

From the interviews, it emerged that with the completion of the road project, those engaged in the vegetable growing expect more efforts to be put their projects as the farmers will get an avenue to gain economically from their efforts. However, the project, due to the expected increase of vehicular and human traffic, may also bring along more exotic food tastes and delicacies, dealing a blow to local delicacies such as smoked fish, dried and then boiled beef, *kombo* (vegetables mixed with dried meat and crushed peanuts), usually eaten with *posho* (sorghum, millet or cassava flour mixed and pounded in hot water).

Sacred shrines, burial grounds and other landmarks

The final aspect of cultural heritage to be considered in this project area are sacred trees, shrines and burial grounds. There are several sacred sites along the road. One of them is the huge fig tree, at Cuei-Adukan (5.8 km from Rumbek). The fig tree is considered sacred among the Dinka. The Dinka bestow royal characteristics to the tree. As one elder pointed out:

She is the queen of all trees. A monarch whose story stretches back into the historical past of the community. She cannot be cut, leave alone pruned. It would be tantamount to committing incest, one of the most abhorrent sins in the community. It is underneath the tree that elders pray for blessings. The large size of the tree means accommodation and abundance.

Thus, the community suggested that the designers of the road should consider making a roundabout around the tree. Alternatively, the road could be designed to bypass the tree to the left side. Then there is a burial ground at Cueicok (12.2 km) to the left side of the road. At the same place, there is a stump of a very old tamarind tree, which is also sacred. The community agreed the stump can be removed as they plan to plant another one a short distance from the road.

Then there is a shrine is at Maga Maou (14 km from Rumbek), where an old sacred mango tree is also located. Next to that tree is a carved peg, to symbolize its sacredness. The sacredness of the trees is to be found in its age. At Pacok (18 km from Rumbek) are two graves, one on each side of the road. The grave on the left side is burial ground for a Paramount Chief who was revered in the community. There is another grave of a Paramount Chief, his wife and son at Aduel (32.8 km from Rumbek). Near these graves is a shrine of the goddess Achol Der, under a large mango tree. Another shrine is located at Cuei-Makuac. The shrine is the dwelling place of the spirit called Cuei-Makuac, named after a Paramount Chief considered spiritually powerful in the community.

Apart from the several burial grounds and shrines, there are other establishments along the road, which bear monumental and sentimental value such as schools and boreholes. From interviews with members of the local communities, boreholes have become part of the local cultural heritage. Besides providing water for domestic use, they are places for social gatherings, especially for women and young people. For instance, there is a proposed ring-road 5 km just before entry into Rumbek city. According to research respondents in the area, there are no major settlements to

the left side of the road. It will only require bush clearing. The settlements to the right side will require some Resettlement Action Planning (RAP). Then there is a borehole and school at Cuei-Adukan (7.8 km). These will be interfered with due to the need for diversions during the construction of the road. There is another borehole at Pacong (18 km from Rumbek), which serves the community. From Pan Wak, which is 11.3 km from Rumbek, there is a long stretch of old African mahogany trees on both sides of the road which goes on up to 20 km. Apart from their environmental significance, they provide aesthetic and heritage symbolism to the area. The communities feel these trees should not be cut. At Karich (34.1 km from Rumbek), is located another borehole. The final community monument is a national monument on the Peyei River bridge.

Discussion of the findings

The findings indicate that generally, men tend to dominate the public sphere whereas women are often relegated to the private domain of society, perpetuating stark gender inequalities. As household heads, men wield decision-making power, while women are expected to submit to their husbands' or fathers' authority (Udal, 1998). These findings resonate with other studies, which have found a common theme in the study of gender is the idea that men and women belong in distinct spheres of society (Williams et al., 2013; Prentice and Miller, 2006). The common thread in these studies are that societies believe that men are particularly fit for the workplace and women are particularly fit for the domestic domain. These findings bring out the descriptive and prescriptive stereotypes society has established that men and women are not expected to violate gender stereotypes by crossing spheres.

In these communities, polygyny is prevalent. As the findings indicate, a man in these communities can marry up to four wives, provided he possesses the resources, either financial or material or both, necessary to pay the bride price and provide equal support for each of the wives. As per the survey participants, men in the community are involved in a range of activities that encompass tending to livestock, engaging in construction work, conducting business operations, operating personal and commercial vehicles as well as carrying out the butchering of large animals for both domestic and commercial purposes. Women are accountable for vending milk, selling fish, tending to offspring, executing the slaughtering of small-scale livestock such as poultry, goats and sheep, in addition to managing household affairs.

The findings also indicate that the interplay of demographic dynamics and urban developments, facilitated by the relative stability following the cessation of war, has resulted in a constant transition from pastoralism to sedentary agriculture for these communities. Despite this shift, they still maintain a modest number of livestock consisting of cattle, sheep and goats. The communities still maintain their pastoralist lifestyle. Because of the changing lifestyles these communities are engaging in various trades and services as a means of livelihood. Apart from pastoralism, there are thriving raw and cooked fish markets in major and upcoming urban centres along the road corridor, which are mainly operated by women.

The Mundari tribe exhibits a profound focus on cattle, as their community upholds agro-pastoralism and centers its economy around both agriculture and livestock husbandry. Their famous, massive-horned Ankole-Watusi cattle are considered the kings of cattle (Udal, 1998; Feron and Tasnier, 2021). These cattle form part of the Sanga family of African cattle breeds. The breed is believed to have originated over 2,000 years ago from a combination of the Egyptian longhorn cattle of

Africa and Zebu longhorns, which are originally from India (Feron and Tasnier, 2021). The Dinka people, on their part, engage in traditional agricultural and pastoral activities, taking great pride in their cattle husbandry as an essential aspect of their cultural heritage (Feron and Tasnier, 2021). This is typical of many Nilotic communities that straddle the boundaries of the countries in the Horn of Africa (McCabe, 2007). Cattle hold significant value as an integral aspect of cultural heritage. Migration and raiding patterns are components of the indigenous cultural and indigenous cognitive cartography (Feron and Tasnier, 2021). The Dinka and Mundari communities orchestrate their ceremonial domain in accordance with their pastoralist endeavors to guarantee the continuation of raiding and nomadism in pursuit of sustenance and grazing lands (Udal, 1998). Furthermore, the transfer of livestock in exchange for bride wealth is a long-held and respected customary practice (Delmet, 2013).

The cattle camps hold significant importance in relation to the livelihood of pastoralism, with several of them dotting the road, with some of them just next to the road or straddling the road. A cursory glance would give the impression that cattle camps are isolated and uninhabited places (Sabatinelli and Bordoni 2022). However, closer scrutiny reveals a sense of majesty and reverence. There is smoke from hundreds of bonfires. the camps are the embodiment of the authority of spiritual (spear) masters, who are the leaders of the camps. Thus, the camps have remarkable ritual and physical presence. Therefore, historically, their power has been deployed in broadly benevolent ways, making their disappearance because of development unfathomable (Sabatinelli and Bordoni, 2022).

Indigenous food systems are an important aspect of heritage require attention since they are remarkable reservoirs of unique cultural knowledge grounded in historical legacy and spirituality (Shilabukha, 2007). These sustainable food systems can

provide essential understanding about sustainable diets and their importance to many of the Sustainable Development Goals (Obiene et al., 2022). Unique practices of land and plant and animal management are affected by development projects and South Sudan is not an exception. Apart from supporting livelihoods, other aspects of food systems include what is considered the staples, recipes, relishes and delicacies, which carry not only practical nutritional values but also cultural and symbolic meanings that are imbued with gender and age meanings. The findings indicate that consumption of vegetables was very limited among most of the communities in South Sudan in the past, including the communities in the project area.

This is in tandem with the findings of Bardy (1984). Over the years, the introduction of new species has seen increase in the consumption of vegetables such as cabbage, kale and cowpeas, especially in urban areas partly because of increasing awareness of the nutritive value of these species (Bardy, 1984). Vegetables have become very important to the local food system. These are produced by small farmers in rain-fed areas, irrigated private farms or the big government schemes.

There are several sacred sites along the road, which could be affected by the road project because models of development that are mainly centered on Western capitalist modernization and influenced by theories of secularization tend to overlook the significant of look cultural outlooks, especially cultural heritage. In the process, development projects such as the one being undertaken may ignore local aspects of belief systems, especially those concerned with funerary practices and other sacred spaces such as trees and shrines (Halafoff and Clarke, 2018). Some development agencies view concerns for sacred places as an impediment linked to perceived bottlenecks of traditional systems of kinship and ancestral ties that limit economic growth (Clarke, 2011).

The need to protect and conserve these heritage sites is very much in line with the precepts of heritage reputation framework. In the schema of the framework, value is the intrinsic reason for heritage protection and conservation. The sacred trees should be protected as they are highly valued by the Dinka community. The same with the cattle camps and graves. As De la Torre and Mason (2002) argue, no society makes an effort to conserve what it does not value. Thus, the argument by the community underlies the premise that the protection and conservation of heritage are the consequences of the heritage value. This also encapsulated in what Thurley (2005) conceptualizes as a heritage cycle, which embodies the need to make the past part of the community's future. As such, the value is highlighted and emphasizes the caring, as conservation and protection, are consequences of value.

From the perspective of heritage reputation framework, it is imperative to integrate the heritage value and the causal framework regarding beliefs, attitudes, intentions and behaviors in the development paradigm to appreciate the value of heritage sites (Monteiro et al., 2014). In the process, recognition of value is the driving reason for heritage protection and conservation (Monteiro et al., 2014). As De la Torre and Mason (2002) have noted, no society will put in efforts conserve what is not valuable to it. Thus, management, protection and conservation are the consequence of the heritage value (Thurley, 2005). Development projects, especially those concerned with infrastructure should then espouse the motto of "Making the Past Part of our Future", where the value is highlighted and emphasizes the caring, as conservation and protection, as a consequence of value (Monteiro et al., 2014). Accordingly, by understanding we will value the heritage, by valuing we will want to care for it, by carrying it will help people enjoy it and from enjoying it come a thirst to understand and protect Thurley (2005). The gender dimensions of heritage management should not

be in the rearguard of the process not only because men and women experience development differently but also because men and women utilise heritage in different ways.

Conclusion

To implement infrastructural projects such as roads according to design and cost, cultural heritage sites must be considered. In many cases, heritage sites such as sacred trees, shrines and burial sites are interfered with. In the worst case scenarios, some of the graves and shrines may require exhumation and relocation or even destroyed. In the context of the Juba- Rumbek project, it follows that the cultural and religious experiences of the local Bari, Mundari and Dinka communities play a central role in determining their worldviews and the ways in which they understand their own circumstances. Therefore, their worldviews can also assist in providing narratives for community development and their sacred spaces have particular significance in these communities, and thereby their appreciation will enhance the long-term success of initiatives such as this road project.

Author contributions

Conceptualization: Khamati Shilabukha

Data collection: Khamati Shilabukha and Charles Lwanga Muyembe

Formal analysis: Khamati Shilabukha and Charles Lwanga Muyembe

Funding acquisition: Public/Private Partnership through the World Bank and Shandong High Speed Ltd.

Writing – original draft: Khamati Shilabukha

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